Copper Ridge Village Development

Traffic Impact Analysis

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDIX

COPPER RIDGE VILLAGE DEVELOPMENT

TRAFFIC IMPACT STUDY

1.0 INTRODUCTION

The Fox Tuttle Transportation Group prepared this traffic impact study for the proposed Copper Ridge Village development in Steamboat Springs, CO. The project proposes to construct a new residential community with 198 multi-family homes. The 11.5± acre site is currently vacant and located on the north side of Gloria Gossard Parkway and west of Acres Lane. The Copper Ridge Village site is southeast of the Steamboat Springs Airport/Bob Adams Field. **Figure 1** includes a vicinity map for the proposed Copper Ridge Village development.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of this project. The traffic study addresses existing, short-term (Year 2026), and long-term (Year 2040) 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 City of Steamboat Springs staff in identifying any intersection or roadway deficiencies and potential improvements for the future conditions. This study focused on the weekday AM and PM peak hours which are typically the highest traffic volumes for the proposed type of land use. The study includes an assessment of queue lengths and auxiliary lane needs.

The traffic impact study is consistent with the requirements of the City of Steamboat Springs' *Engineering Standards* (2015). This study has also been completed to satisfy the Colorado Department of Transportation (CDOT) Level Two Traffic Assessment requirements for Region 3 Access Permits. Copies of the approved Traffic Impact Study Scope Approval Form, both for the City and CDOT, are attached in the **Appendix** for reference.

2.0 PROJECT DESCRIPTION

The project proposes to construct 198 multi-family dwelling units in seven (7) three-story buildings in the northwest corner of Downhill Drive and Gloria Gossard Parkway. The primary access to the site is planned on Gloria Gossard Parkway, approximately 1,000 feet west of Downhill Drive. This driveway will provide one inbound lane and one outbound lane with full-movement and side-street stop-controlled. This project will include a secondary access by extending the internal roadway to the west looping through the future development of Airpark Subdivision Lot 2 and connecting to Gloria Glossard Parkway approximately 600 feet west of the primary access. It is understood that eventually this roadway will become a public street but will serve as an emergency access in the interim. **Figure 2** includes a conceptual site plan and access for the project.

3.0 STUDY CONSIDERATIONS

3.1 Data Collection

Intersection turning movement volumes were collected in February 2021 and compared to historic counts from the traffic studies for the Combined Law Enforcement Facility, West Steamboat Neighborhoods, and US 40 & Downhill Drive Intersection Improvements. Three (3) existing intersections within the study area were counted during the weekday AM and PM peak hours. The through volumes on US 40 and on Elk River Road were multiplied by 1.66 to equate to a July count per the City-provided seasonal factors. Turning movements to and from the side streets were not factored to summer since the existing land uses along Downhill Drive are residential, office, and industrial that do not attract tourist traffic. However, the side-street volumes were increased by 30% in the AM peak hour and 20% in the PM peak hour to account for COVID-19 impacts.

Daily volumes were gathered and factored accordingly on Downhill Drive, Elk River Road, and US 40. Additionally, historic volumes along US 40 within the vicinity of the project site were gathered from CDOT's Transportation Data Management System (TDMS). The adjusted existing traffic volumes are illustrated on **Figure 3**. The existing intersection geometry and traffic control are also shown on this figure. Count data sheets are provided in the **Appendix**.

3.2 Relevant Studies

Other studies reviewed for this analysis included the following:

- *West Steamboat Springs Area Plan 2006 Update*. City of Steamboat Springs. June 2006.
- *West Steamboat Springs US 40 Access Plan*. City of Steamboat Springs, Routt County, Colorado Department of Transportation, Stolfus & Associates. May 2008.

- *Combined Law Enforcement Facility Traffic Analysis*. Fox Tuttle Hernandez Transportation Group. May 2017.
- *Sunlight Residential Traffic Impact Study*. Fox Tuttle Transportation Group. June 2013.
- *West Steamboat Neighborhoods Traffic Impact Study*. Fox Tuttle Hernandez Transportation Group. Sept. 2017.
- *Overlook Park Traffic Impact Analysis Update*. Fox Tuttle Hernandez Transportation Group. August 2018.
- *Transportation Impact Study for Sunlight Affordable Housing*. McDowell Engineering, LLC. January 2020.
- *US 40 & Downhill Drive Intersection Improvements Memorandum*. Fox Tuttle Transportation Group. May 2020.
- *Core Trail Multi-Family Traffic Impact Study*. Fox Tuttle Transportation Group. March 2021.

3.3 Evaluation Methodology

The traffic operations analysis addressed the unsignalized and signalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Existing Peak Hour Factor (PHF) were applied to the intersections for the existing and short-term scenarios. For the long-term scenario, the PHFs were set to 0.92 on US 40 or 0.88 on Elk River Road and Downhill Drive (unless the existing PHF was greater than these values) since it is assumed that the peak periods will become longer and traffic will spread more evenly over the hour as traffic increases. Study intersections were evaluated using Synchro (v10) software.

3.4 Level of Service Definitions

A level of service analysis was conducted to determine the existing and future performance of the study intersections and to determine the most appropriate traffic control device and need for auxiliary lanes.

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

[1] Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 6th Edition (2016).

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. A more detailed discussion of LOS methodology is contained in the Appendix for reference.

The City of Steamboat Springs consider LOS A through C to be good for the overall intersection operations with LOS D as acceptable in peak hours. For individual movements, LOS E and F may be acceptable for left-turns or minor streets where queuing or safety are not an issue.

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**.

US Highway 40 (US 40) is an east-west, divided four-lane highway (CDOT Classification of NR-B: Non-Rural Arterial Highway) that is the main access into and through Steamboat Springs, connecting the entire community and region. Adjacent to the project site, US 40 has a 60-foot wide paved section that includes 12-foot through lanes, one in the westbound direction and two in the eastbound direction; 14-foot center left-turn lane/median; and 11-foot shoulder/turn lane in the westbound direction. US 40 has an AADT of 12,960 vehicles per day (vpd) west of Elk River Road and 15,700 vpd west of Downhill Drive[2]. The posted speed limit on the highway is 40 miles per hour (mph) within the vicinity of the study area.

Downhill Drive is a two-lane local roadway that provides access to commercial and residential land uses between US 40 and Elk River Road. The roadway currently serves approximately 2,000 vpd and the posted speed limit is 25 mph. Near the intersection with Gloria Gossard Parkway, Downhill Drive has a 30-foot wide paved section that includes 13-foot through lanes, one per direction, and 2-foot shoulders. The intersection of Downhill Drive with US 40 is controlled with a stop sign on the minor street (Downhill Drive) approaches. The City of Steamboat Springs plans to improve this intersection with a traffic signal and lane improvements in the future, with development projects in the area paying a proportional cost to the added traffic of each project

[2] Source: Colorado Department of Transportation's Transportation Data Management System (TDMS).

to the intersection traffic volumes. Refer to **Section 5.2** for details on the interim and ultimate designs of this intersection.

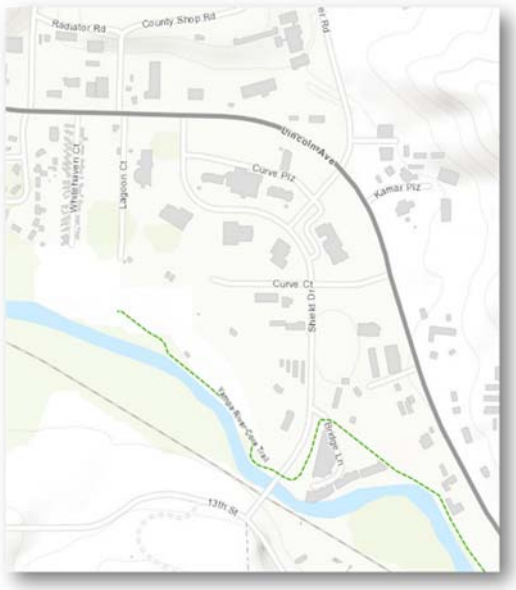
Elk River Road is a two-lane major collector that provides access from US 40 to the Downhill industrial/business area, Copper Ridge Business Park, the Steamboat Springs Airport/Bob Adams Field, and several rural residential areas. Elk River Road leads north to the rural community of Clark, Steamboat Lake State Park, Hahn's Lake, Hahn's Peak, and several lodging options (cabins and campgrounds). Near the intersection with Downhill Drive, Elk River Road has a 35-foot wide paved section that includes 11.5-foot through lanes, one per direction; 4-foot bike lanes, and 2-foot shoulders. The roadway currently serves approximately 9,000 vpd south of Downhill Drive and the posted speed limit is 40 mph.

Gloria Gossard Parkway is a two-lane roadway that currently extends west from Downhill Drive to the east edge of the Overlook Park property. This roadway is planned to be extended into and through the Overlook Park and West Steamboat Neighborhood properties, ultimately to County Road (CR) 42 to the west. This roadway was identified in the *West Steamboat Springs US Highway 40 Access Study* as an "alternative local route" to relieve local traffic demand along US 40.

4.2 Intersections

The study area includes three (3) intersections that are listed below with the current traffic control and were analyzed for existing and future background year traffic operations:

1. US Highway 40 at Downhill Drive / Riverside Drive (side-street stop-controlled; future signal)
2. Downhill Drive at Gloria Gossard Parkway (side-street stop-controlled)
3. Elk River Road at Downhill Drive (side-street stop-controlled)



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

4.3 Pedestrian and Bicycle Facilities

There is a continuous sidewalk on the south side of US 40, both sides of Elk River Road, south side of Goassard Parkway, and short segments on the north side of US 40 and west side of Downhill Drive.

There is a multi-use path parallel to US 40: the Yampa River Core Trail. It extends seven (7) miles between Dougherty Road (east end of town) and Lagoon Court. This highly utilized trail provides access to downtown, various parks, and connects to many other trails. The map to the right illustrates the nearby trail system that residents of the proposed Copper Ridge Village project can take advantage of.

Elk River Road provides on-street bike lanes in each direction that lead to on-street bike lanes and a multi-use path along US 40 that lead into downtown Steamboat Springs. People that walk or bike typically utilize the trail system in this area to get to their destination. Bicyclists are permitted to ride with traffic on the collector and local streets.

4.4 Transit

The Steamboat Springs Transit (SST) provides a free transit service throughout the City of Steamboat Springs that links downtown and the ski town area. The proposed Copper Ridge Village project can take advantage of the transit service with the nearby bus stop on US 40 at Lagoon Court. This bus stop is served by the Red Line, Blue Line, Night Line, and Regional Line bus routes as shown to the right. The Red and Blue Lines circulate through the entire City from the west end, through downtown, to the ski area. The Night Line follows a similar route to the Red and Blue Lines with service during late night hours. The Regional Line connects Steamboat Springs to nearby cities of Hayden, Milner, and Craig. Transit services link the residential areas to the ski resort, commercial centers, hospital, recreational areas, schools, and business offices. The above map illustrates the nearby transit system that will benefit residents of the proposed project.

4.5 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The results of the LOS calculations for the study intersections are summarized in **Table 1**. The intersection level of service worksheets and queue reports are attached in the **Appendix**. The two local study intersections are shown to be operating at LOS A overall in the AM and PM peak hours. The intersection of US 40 and Downhill Drive/Riverside Drive currently has more than one approach that operates at LOS E or F in one or both peak hours as described below:

- ***US 40 and Downhill Drive:*** This unsignalized intersection is calculated to operate at LOS F overall in both peak hours [note that existing volumes were factor for summer and for the pandemic].

The southbound left-turn movement operates at LOS F in both peak hours and the southbound through/right-turn lane operates at LOS E in the PM peak hour. The high delay for southbound turning vehicles is caused by the heavy flow of through traffic on US 40 in each peak hour as travelers enter and exit the City of Steamboat Springs.

Recommendations: It is recommended that the intersection be signalized, and a westbound right-turn lane be constructed as planned. These mitigation measure have been identified in other traffic studies and the City is currently in the design process for this intersection.

- ***Elk River Road at Downhill Drive:*** This unsignalized intersection is calculated to operate at LOS A overall in the AM and PM peak hours. The westbound approach currently operates at LOS F in the PM peak due to the traffic on the major collector. The 95th percentile queue for this approach was estimated to be up to three (3) vehicles.

  Recommendations: No mitigation measures are recommended. Delay is expected on side-street approaches on major roadways and auxiliary lanes are not necessary. Volumes are not approaching signal warrant thresholds.

5.0 FUTURE TRAFFIC CONDITIONS

5.1 Annual Growth Factor and Future Volume Methodology

CDOT maintains a database of 20-year projected growth factors for all roadway segments that make up the state highway system in Colorado. In theory, these growth factors should include the additional traffic for developments, such as Copper Ridge Village, Overlook Park, Core Trail Apartments, and West Steamboat Neighborhood, that may develop within the next 20 years. For this project, CDOT's traffic growth factors for US 40 in this area were reviewed. The resulting 20-year traffic growth factors used for this study (that ultimately include the Copper Ridge Village traffic) are:

US 40 west of Downhill Drive:	1.30 = 1.3% annual growth rate
US 40 east of Shield Drive:	1.15 = 0.7% annual growth rate
Average:	**1.23 = 1.0% annual growth rate**

In order to forecast the future peak hour traffic volumes, background traffic growth assumptions were estimated based on the CDOT 20-year factors, as well as historic traffic volumes from other studies in the area. Based on this data, it is assumed there will be an annual growth rate of 1.0% within the study area.

For conservative purposes, the estimated trips for the following development projects were added to the background volumes in addition to the growth rate:

- Overlook Park [located west of the project site]
- West Steamboat Neighborhood [located west of Overlook Park]
- Sunlight Residential Neighborhood and Affordable Housing [located on Sunlight Drive to the east]
- Core Trail Multi-Family [located in the southwest corner of US 40 and Lagoon Court]
- Steamboat II School [located on west end of Town in Steamboat II neighborhood]

It was assumed that with Overlook Park and West Steamboat Neighborhood projects that Gloria Gossard Parkway will extend west and to a future connection on US 40. Using these assumptions, the Year 2026 background traffic is summarized on **Figure 4** and the Year 2040 background traffic is summarized on **Figure 5.**

5.2 Future Roadway Improvements

For the future conditions, the volumes, lane configuration, and traffic control for the intersection of US 40 at Downhill Drive was gathered from the *US 40 & Downhill Drive Intersection Improvements Memorandum*. The Downhill Drive study recommended the following traffic control and lane configurations which were included in this Copper Ridge Village traffic study:

- **Short-Term Condition:**
    - US 40: Widen to two through lanes for eastbound.
    - Downhill Drive: Signalize. Extend eastbound and westbound left-turns to 150 feet storage; add westbound right-turn with 175 feet of storage; add northbound left-turn with 50 feet storage; extend southbound left-turn to 200 feet storage.
- **Long-Term Condition:**
    - Short-Term plus,
    - US 40: Widen to two through lanes for westbound.

Based on information from the recently submitted Core Trail Multi-Family Traffic Impact Study, the long-term scenario was assumed to have ¾ movement at Lagoon Court which increases u-turns at Downhill Drive. In addition to these roadway/intersection improvements, the intersection of Downhill Drive at Gloria Gossard Parkway is assumed to have the existing stop sign moved from the eastbound approach to the northbound approach by Year 2040.

5.3 Year 2026 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2026 background scenario and to identify any capacity constraints associated with background traffic. The short-term background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The level of service criteria discussed previously was applied to the study intersections to determine the impacts with the short-term (Year 2026) background volumes. The results of the LOS calculations for the intersections are summarized in **Table 1.** The intersection level of service worksheets and queue reports are attached in the **Appendix**. The Year 2026 background analysis assumed the existing lane configuration and traffic control would remain the same at the study intersections. The following intersections are estimated to have at least one approach that will operate at LOS E or F in the short-term future:

- ***US 40 and Downhill Drive:*** This unsignalized intersection is calculated to continue to operate at LOS F overall in both peak hours. The delay of the southbound movements was calculated to increase and operate at LOS F in both peak hours. The northbound approach was estimated to begin to operate at LOS F in the AM peak hour.

  Recommendations: It is recommended that the intersection be signalized, and a westbound right-turn lane be constructed as planned. The current design plans also include changing the eastbound right-turn lane to a shared through/right-turn lane, adding one northbound left-turn lane and extending the southbound left-turn lane storage. These mitigation measures improve the overall performance to LOS C in the AM peak hour and LOS D in the PM peak hour. The westbound through movement begins to operate at LOS E in the PM peak hour since traffic has to stop for the signal and the volume-to-capacity ratio at 1.07.

- ***Elk River Road at Downhill Drive:*** This unsignalized intersection is calculated to operate at LOS C overall in the AM peak hour and LOS D in the PM peak hour. During both peak hours, the side-street approaches were estimated to operate at LOS F. The 95th percentile queue for the eastbound approach was estimated to increase to approximately 11 vehicles in the AM peak hour and 10 vehicles in the PM peak hour. The 95th percentile queue for the westbound approach was estimated to be up to three (3) vehicles in the AM peak hour and approximately six (6) vehicles in the PM peak hour. Although the northbound approach operates at LOS A, the turn volume is approaching 200 vph in the PM peak hour.

  Recommendations: It is recommended that one eastbound right-turn lane and one northbound left-turn lane be constructed. As shown in **Table 1**, the addition of auxiliary turn lanes reduce the delays to the side-street movements. The 95th percentiles queues for both approaches are

reduced to six (6) or less vehicles during both peak hours. Note that the peak hour signal warrant is met in the AM peak hour; however, further analysis is needed to determine if additional signal warrants are met and understand if the delays are experienced beyond the peak periods. With the signal at US 40 and Downhill Drive, some of the traffic at this intersection may redirect and volumes may no longer warrant a need to evaluate the traffic control at this intersection.

5.4 Year 2040 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2040 background scenario and to identify any capacity constraints associated with background traffic. The Peak Hour Factor (PHF) were set to 0.92 on US 40 or 0.88 on Elk River Road and Downhill Drive (unless the existing PHF was greater than this value) since it is assumed that the peak periods will become longer with peak hour traffic spread more evenly over the hour as traffic increases than is experienced today. In the long-term scenario, it was assumed that the mitigation measures listed in the short-term background scenario were implemented.

The level of service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term (Year 2040) background volumes. The results of the LOS calculations for the intersections are summarized in **Table 1.** The intersection level of service worksheets and queue reports are attached in the **Appendix**. The following intersection is estimated to have at least one approach that will operate at LOS E or F in the long-term future:

- ***Elk River Road at Downhill Drive:*** This unsignalized intersection is calculated to operate at LOS B overall in the AM peak hour and LOS D in the PM peak hour. During both peak hours, the side-street proposed left-turn lanes were estimated to operate at LOS F with significant delays. Due to the high eastbound right-turning volumes on Downhill Drive, there is added delay to the westbound left-turns that yield to the eastbound right-turning vehicles. The 95th percentile queue for the eastbound left-turn was estimated to be up to five (5) vehicles in the AM peak hour and four (4) vehicles in the PM peak hour. The 95th percentile queue for the westbound left-turn lane was estimated to be up to four (4) vehicles in the AM peak hour and up to seven (7) vehicles in the PM peak hour. Although the northbound approach operates at LOS A, the turn volume is approaching 200 vph in the PM peak hour.

  Recommendations: No recommended mitigation measures. An eastbound right-turn acceleration lane would significantly reduce the delay on the side streets; however, the acceleration lane would need to be at least 500 feet to provide enough acceleration length for drivers to utilize the lane and the lane would compromise the safety of the bicyclists traveling at fast speeds down the hill. Note that the peak hour signal warrant is met in both peak hours; however, further analysis

is needed to determine if additional signal warrants are met and understand if the delays are experienced beyond the peak periods. With the signal at US 40 and Downhill Drive, some of the traffic at this intersection may redirect and volumes may no longer warrant a need to evaluate the traffic control.

6.0 PROPOSED DEVELOPMENT TRAFFIC

The circulatory roadway that connects to Gloria Gossard Parkway at two locations will serve the Copper Ridge Village and the future development of Airpark Subdivision Lot 2 to the west. It is anticipated that the Copper Ridge Village trips will only utilize the east access since the west access would create unnecessary, out-of-direction travel to Gloria Gossard Parkway. The future public street will provide one lane per direction. The primary access for Copper Ridge Village (east access) does not warrant auxiliary lanes on any approach. It is anticipated that the secondary access (west) will not warrant auxiliary lanes. This will be verified in a traffic study for the development of the Airpark Subdivision Lot 2.

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the Copper Ridge Village development. The trip rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*[3] for land use #221 "Multi-Family Housing (Mid-Rise)" were applied to estimate the proposed traffic. The apartment buildings are proposed to include three stories therefore the "mid-rise" rates were applicable. The *Trip Generation Manual* states that mid-rise multi-family housing "includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors)".

The site is expected to experience two of the four basic trip types 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. It is expected that the proposed project will experience mostly primary trips.

Non-Auto Trips. These trips are those that are completed by walking, bicycling, or riding transit. The existing transit, pedestrian, and bicycle amenities will encourage residents and visitors to

[3] Trip Generation 10th Edition, Institute of Transportation Engineers, 2017.

make non-auto trips to/from the condominiums. Although there are bike lanes, the Yampa Core Trail, and a bus stop nearby, a non-auto reduction was not applied for a conservative evaluation.

The trip generation estimates using these rates are summarized on **Table 2**. It is projected that the Copper Ridge Village development will generate approximately 1,080 automobile trips per day, with 71 trips occurring in the morning peak hour and 87 trips occurring in the PM peak hour.

Table 2. Trip Generation Summary

Land Use	Size	Unit	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE 221: Multi-Family Housing (Mid-Rise)	198	DU	5.44	1077	539	538	0.36	71	18	53	0.44	87	53	34

Source: ITE Trip Generation 10th Edition, 2017.

6.2 Trip Distribution and Assignment

The estimated trip volumes presented in **Table 2** were distributed onto the study roadway network based on existing traffic characteristics of the area, existing and future land uses, and the relationship of this project to the greater Steamboat Springs community. It was assumed that with installation of the future signal at US 40 and Downhill Drive, that some of the trips that are destined to the east will redirect from Elk River Road to Downhill Drive. The overall assumed distribution is summarized on **Figure 6**. The trip assignment with side-street stop-control at US 40 and Downhill Drive is provided on **Figure 7A** and the redirected trip assignment with the future signal at US 40 and Downhill Drive is shown on **Figure 7B**.

6.3 CDOT Access Permit

The new trips on Downhill Drive accessing US 40 will add approximately 46 vehicles in the AM peak hour and 57 vehicles in the PM peak hour. This equates to approximately 9% of the estimated future AM peak hour volume and 10% of the future PM peak volume on Downhill Drive at US 40. CDOT requires an access permit when the side-street volume increases the permitted volume by 20% or more; therefore, an access permit is not warranted.

7.0 FUTURE TRAFFIC CONDITIONS WITH SITE DEVELOPMENT

This section projects the future traffic conditions in the Year 2026 (short-term) with Copper Ridge Village project in place, and projected additional traffic from other developments west of downtown Steamboat Springs.

7.1 Year 2026 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the proposed Copper Ridge Village development trips in the build out scenario with the project fully built out and occupied. The site-generated volumes were added to the projected Year 2026 background volumes and are illustrated on **Figure 8A** (side-street stop-control at US 40 and Downhill Drive) and on **Figure 8B** (signal at US 40 and Downhill Drive). The results of the LOS calculations for the intersections are summarized on **Table 1**. The intersection level of service worksheets and queue reports are attached in the **Appendix**.

The intersection of US 40 at Downhill Drive was analyzed with two scenarios: (1) current lane geometry and traffic control and (2) signalized with interim lane configuration [refer to **Section 5.2** for details]. The intersection of Elk River Road at Downhill Drive was evaluated without and with the proposed eastbound and westbound left-turn lanes identified in the background scenario.

As shown on the Level of Service summary table (**Table 1**), **the project trips slightly increase the delays and queuing at the study intersections and utilized movements**. The following summarizes the comparison of the analyses with the project trips:

- ***US 40 and Downhill Drive:*** Without the signal and additional laneage, the overall performance will continue to be LOS F with significant delays on the southbound movements. With the signal and additional lanes, this intersection improves to LOS C in the AM peak hour and LOS D in the PM peak hour similar to the short-term background scenario. The westbound through movement will continue to operate at LOS E in the PM peak hour due to the volume-to-capacity ratio slightly above 1.0. With the project trips, the southbound left-turn will change from LOS D to LOS E with a slight increase in delay.

  Recommendations: No additional mitigation measures recommended.

- ***Elk River Road at Downhill Drive:*** Without the recommended auxiliary lanes on the side-street approaches, the additional trips on the eastbound approach increase the delay with overall LOS D in the AM peak hour and LOS F in the PM peak hour. With the mitigation measures, this intersection performance will improve to LOS B in the morning and LOS C in the evening due to the reduction in delays on the side-street movements.

  Recommendations: No additional mitigation measures recommended.

- ***Downhill Drive at Gloria Gossard Parkway:*** This unsignalized intersection will begin to operate at LOS C in the AM peak hour and LOS B in the PM peak hour. The 95th percentile queue for the eastbound approach [Gloria Gossard Parkway] was estimated to be up to 12 vehicles in the AM peak hour and up to six (6) vehicles in the PM peak hour.

  Recommendations: It is recommended that the existing stop sign on the west leg be relocated to the south leg to make the east-west movements the prevailing directions. With the additional traffic from this project, Overlook Park, and West Steamboat Neighborhood, the east-west movements will become more prominent than the current travel pattern of staying on Downhill Drive. With the relocation of the stop sign, this intersection will improve to LOS A in both peak hours and queues on the new side-street [northbound] were estimated to be four (4) vehicles or less in peak periods.

The proposed access on Gloria Gossard Parkway was estimated to operate at LOS A overall in both peak hours with all movements operating at LOS B or better with the 95th percentile queue calculated to be one vehicle or less.

7.2 Year 2040 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the proposed Copper Ridge Village development trips in the build out scenario with the project fully built out and fully occupied. The site-generated volumes were added to the projected Year 2040 background volumes and are illustrated on **Figure 9**. The results of the LOS calculations for the intersections are summarized on **Table 1**. The intersection level of service worksheets and queue reports are attached in the **Appendix**.

As discussed in **Section 5.2**, the intersection of US 40 and Downhill Drive is assumed to be signalized with the ultimate additional laneage by Year 2040 and the stop sign at Downhill Drive and Gloria Gossard Parkway will be relocated to the south leg. The background recommendation for an eastbound right-turn acceleration lane at the intersection of Elk River Road at Downhill Drive was assumed to be implemented.

As shown on the Level of Service summary table, **the project trips have little impact on the delays at the study intersections**. A couple of the side-street movements of Elk River Road at Downhill Drive were estimated to continue to operate at LOS F in both peak hours even with the recommended mitigation measures from the background scenarios. As discussed in the short-term and long-term background conditions, the peak hour signal warrant is met in both peak hours; however, further analysis is needed to determine if additional signal warrants are met and understand if the delays are experienced beyond the peak periods.

The proposed access on Gloria Gossard Parkway was estimated to operate at LOS A overall in both peak hours with all movements operating at LOS B or better with the 95th percentile queue calculated to be one vehicle or less.

8.0 SIGNAL WARRANT ANALYSIS

A planning level peak hour signal warrant analysis was conducted at the intersection of US 40 at Downhill Drive due to the existing and projected congestion at this intersection. The peak hour volumes for AM and PM were compared to the peak hour warrant threshold set forth by the *Manual on Uniform Traffic Control Devices (FHWA, March 2009).* It was determined that a traffic signal is currently warranted in the AM and PM peak hours at the US 40 and Downhill Drive intersection, and in this context, it would continue to be warranted in the future. *[It should be noted that the Peak Hour Signal Warrant is only one of nine warrants in the MUTCD when considering the installation of a traffic signal, but it is a good indicator.]*

Refer to the *US 40 & Downhill Drive Intersection Improvements Memorandum* for details on a full signal warrant analysis of this intersection.

9.0 AUXILIARY LANE EVALUATION

The US 40 corridor is maintained and operated by CDOT, which requires compliance with the current *State Highway Access Code*[4] auxiliary lane criteria. Typically, an auxiliary lane evaluation would be completed for study intersection on the state highway; however, the intersection of Downhill Drive is already being designed with a signal and determined auxiliary lanes with the appropriate lengths by the City staff and design consultants. Auxiliary lanes at other study intersections were discussed within the capacity analysis and listed below:

- Elk River Road at Downhill Drive
    - Eastbound right-turn lane in the short-term and long-term scenarios
    - Northbound left-turn in short-term and long-term scenarios

4 State Highway Access Code, State of Colorado, August 31, 1998, updated March 2002.

10.0 COST CONTRIBUTION FOR SIGNAL AT US 40 AND DOWNHILL DRIVE

City staff has identified that Copper Ridge Village project will be required to contribute funds towards the future signal at the intersection of US 40 and Downhill Drive. The cost sharing methodology being discussed is to treat this current project the same as any other development within the City and calculate the funding contribution based on the project's percentage of the total future automobile traffic that will utilize the subject location. The cost contribution calculations utilized the higher of the AM or PM peak hour traffic volumes.

At the intersection of US 40 and Downhill Drive, Copper Ridge Village was estimated to be 2.5% of the peak hour traffic in the PM peak hour. This is based on the number of trips through the intersection divided by the total intersection volume. In the PM peak hour, it was calculated that there will be approximately 56 trips associated with Copper Ridge Village and in Year 2026 it was forecasted that the intersection of US 40 and Downhill Drive will serve approximately 2,231 vehicles. Therefore, the project trips are 2.5% of the total traffic volume in the PM peak hour. The cost contribution percentage for the signal at this intersection should equal to the traffic percentage.

11.0 COST CONTRIBUTION FOR ELK RIVER ROAD AND DOWNHILL DRIVE

City staff has identified that Copper Ridge Village project will be required to contribute funds towards the future auxiliary lanes at the intersection of Elk River Road and Downhill Drive. The cost sharing methodology being discussed is to treat this current project the same as any other development within the City and calculate the funding contribution based on the project's percentage of the total future automobile traffic that will utilize the subject location. The cost contribution calculations utilized the higher of the AM or PM peak hour traffic volumes.

At the intersection of Elk River Road and Downhill Drive, Copper Ridge Village was estimated to be 2.2% of the intersection peak hour traffic in the PM peak hour (31 project trips ÷ 1,386 vehicles through the intersection). The trip volumes within the eastbound right-turn lane and northbound left-turn equate to 7.3% of the total volume of just these two movements in the AM peak hour (21 project trips ÷ 286 EB right and NB left vehicles).

12.0 CONCLUSION

The Copper Ridge Village proposes to construct 198 multi-family dwelling units within seven (7) buildings. Access to the site is planned on Gloria Gossard Parkway with a primary access located approximately 1,000 feet west of Downhill Drive. The internal roadway will loop through the site and continue to the west through the future Airpark Subdivision and connect at a second location on Gloria Gossard Parkway. Both accesses will provide full movement and side-street stop-control with one inbound lane and one outbound lane.

Vehicular traffic volumes associated with the Copper Ridge Village project have been analyzed for the existing, short-term (Year 2026), and long-term (Year 2040) scenarios. Using ITE trip generation rates, the residential project is anticipated to generate approximately 1,080 daily, 71 AM peak hour and 87 PM peak hour trips at buildout during the weekday. **It was determined that the existing roadways and proposed intersection improvements can accommodate the estimated traffic volumes for buildout conditions.** The following recommendations should be considered for implementation:

Background Conditions (Non-Project Related):

- **US 40:** Widen to two through lanes per direction by Year 2040.
- **US 40 at Downhill Drive:** Implement City design plans that include a signal. The interim design includes changing the eastbound right-turn lane to a shared through/right-turn lane, one westbound right-turn lane (175 feet storage), one northbound left-turn lane (50 feet storage) and extend the southbound left-turn storage to 200 feet. The ultimate design includes a second through lane in the westbound direction. This is detailed in the recommendations of the *US 40 & Downhill Drive Intersection Improvements Memorandum.*
- **Elk River Road at Downhill Drive:** Provide one eastbound right-turn lane and one northbound left-turn lane. Monitor this intersection for any operational deficiencies or safety concerns as traffic increases on the roadways that would trigger a change in traffic control or need for additional auxiliary lanes.

Project Related:

- **Downhill Drive at Gloria Gossard Parkway:** Relocate the existing stop sign from the west leg [eastbound] to the south leg [northbound].
- **Access on Gloria Gossard Parkway:** Construct with one inbound lane and one outbound lane. Auxiliary lanes are not warranted.

Copper Ridge Village Traffic Impact Study

Steamboat Springs, CO

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Year 2021 Existing				Year 2026 Background				Year 2026 Background with Improvements					Year 2026 Bkgrd + Project Trips				Year 2026 Bkgrd + Project with Improvements					Year 2040 Background				Year 2040 Bkgrd + Project Trips			
	AM Peak		PM Peak		AM Peak		PM Peak		Mitigation	AM Peak		PM Peak		AM Peak		PM Peak		Mitigation	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	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																														
1. US 40 at Downhill Dr.	**>120**	**F**	**>120**	**F**	**>120**	**F**	**>120**	**F**						**>120**	**F**	**>120**	**F**													
Eastbound Left	*9*	*A*	*11*	*B*	*9*	*A*	*13*	*B*	*Analyzed with Signal*					*9*	*A*	*13*	*B*	*Analyzed with Signal*												
Eastbound Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*													
Eastbound Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*													
Westbound Left	*11*	*B*	*9*	*A*	*12*	*B*	*9*	*A*						*12*	*B*	*9*	*A*													
Westbound Through+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*													
Northbound Left+Through+Right	*32*	*D*	*18*	*C*	*57*	*F*	*25*	*C*						*59*	*F*	*26*	*D*													
Southbound Left	*>120*	*F*	*>120*	*F*	*>120*	*F*	*>120*	*F*						*>120*	*F*	*>120*	*F*													
Southbound Through+Right	*12*	*B*	*39*	*E*	*14*	*B*	*108*	*F*						*15*	*B*	*119*	*F*													
2. Downhill Dr. at Gossard Pkwy	**1**	**A**	**1**	**A**	**12**	**B**	**8**	**A**						**23**	**C**	**12**	**B**	*Move Stop Sign from EB to NB*	**6**	**A**	**4**	**A**	**6**	**A**	**5**	**A**	**6**	**A**	**5**	**A**
Eastbound Through+Right	*8*	*A*	*8*	*A*	*15*	*B*	*13*	*B*	*Not Applicable*					*27*	*D*	*18*	*C*		*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Westbound Left+Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*		*10*	*A*	*9*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Northbound Left+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*		*28*	*D*	*22*	*C*	*10*	*B*	*10*	*B*	*11*	*B*	*12*	*B*
3. Elk River Rd at Downhill Dr.	**7**	**A**	**7**	**A**	**23**	**C**	**31**	**D**		**10**	**B**	**18**	**C**	**35**	**D**	**50**	**F**		**13**	**B**	**25**	**C**	**14**	**B**	**40**	**E**	**16**	**C**	**49**	**E**
Eastbound Left+Through+Right	*30*	*D*	*25*	*C*	*80*	*F*	*102*	*F*	*Add EB Right and NB Left*					*116*	*F*	*>120*	*F*	*Add EB Right and NB Left*												
Eastbound Left+Through										*51*	*F*	*94*	*F*						*59*	*F*	*>120*	*F*	*79*	*F*	*>120*	*F*	*88*	*F*	*>120*	*F*
Eastbound Right										*15*	*B*	*14*	*B*						*16*	*C*	*15*	*B*	*15*	*C*	*16*	*C*	*16*	*C*	*17*	*C*
Westbound Left+Through+Right	*35*	*D*	*55*	*F*	*84*	*F*	*>120*	*F*		*80*	*F*	*>120*	*F*	*120*	*F*	*>120*	*F*		*112*	*F*	*>120*	*F*	*>120*	*F*	*>120*	*F*	*>120*	*F*	*>120*	*F*
Northbound Left+Through	*9*	*A*	*9*	*A*	*9*	*A*	*9*	*A*						*9*	*A*	*9*	*A*													
Northbound Left										*9*	*A*	*9*	*A*						*9*	*A*	*9*	*A*	*9*	*A*	*10*	*A*	*9*	*A*	*10*	*A*
Northbound Through										*0*	*A*	*0*	*A*						*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Northbound Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*		*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*		*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Southbound Left+Through+Right	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*		*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*		*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*8*	*A*	*9*	*A*
4. Gossard Pkwy at Access														**2**	**A**	**1**	**A**										**3**	**A**	**1**	**A**
Eastbound Left+Through														*7*	*A*	*8*	*A*										*7*	*A*	*8*	*A*
Westbound Through+Right														*0*	*A*	*0*	*A*										*0*	*A*	*0*	*A*
Southbound Left+Right														*10*	*B*	*11*	*B*										*10*	*A*	*10*	*B*
SIGNAL CONTROL																														
1. US 40 at Downhill Dr.										**23**	**C**	**49**	**D**						**25**	**C**	**50**	**D**	**25**	**C**	**28**	**C**	**26**	**C**	**29**	**C**
Eastbound Left									*Signalize; EB Right becomes Thru+Right; Add WB Right and NB Left*	*12*	*B*	*32*	*C*					*Signalize; EB Right becomes Thru+Right; Add WB Right and NB Left*	*13*	*B*	*32*	*C*	*11*	*B*	*23*	*C*	*11*	*B*	*24*	*C*
Eastbound Through+Right										*19*	*B*	*13*	*B*						*20*	*C*	*13*	*B*	*23*	*C*	*23*	*C*	*23*	*C*	*23*	*C*
Westbound Left										*14*	*B*	*9*	*A*						*15*	*B*	*10*	*A*	*17*	*B*	*17*	*B*	*17*	*B*	*17*	*B*
Westbound Through										*18*	*B*	*77*	*E*						*19*	*B*	*79*	*E*	*14*	*B*	*31*	*C*	*14*	*B*	*32*	*C*
Westbound Right										*13*	*B*	*12*	*B*						*14*	*B*	*12*	*B*	*13*	*B*	*39*	*D*	*13*	*B*	*20*	*B*
Northbound Left										*52*	*D*	*0*	*A*						*52*	*D*	*0*	*A*	*51*	*D*	*39*	*D*	*51*	*D*	*39*	*D*
Northbound Through+Right										*53*	*D*	*50*	*D*						*53*	*D*	*51*	*D*	*51*	*D*	*41*	*D*	*51*	*D*	*41*	*D*
Southbound Left										*52*	*D*	*54*	*D*						*53*	*D*	*59*	*E*	*52*	*D*	*34*	*C*	*59*	*E*	*35*	*D*
Southbound Through+Right										*37*	*D*	*45*	*D*						*35*	*D*	*45*	*D*	*36*	*D*	*30*	*C*	*37*	*D*	*31*	*C*

Note: Delay represented in average seconds per vehicle.

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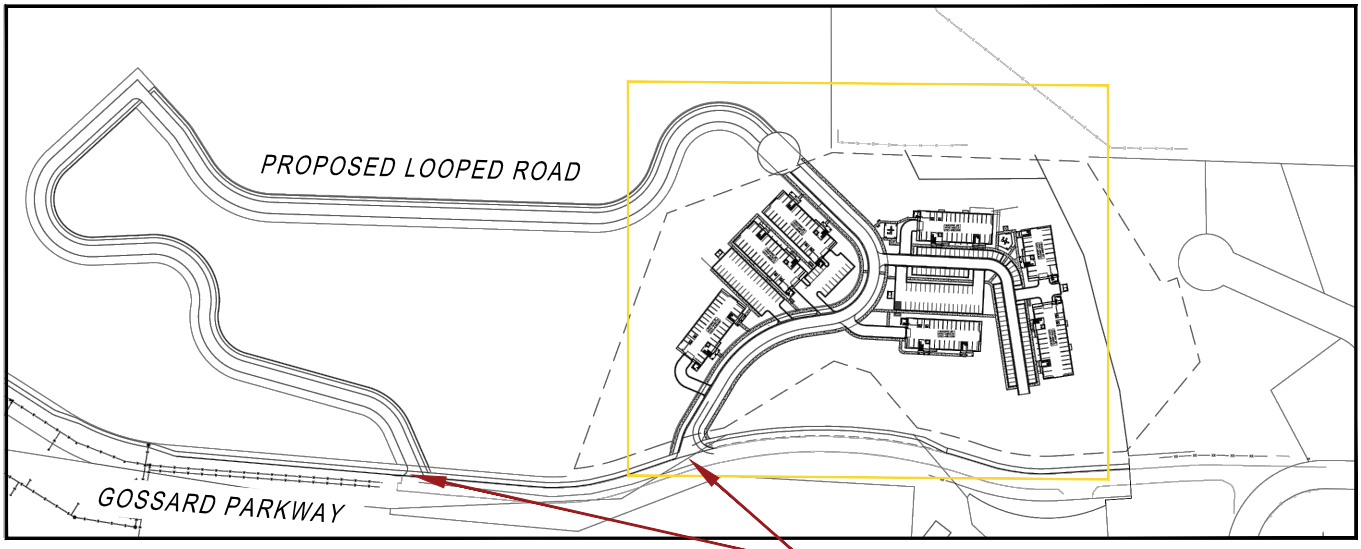
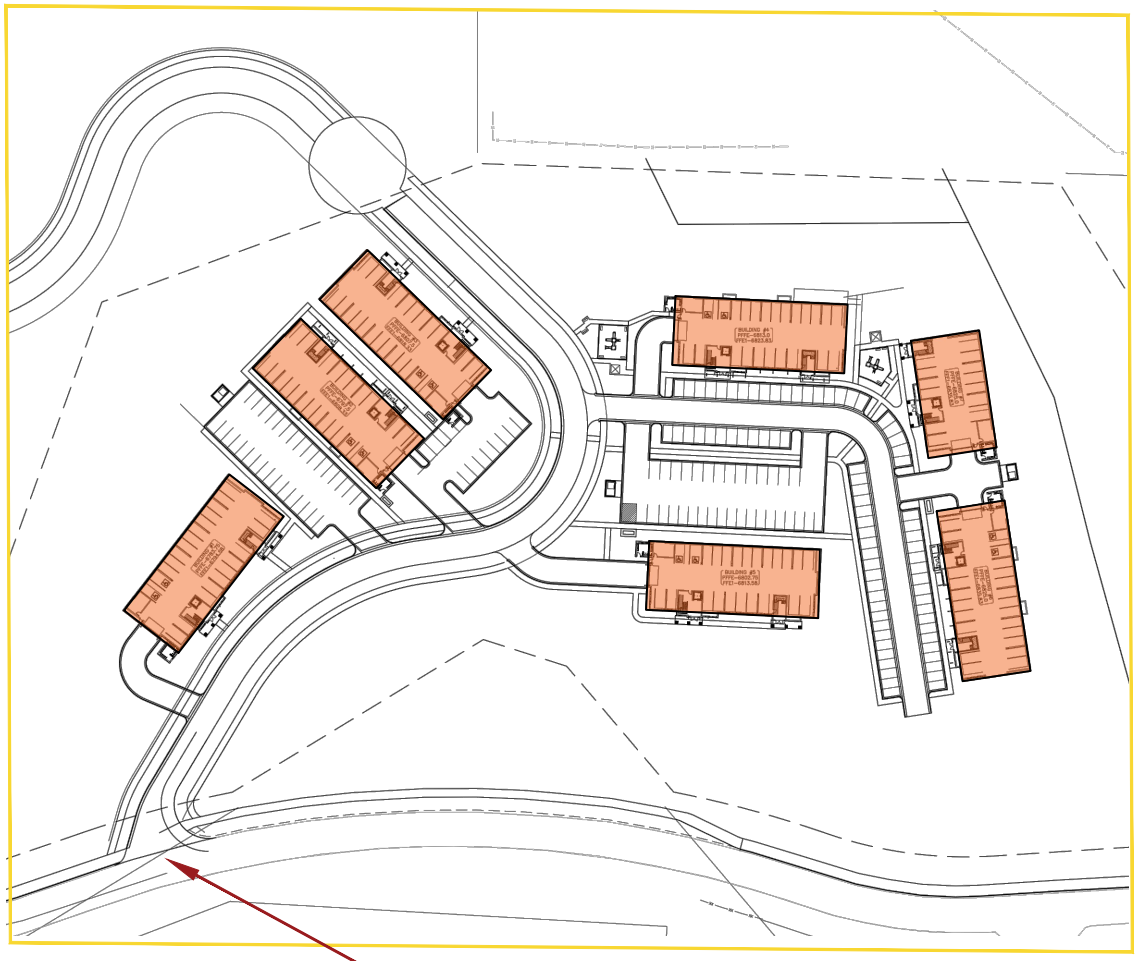
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

VICINITY MAP

FT Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	1





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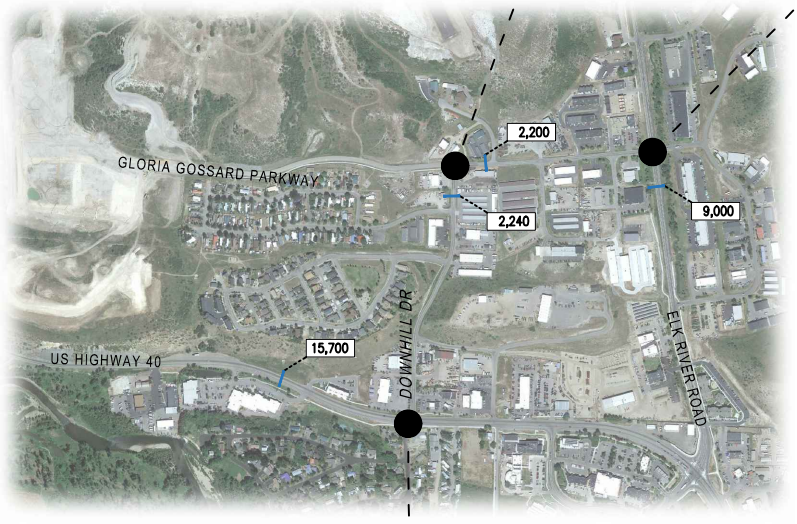
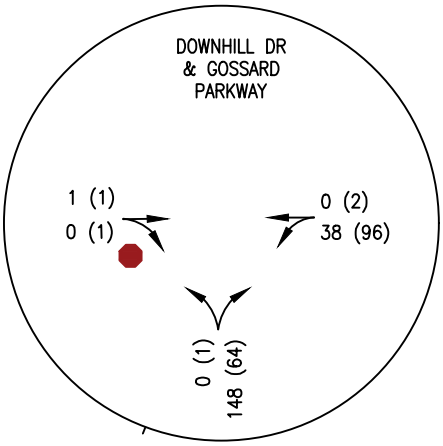
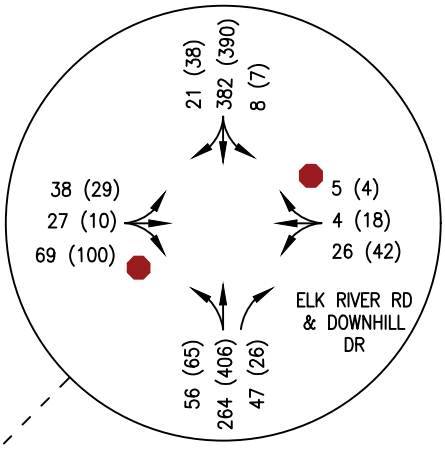
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

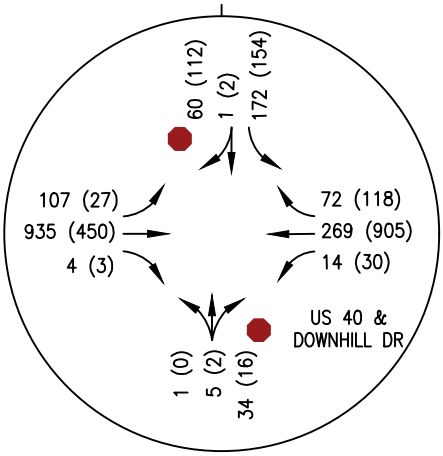
SITE PLAN

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	2









LEGEND

←	LANE CONFIGURATION
XX (XX)	AM (PM) PEAK HOUR TRAFFIC VOLUME
XX,XXX	DAILY TRAFFIC VOLUME

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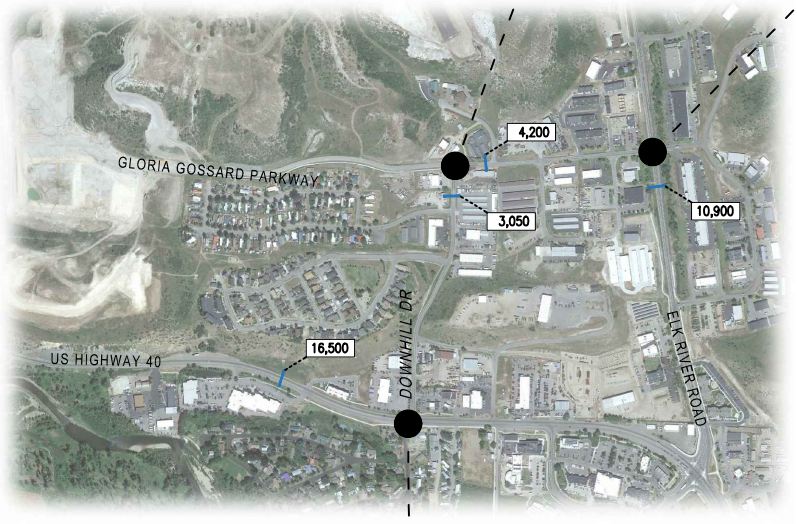
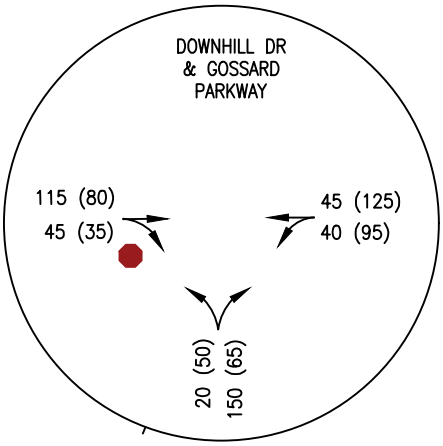
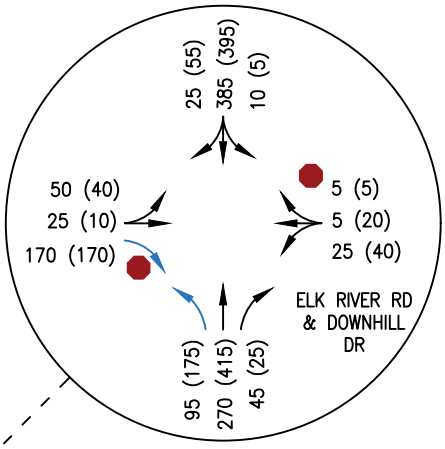
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

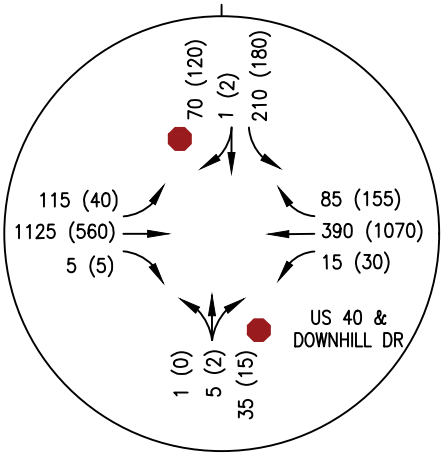
YEAR 2021 EXISTING TRAFFIC VOLUMES

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	3









LEGEND

←	EXISTING LANE CONFIGURATION
←	NEW BACKGROUND LANE CONFIGURATION
XX (XX)	AM (PM) PEAK HOUR TRAFFIC VOLUME
XX,XXX	DAILY TRAFFIC VOLUME

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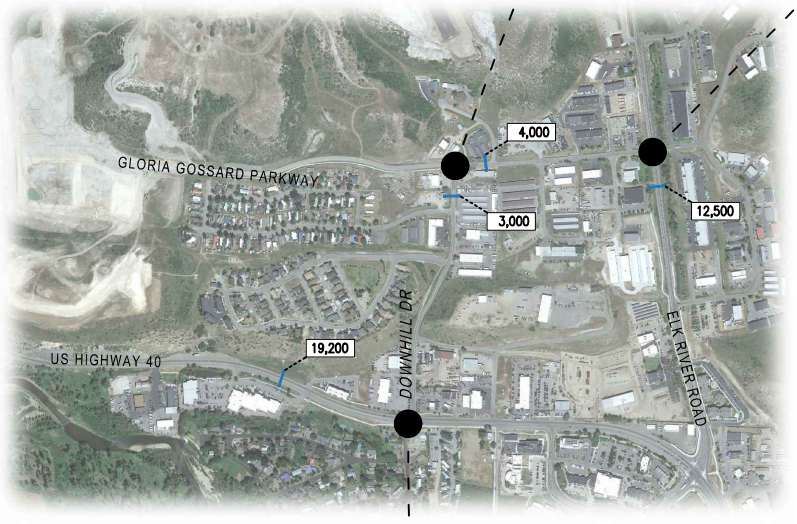
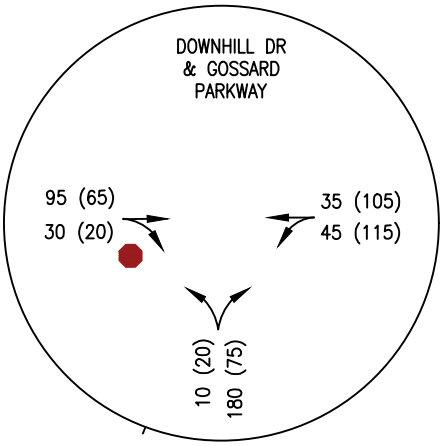
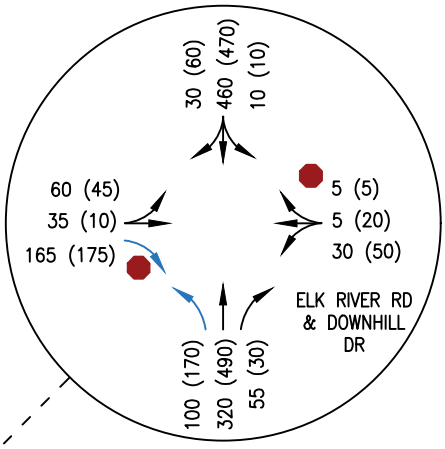
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

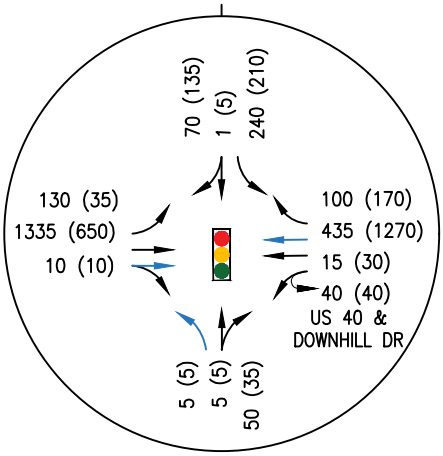
YEAR 2026 BACKGROUND TRAFFIC VOLUMES

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	4









N

LEGEND

←	EXISTING LANE CONFIGURATION
←	NEW BACKGROUND LANE CONFIGURATION
XX (XX)	AM (PM) PEAK HOUR TRAFFIC VOLUME
XX,XXX	DAILY TRAFFIC VOLUME

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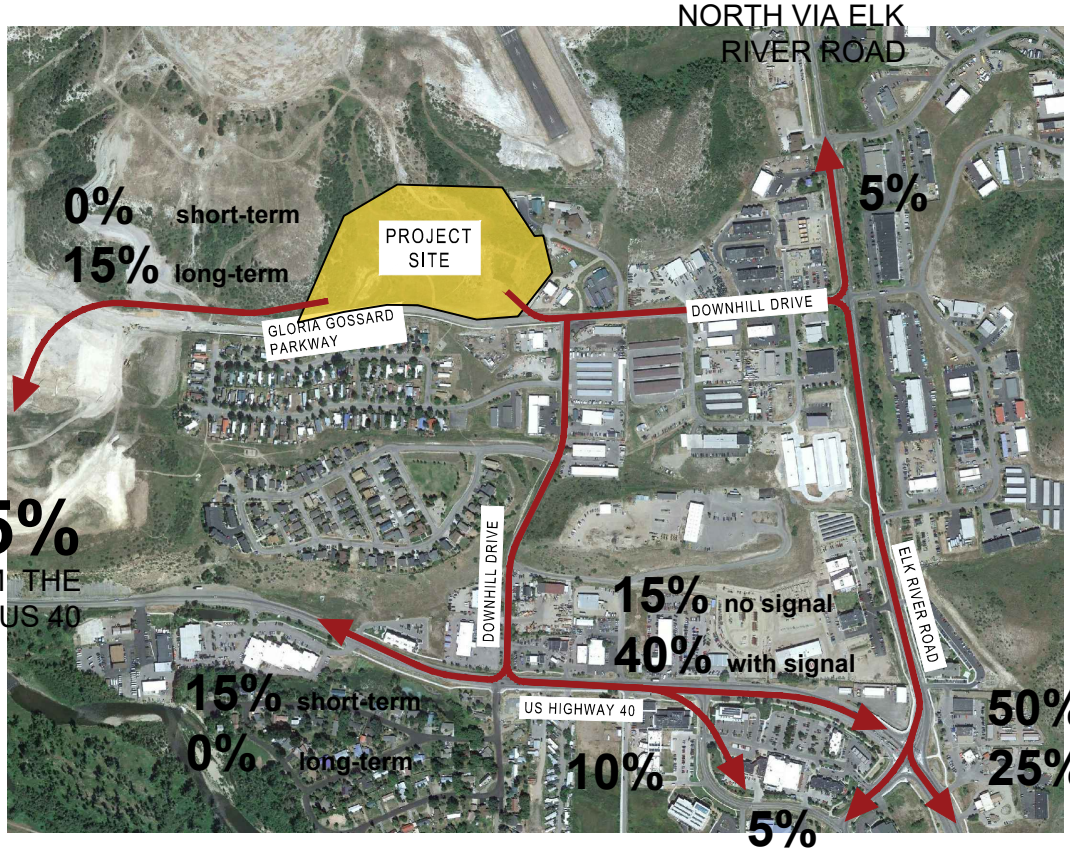
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

YEAR 2040 BACKGROUND TRAFFIC VOLUMES

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	5



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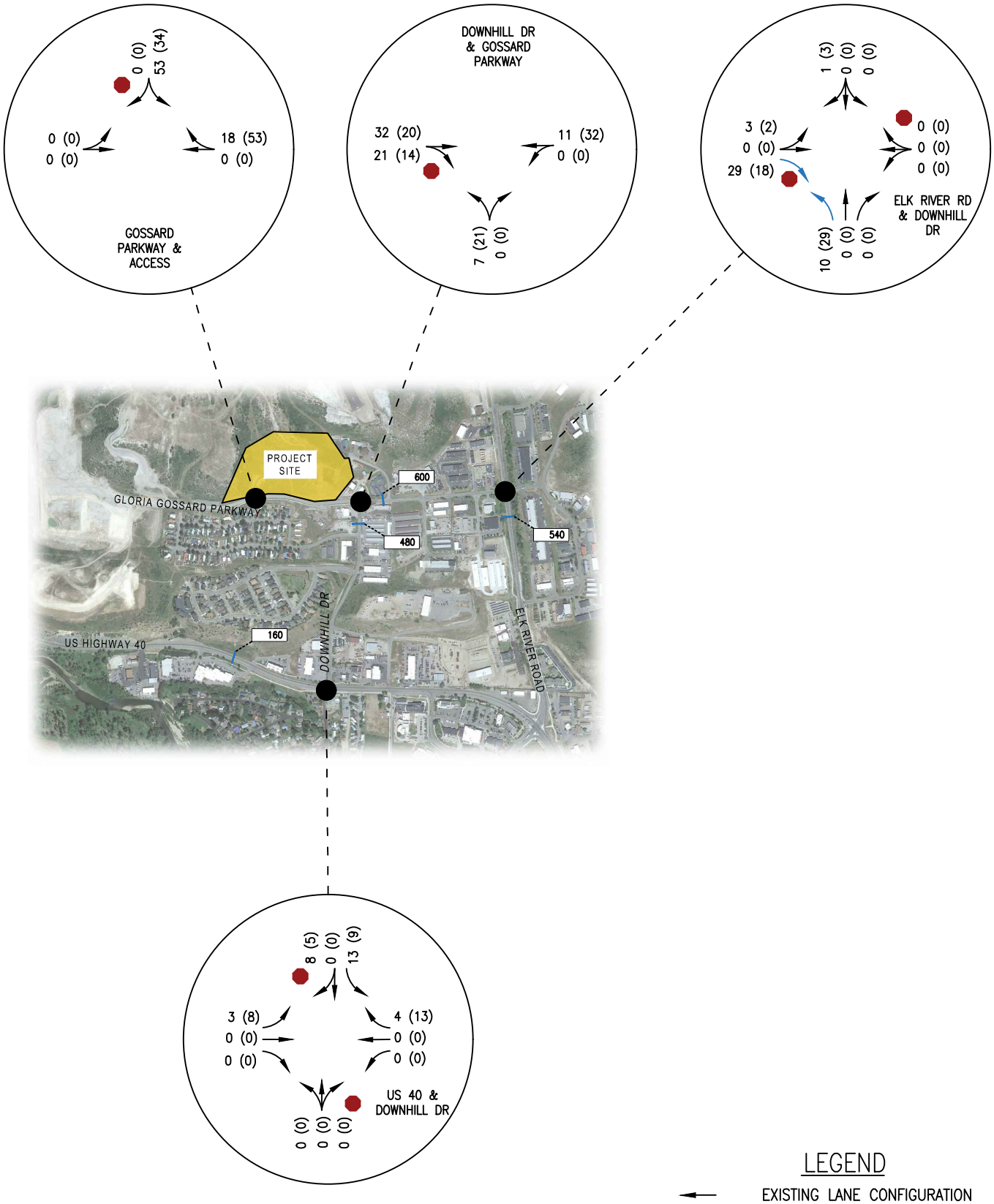
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

TRIP DISTRIBUTION

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	6



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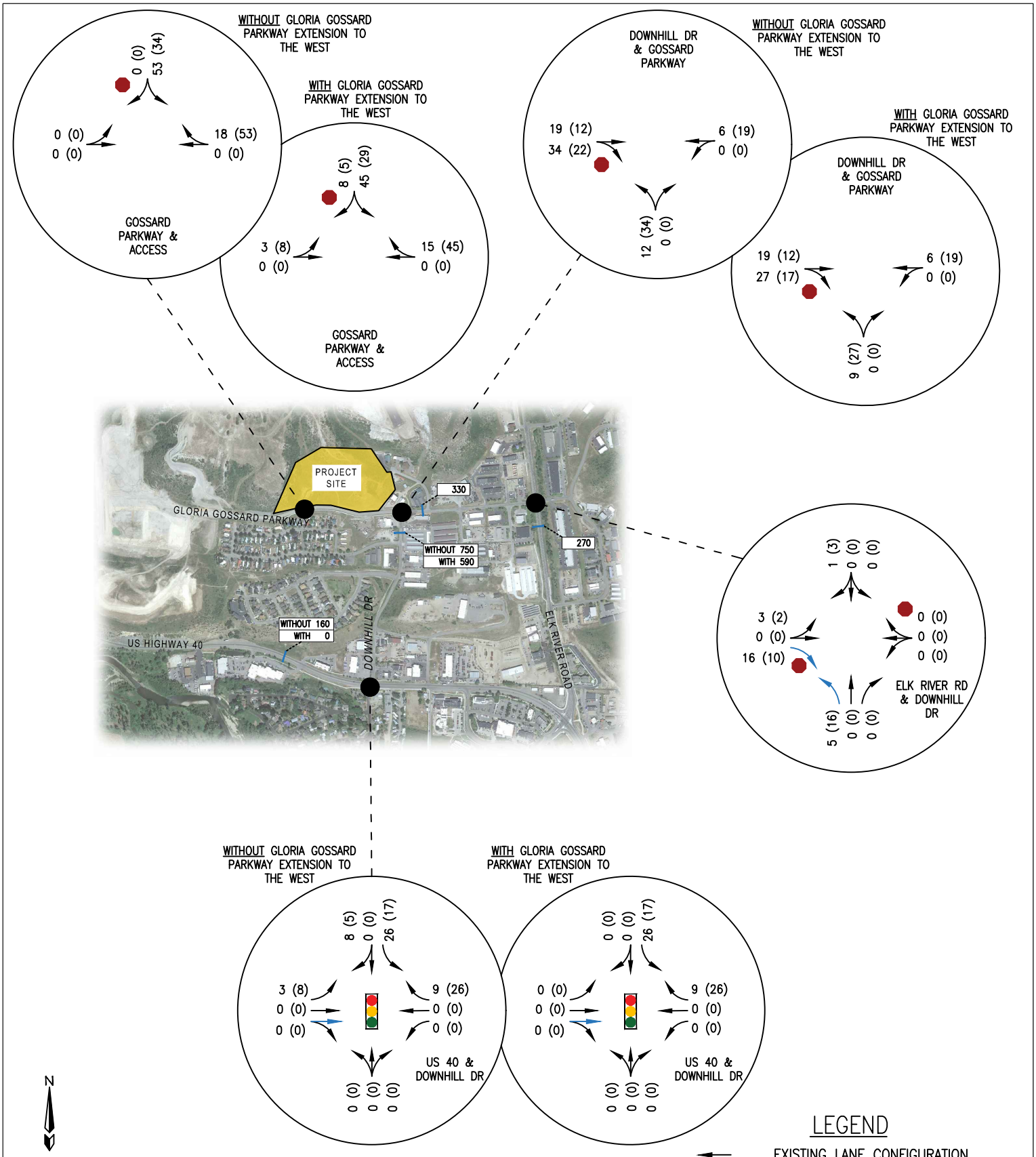
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

TRIP VOLUMES [WITHOUT SIGNAL AT US 40/DOWNHILL DR]

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	7A



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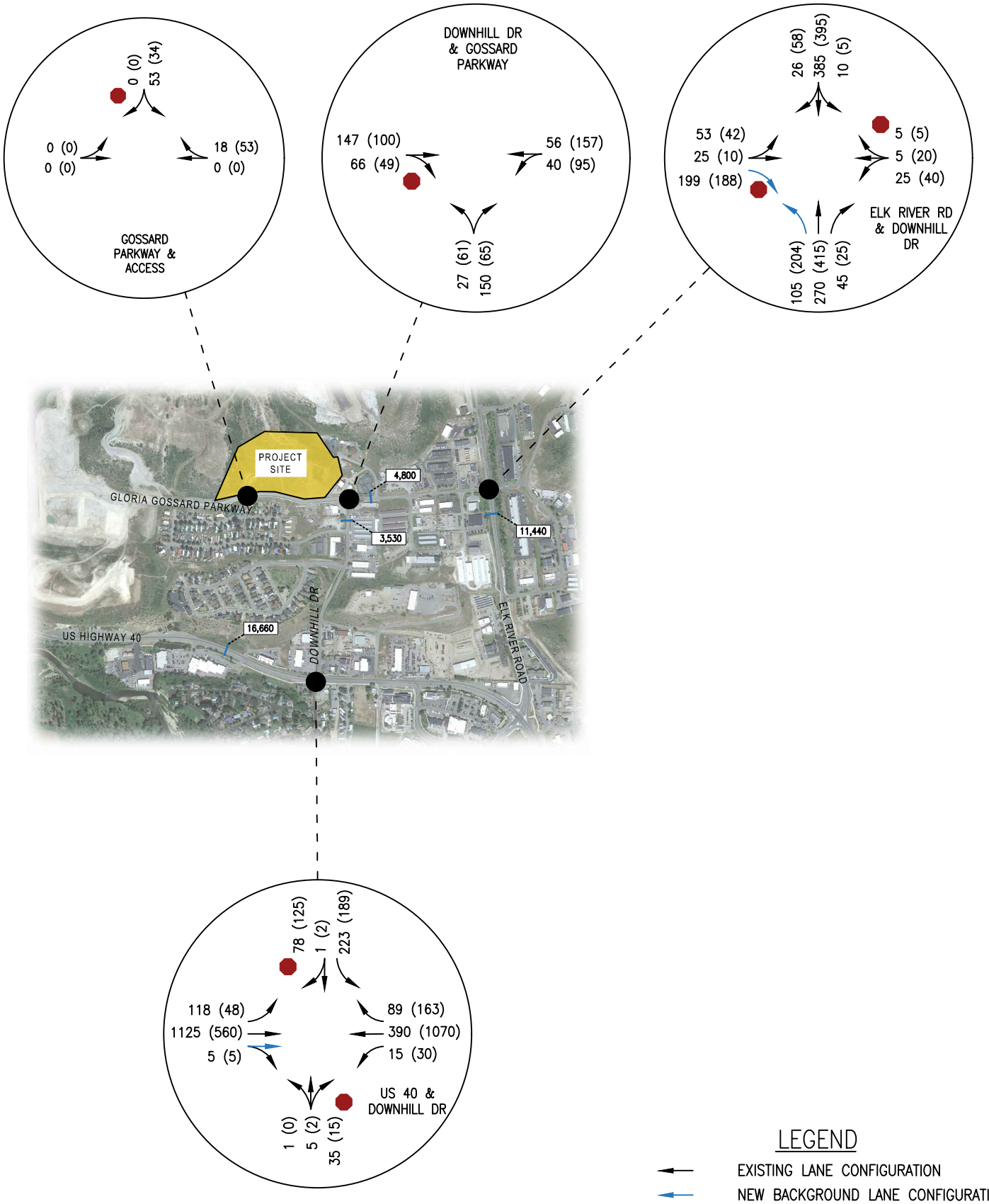
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

TRIP VOLUMES [WITH SIGNAL AT US 40/DOWNHILL DR & GOSSARD PKWY WEST]

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	7B



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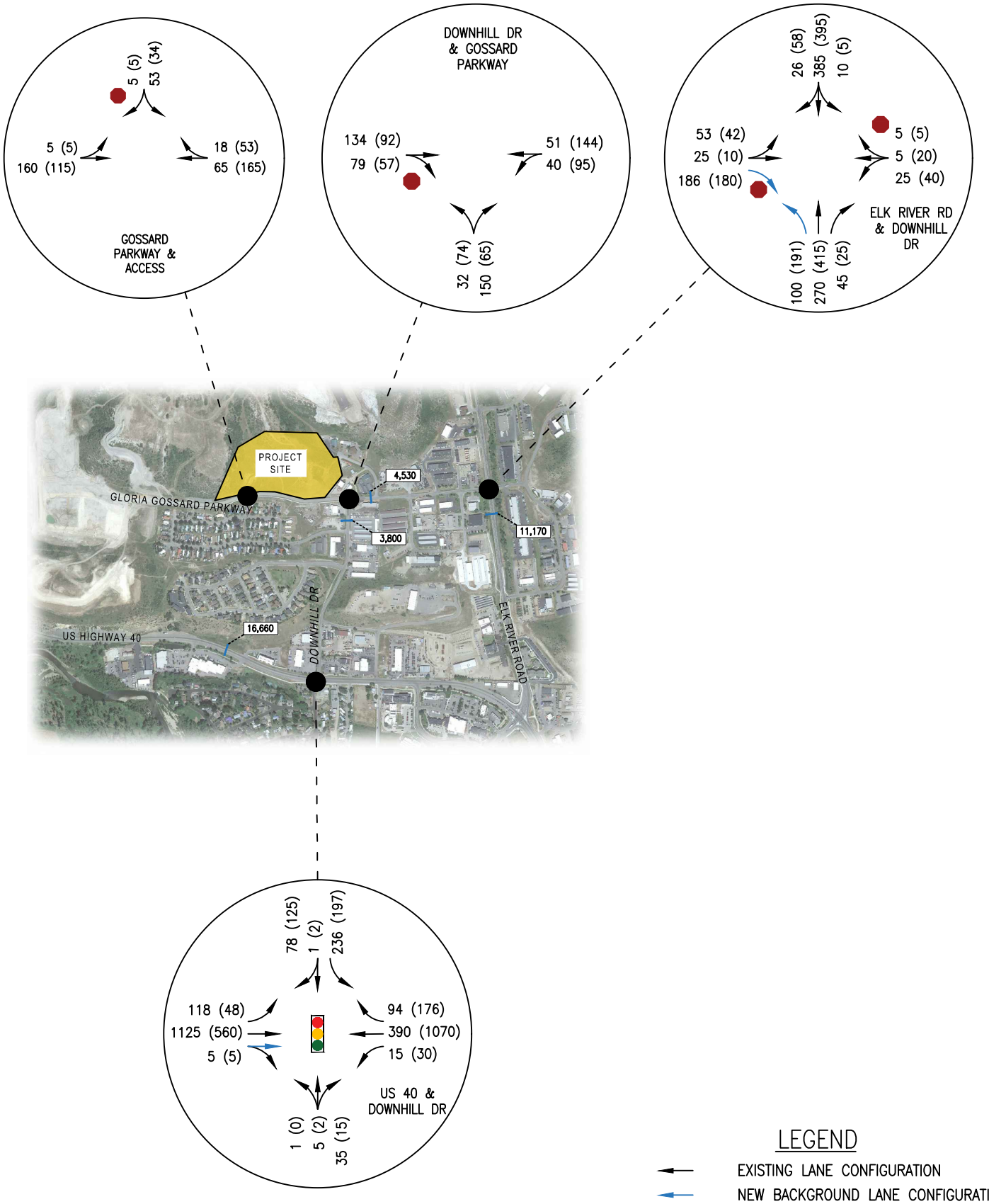
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

YEAR 2026 BKGRD + PROJECT TRAFFIC VOLUMES [WITHOUT SIGNAL AT US 40/DOWNHILL DR]

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	8A



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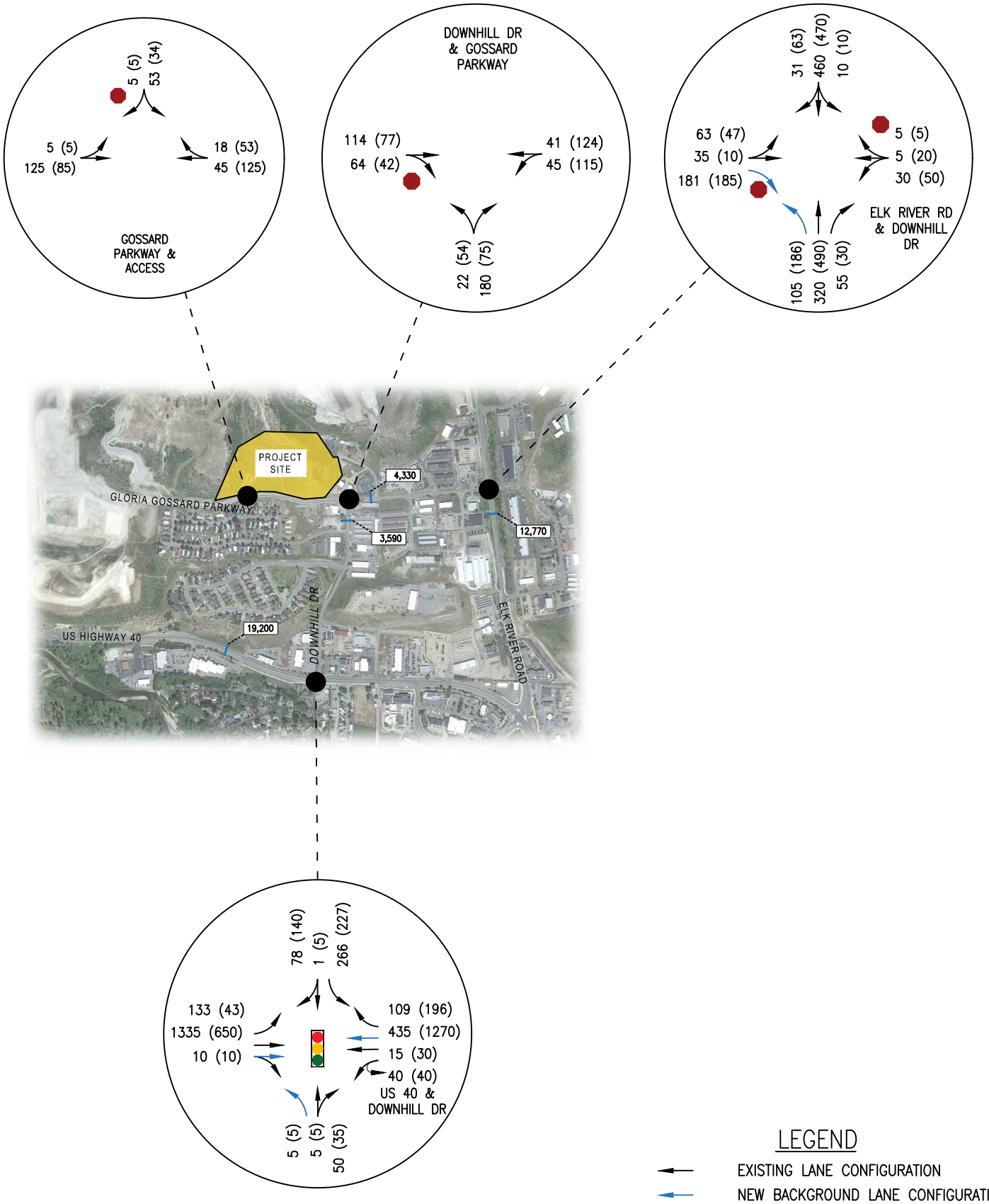
COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

YEAR 2024 BKGRD + PROJECT TRAFFIC VOLUMES [WITH SIGNAL AT US 40/DOWNHILL DR]

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	8B



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COPPER RIDGE VILLAGE MULTI-FAMILY TRAFFIC IMPACT STUDY

YEAR 2040 BKGRD + PROJECT TRAFFIC VOLUMES

Project #	21013	Original Scale	NTS	Date	10/27/2021	Drawn by	CRS	Figure #	9

Appendix:

Traffic Impact Study - Scope Approval Form

Level of Service Definitions

Existing Traffic Data

Intersection Capacity Worksheets

Traffic Impact Study – Scope Approval Forms

Attachment A
TRAFFIC IMPACT STUDY – SCOPE APPROVAL FORM

Prior to starting a traffic impact study, a Scope Approval Form must be submitted for review and signed by the City Public Works Director. It shall be included in every traffic study submittal as Attachment A. This Scope Approval Form is for City requirements only. Consultants must contact CDOT to determine requirements related to access permits and work in CDOT right-of-way.

Project Information

Project Name:	West Acres Ranch Lot 1 Apartments
Project Location:	Downhill Drive at Gossard Parkway
Developer Name/ Contact Number:	Four Points Surveying and Engineering Joe Wiedemier, PE 515-451-5377
Traffic Engineer Name/ Contact Number:	Fox Tuttle Transportation Group Cassie Slade, PE, PTOE 303-652-3571

Study Parameters

Type of Study Required:

☐ Trip Generation Letter ■ Long-term Traffic Study

☐ Short-term Traffic Study ☐ Trip Evaluation Letter

Traffic Counts

☐ Winter Zone ■ Summer Zone

☐ Counts w/in last 2 years are available adjust with summer factor

■ New counts will be collected on February 2021

☐ Existing counts will be estimated based on: Adjusted for COVID impacts based on US 40 data

■ Future counts will be estimated based on a 1% growth rate. Plus trips from Overlook Park Subdivision

Peak Hours Analyzed

■ AM Peak Hour ■ PM peak hour ☐ Other _____

Trip Generation Rates

■ From ITE ☐ Other (cite)_____-

■ No passby or mode split (typical)

☐ Passby or mode split (describe)_____

Trip Distribution – Attach sketch A-1 15% West US 40; 65% East US 40; 5% North Elk River Road; 15% Curve/Downhill/Shield Area

Study Parameters

List of Study Area Intersections

1.	US 40 at Downhill Drive	
2.	Elk River at Downhill Drive	
3.	Downhill Drive at Gossard Parkway	(evaluate intersection realign and timing)
4.	Site Acceses	
5.		
6.		
7.		

Key Analysis items

- [x] Peak Hour LOS at study intersections
- [x] % Site contribution to signal at US 40 at Downhill Drive future signal
- [x] Auxiliary lane evaluation at ~~2~~ 3 study area intersections #1, #2 #3 listed above
- [ ] Traffic signal warrants at US 40 at Downhill Drive future signal
- [ ] Queuing Analysis at _____
- [x] Other_ped, bike, and transit facility analysis

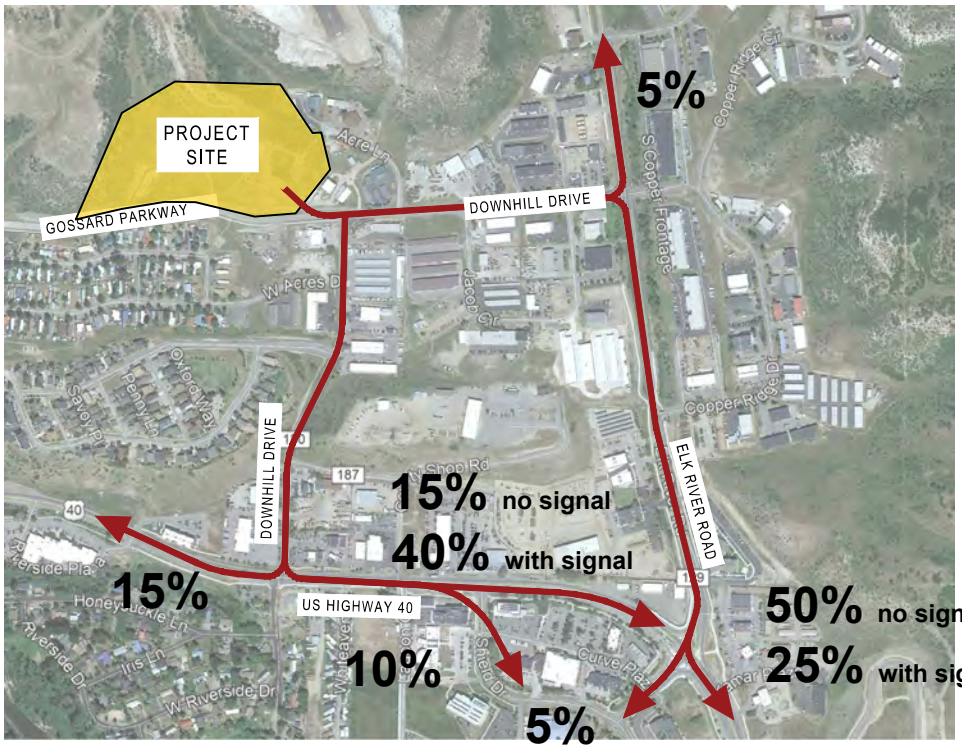
Approvals

Cassie Slade, Fox Tuttle	3/3/2021	303-652-3571
Prepared By: (insert traffic engineer name, firm)	Date	Phone

Approved By:

Ben Beall	3/5/21	970-871-8293
Ben Beall City Engineer	Date	Phone

5%
TO/FROM THE NORTH VIA ELK RIVER ROAD



15%
TO/FROM THE WEST VIA US 40

15%
TO/FROM THE WEST □ SOUTH IN CURVE/ DOWNHILL / SHIELDS AREA

65%
TO/FROM THE EAST VIA US 40

N

FOX TUTTLE
TRANSPORTATION GROUP

WEST ACRES RANCH LOT 1 TRAFFIC ANALYSIS
PRELIMINARY TRIP DISTRIBUTION

Project #	21013	Original Scale	NTS	Date	3/3/2021	Drawn by	CRS	Figure #	A

COLORADO
Department of Transportation
Region 3

ASSUMPTIONS CONTINUED					
Project Trip Distribution *(State assumptions and attach sketch that shows individual movements.)*	15% West US 40; 65% East US 40; 5% north Elk River; 15% south Curve & Downhill Area; (see attached)				
Trip Reduction Percentage	Internal Capture:	0%	Pass By:	0%	
	Multi-Modal:	5%	Other:		
Study Time Periods *(Check all that apply)*	■ AM (7-9)	■ PM (4-6)	☐ Weekday		
	☐ SAT (Midday)	☐ Other			
Existing and Proposed ITE Trip Generation Land Use	#221 "Multi-family (mid-rise)"				
Analysis Methods *(Check all that apply)*	■ Synchro or ☐ HCS *(isolated intersections only)*		☐ SimTraffic or ☐ Other *(closely spaced intersections or when known/expected queuing issue)*		
	■ Signal Warrants		■ Pedestrian/Transit/Bicycle		
	☐ Safety/Sight Distance		■ Queuing and Storage		
	☐ Other				
Notes and Other Assumptions	The intersection of Downhill Drive is currently being evaluated and redesigned under a project with the City. This information will be implemented as appropriate in this traffic study.				
Crash Data	CDOT will perform a crash data analysis for the highway in the vicinity of the proposed access and provide to the consultant. As a part of the study consultant shall recommend mitigation measures for any identified safety issues.				
Simulation Input Files	Consultant to provide computer files used for analysis with a signed and sealed copy of the study.				

CDOT INTERNAL USE ONLY		
Review Comments	Must provide data and/or justification for the 5% multi-modal reduction in the TIS, or don't use the reduction.	
☐ Revise and Resubmit		
Engineer Signature/Date	☒ Approved	Mark Bunte

COLORADO
Department of Transportation
Region 3

Transportation Impact Study Methodology Form

Prior to starting a traffic impact study, a Methodology Form must be submitted for review and signed by the Region 3 Access Engineer. It shall be included as part of the study.

CONTACT INFORMATION	
Consultant: Name:	Cassie Slade
Telephone:	303-652-3571
Email:	cassie.slade@foxtuttle.com
Developer/Owner Name:	Four Points Surveying and Engineering / West Acres Ranch, Lot 1

PROJECT INFORMATION	
Project Name	West Acres Ranch, Lot 1
Project Location	Northwest corner of Gossard Parkway and Downhill Drive
Project Description *(Attached proposed site plan)*	Conceptual plan attached. 15-acre property with roughly 175 one and two-bedroom apartments.
State Highway	US Highway 40
County	Routt
Mile Post	~ 0.37 mile east of MP 130
Posted Speed Limit	40 mph

TIS ASSUMPTIONS			
Study Years	Current Year: 2021	Buildout Year: 2025	Long Term Year: 2040
Traffic Assessment Level *(Provide justification)*	Full Study		
Study Intersections	1. US 40 at Downhill Drive	6.	
	2. Downhill Drive at Gossard Pkwy	7.	
	3. Downhill Drive at Elk River Rd	8.	
	4.	9.	
	5.	10.	
Future Growth Rate	■ OTIS	☐ Regional TDM	☐ Other
Seasonal Adjustment Factor	Adjusted for COVID and summer factor.		

5%
TO/FROM THE NORTH VIA ELK RIVER ROAD

15%
TO/FROM THE WEST VIA US 40

15%
TO/FROM THE WEST & SOUTH IN CURVE/ DOWNHILL / SHIELDS AREA

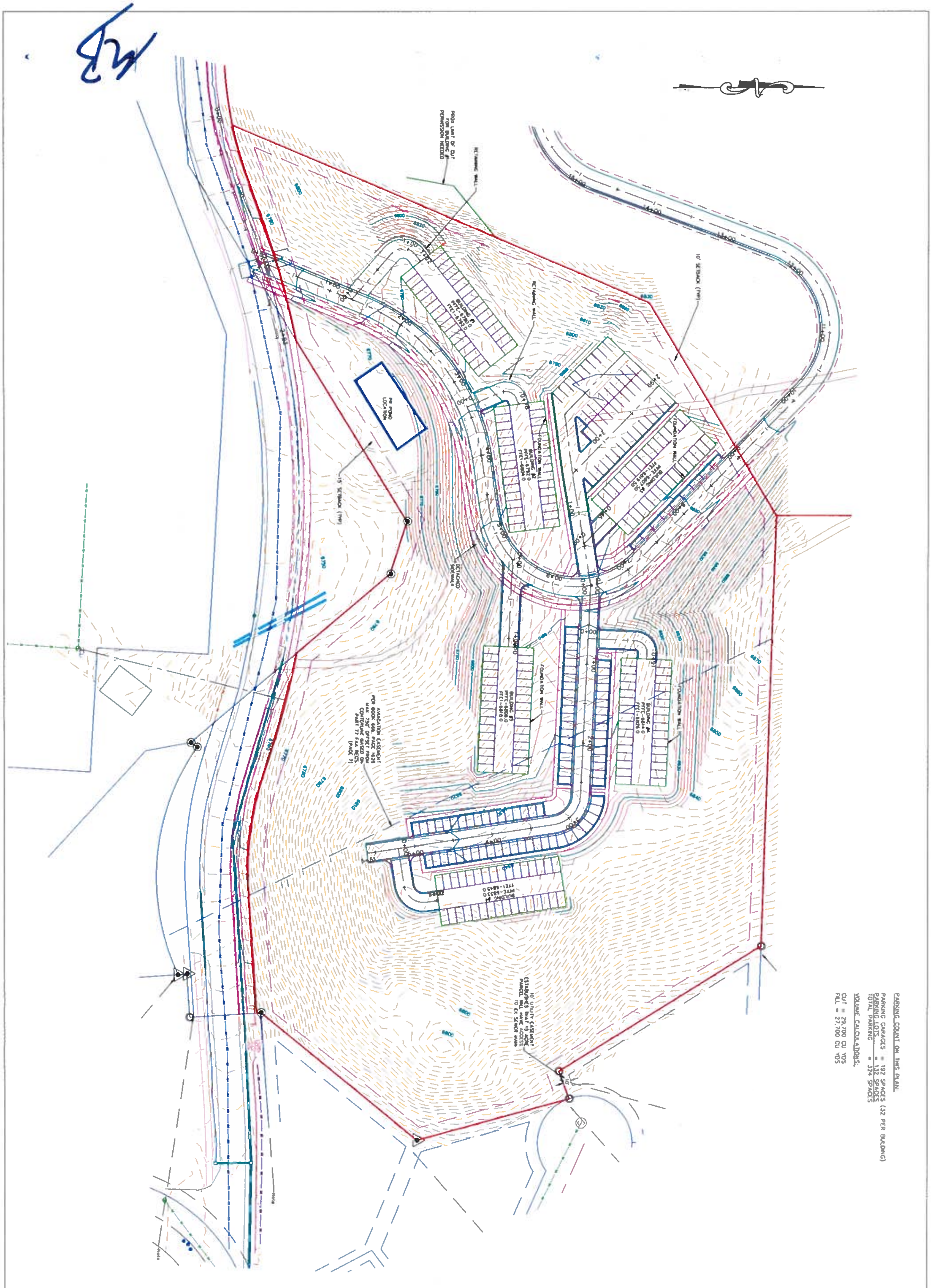
65%
TO/FROM THE EAST VIA US 40

N

FOX TUTTLE
TRANSPORTATION GROUP

WEST ACRES RANCH LOT 1 TRAFFIC ANALYSIS
PRELIMINARY TRIP DISTRIBUTION

Project #	21013	Original Scale	NTS	Date	2/11/2021	Drawn by	CRS	Figure #	A



SHEET # C1	DRAWING: SITE PLAN	

DATE: 2-3-2021
JOB #: 1992-001
DRAWN BY: MDM
DESIGN BY: MDM
REVIEW BY:
Contour Interval = 2 ft
Horizontal Scale

LOT 1, WEST ACRES RANCH SUBDIVISION

GLORIA GOSSARD PARKWAY
STEAMBOAT SPRINGS, CO 80487

No.	DATE	REVISIONS	INT

440 S. Lincoln Ave, Suite 4B
P.O. Box 775966
Steamboat Springs, CO 80487
(970)-871-6772
matthew@fourpointsse.com
FOUR POINTS SURVEYING ENGINEERING

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.

Intersection Capacity Worksheets: Existing

Intersection	
Int Delay, s/veh	212.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	935	4	14	269	72	1	5	34	172	1	60
Future Vol, veh/h	107	935	4	14	269	72	1	5	34	172	1	60
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	85	85	85	77	77	77	76	76	76
Heavy Vehicles, %	1	4	1	2	11	2	2	2	2	1	1	1
Mvmt Flow	123	1075	5	16	316	85	1	6	44	226	1	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	403	0	0	1080	0	0	1757	1756	1077	1744	1719	366
Stage 1	-	-	-	-	-	-	1321	1321	-	393	393	-
Stage 2	-	-	-	-	-	-	436	435	-	1351	1326	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.009	3.309
Pot Cap-1 Maneuver	1161	-	-	646	-	-	66	85	266	~ 68	90	681
Stage 1	-	-	-	-	-	-	193	226	-	634	608	-
Stage 2	-	-	-	-	-	-	599	580	-	~ 186	226	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1159	-	-	646	-	-	52	74	265	~ 48	78	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	52	74	-	~ 48	78	-
Stage 1	-	-	-	-	-	-	173	202	-	566	592	-
Stage 2	-	-	-	-	-	-	512	564	-	~ 134	202	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	31.7	$ 1362.9
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	186	1159	-	-	646	-	-	48	601
HCM Lane V/C Ratio	0.279	0.106	-	-	0.025	-	-	4.715	0.134
HCM Control Delay (s)	31.7	8.5	-	-	10.7	-	-	$ 1842	11.9
HCM Lane LOS	D	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.1	0.4	-	-	0.1	-	-	25.6	0.5

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	1	38	1	1	148
Future Vol, veh/h	1	1	38	1	1	148
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	66	66	75	75
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	4	4	58	2	1	197

Major/Minor	Minor2		Major2	
Conflicting Flow All	118	2	0	0
Stage 1	118	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.1	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.2	-
Pot Cap-1 Maneuver	776	1088	-	-
Stage 1	802	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1088	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	8.3	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	1088	-	-
HCM Lane V/C Ratio	0.007	-	-
HCM Control Delay (s)	8.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	38	27	69	26	4	5	56	264	47	8	382	21
Future Vol, veh/h	38	27	69	26	4	5	56	264	47	8	382	21
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	61	61	61	82	82	82	84	84	84
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	50	36	91	43	7	8	68	322	57	10	455	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	982	1003	468	1009	958	322	480	0	0	379	0	0
Stage 1	488	488	-	458	458	-	-	-	-	-	-	-
Stage 2	494	515	-	551	500	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	226	242	591	217	257	714	1093	-	-	1179	-	-
Stage 1	558	550	-	579	567	-	-	-	-	-	-	-
Stage 2	553	535	-	515	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	204	220	591	150	234	714	1093	-	-	1179	-	-
Mov Cap-2 Maneuver	204	220	-	150	234	-	-	-	-	-	-	-
Stage 1	514	543	-	533	522	-	-	-	-	-	-	-
Stage 2	497	493	-	402	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	34.8	1.3	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1093	-	-	315	177	1179	-	-
HCM Lane V/C Ratio	0.062	-	-	0.56	0.324	0.008	-	-
HCM Control Delay (s)	8.5	0	-	30	34.8	8.1	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3.2	1.3	0	-	-

Intersection	
Int Delay, s/veh	130.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	450	3	30	905	118	0	2	16	154	2	112
Future Vol, veh/h	27	450	3	30	905	118	0	2	16	154	2	112
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	90	90	90	64	64	64	75	75	75
Heavy Vehicles, %	1	5	1	2	3	2	0	0	0	2	2	2
Mvmt Flow	32	536	4	33	1006	131	0	3	25	205	3	149

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1139	0	0	540	0	0	1819	1805	538	1758	1744	1079
Stage 1	-	-	-	-	-	-	600	600	-	1140	1140	-
Stage 2	-	-	-	-	-	-	1219	1205	-	618	604	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	617	-	-	1028	-	-	61	80	547	~ 66	86	265
Stage 1	-	-	-	-	-	-	491	493	-	244	276	-
Stage 2	-	-	-	-	-	-	223	259	-	477	488	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	616	-	-	1028	-	-	24	73	546	~ 57	79	263
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	73	-	~ 57	79	-
Stage 1	-	-	-	-	-	-	465	467	-	231	267	-
Stage 2	-	-	-	-	-	-	92	250	-	428	463	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	17.5	$ 775.4
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	317	616	-	-	1028	-	-	57	253
HCM Lane V/C Ratio	0.089	0.052	-	-	0.032	-	-	3.602	0.601
HCM Control Delay (s)	17.5	11.2	-	-	8.6	-	-	$ 1320.9	38.6
HCM Lane LOS	C	B	-	-	A	-	-	F	E
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0.1	-	-	22	3.5

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	1	96	1	1	64
Future Vol, veh/h	1	1	96	1	1	64
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	4	4	116	1	1	77

Major/Minor	Minor2		Major2	
Conflicting Flow All	233	1	0	0
Stage 1	233	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.11	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.209	-
Pot Cap-1 Maneuver	671	1090	-	-
Stage 1	716	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1090	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	8.3	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	1090	-	-
HCM Lane V/C Ratio	0.007	-	-
HCM Control Delay (s)	8.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	29	10	100	42	18	4	65	406	26	7	390	38
Future Vol, veh/h	29	10	100	42	18	4	65	406	26	7	390	38
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	87	87	87
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	33	11	112	51	22	5	72	451	29	8	448	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1109	1110	470	1143	1103	451	492	0	0	480	0	0
Stage 1	486	486	-	595	595	-	-	-	-	-	-	-
Stage 2	623	624	-	548	508	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	184	209	587	176	211	604	1071	-	-	1067	-	-
Stage 1	557	551	-	487	492	-	-	-	-	-	-	-
Stage 2	469	478	-	517	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	154	188	587	125	190	604	1071	-	-	1067	-	-
Mov Cap-2 Maneuver	154	188	-	125	190	-	-	-	-	-	-	-
Stage 1	506	545	-	442	447	-	-	-	-	-	-	-
Stage 2	402	434	-	405	534	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.6	54.9	1.1	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1071	-	-	337	146	1067	-	-
HCM Lane V/C Ratio	0.067	-	-	0.463	0.535	0.008	-	-
HCM Control Delay (s)	8.6	0	-	24.6	54.9	8.4	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.3	2.6	0	-	-

Intersection Capacity Worksheets: Year 2026 Background

Intersection	
Int Delay, s/veh	664.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	1125	5	15	390	85	1	5	35	210	1	70
Future Vol, veh/h	115	1125	5	15	390	85	1	5	35	210	1	70
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	85	85	85	77	77	77	76	76	76
Heavy Vehicles, %	1	4	1	2	11	2	2	2	2	1	1	1
Mvmt Flow	132	1293	6	18	459	100	1	6	45	276	1	92

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	561	0	0	1299	0	0	2154	2154	1295	2135	2110	516
Stage 1	-	-	-	-	-	-	1557	1557	-	547	547	-
Stage 2	-	-	-	-	-	-	597	597	-	1588	1563	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.009	3.309
Pot Cap-1 Maneuver	1015	-	-	533	-	-	35	48	198	~ 36	51	561
Stage 1	-	-	-	-	-	-	141	174	-	523	519	-
Stage 2	-	-	-	-	-	-	490	491	-	~ 136	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1013	-	-	533	-	-	25	40	198	~ 21	43	557
Mov Cap-2 Maneuver	-	-	-	-	-	-	25	40	-	~ 21	43	-
Stage 1	-	-	-	-	-	-	123	151	-	454	500	-
Stage 2	-	-	-	-	-	-	392	473	-	~ 87	151	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.4	57	$ 4358.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	120	1013	-	-	533	-	-	21	477
HCM Lane V/C Ratio	0.444	0.13	-	-	0.033	-	-	13.158	0.196
HCM Control Delay (s)	57	9.1	-	-	12	-	-	$ 5827.1	14.4
HCM Lane LOS	F	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.9	0.4	-	-	0.1	-	-	34.9	0.7

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

Intersection	
Int Delay, s/veh	12.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	45	40	45	20	150
Future Vol, veh/h	115	45	40	45	20	150
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	66	66	75	75
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	460	180	61	68	27	200

Major/Minor	Minor2		Major2	
Conflicting Flow All	190	68	0	0
Stage 1	190	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.1	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.2	-
Pot Cap-1 Maneuver	708	1001	-	-
Stage 1	747	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1001	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	14.7	
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	1001	-	-
HCM Lane V/C Ratio	0.639	-	-
HCM Control Delay (s)	14.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	4.8	-	-

Intersection	
Int Delay, s/veh	23

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	50	25	170	25	5	5	95	270	45	10	385	25
Future Vol, veh/h	50	25	170	25	5	5	95	270	45	10	385	25
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	61	61	61	82	82	82	84	84	84
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	66	33	224	41	8	8	116	329	55	12	458	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1094	1113	473	1187	1073	329	488	0	0	384	0	0
Stage 1	497	497	-	561	561	-	-	-	-	-	-	-
Stage 2	597	616	-	626	512	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	190	208	587	164	220	708	1086	-	-	1174	-	-
Stage 1	551	545	-	509	510	-	-	-	-	-	-	-
Stage 2	486	482	-	469	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	177	587	77	187	708	1086	-	-	1174	-	-
Mov Cap-2 Maneuver	161	177	-	77	187	-	-	-	-	-	-	-
Stage 1	476	537	-	439	440	-	-	-	-	-	-	-
Stage 2	407	416	-	269	528	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	80.2	84	2	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1086	-	-	330	98	1174	-	-
HCM Lane V/C Ratio	0.107	-	-	0.977	0.585	0.01	-	-
HCM Control Delay (s)	8.7	0	-	80.2	84	8.1	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	10.5	2.7	0	-	-

Intersection	
Int Delay, s/veh	329.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	560	5	30	1070	150	0	2	15	180	5	120
Future Vol, veh/h	40	560	5	30	1070	150	0	2	15	180	5	120
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	90	90	90	64	64	64	75	75	75
Heavy Vehicles, %	1	5	1	2	3	2	0	0	0	2	2	2
Mvmt Flow	48	667	6	33	1189	167	0	3	23	240	7	160

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1358	0	0	673	0	0	2190	2187	669	2122	2110	1280
Stage 1	-	-	-	-	-	-	763	763	-	1341	1341	-
Stage 2	-	-	-	-	-	-	1427	1424	-	781	769	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	510	-	-	918	-	-	33	46	461	~ 37	51	202
Stage 1	-	-	-	-	-	-	400	416	-	~ 188	221	-
Stage 2	-	-	-	-	-	-	169	204	-	388	411	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	509	-	-	918	-	-	5	40	460	~ 30	44	201
Mov Cap-2 Maneuver	-	-	-	-	-	-	5	40	-	~ 30	44	-
Stage 1	-	-	-	-	-	-	362	377	-	~ 170	213	-
Stage 2	-	-	-	-	-	-	32	196	-	330	372	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	25	$ 2054.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	206	509	-	-	918	-	-	30	176
HCM Lane V/C Ratio	0.129	0.094	-	-	0.036	-	-	8	0.947
HCM Control Delay (s)	25	12.8	-	-	9.1	-	-	$ 3406.6	107.6
HCM Lane LOS	D	B	-	-	A	-	-	F	F
HCM 95th %tile Q(veh)	0.4	0.3	-	-	0.1	-	-	29.3	7.3

Notes

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

Intersection	
Int Delay, s/veh	8.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	35	95	125	40	65
Future Vol, veh/h	80	35	95	125	40	65
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	320	140	114	151	48	78

Major/Minor	Minor2		Major2	
Conflicting Flow All	379	151	0	0
Stage 1	379	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.11	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.209	-
Pot Cap-1 Maneuver	556	901	-	-
Stage 1	618	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	901	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	13.1	
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	901	-	-
HCM Lane V/C Ratio	0.511	-	-
HCM Control Delay (s)	13.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	3	-	-

Intersection	
Int Delay, s/veh	31.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	40	10	170	40	20	5	175	415	25	5	395	55
Future Vol, veh/h	40	10	170	40	20	5	175	415	25	5	395	55
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	87	87	87
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	45	11	191	49	24	6	194	461	28	6	454	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1376	1375	486	1448	1378	461	517	0	0	489	0	0
Stage 1	498	498	-	849	849	-	-	-	-	-	-	-
Stage 2	878	877	-	599	529	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	121	145	575	108	145	596	1049	-	-	1059	-	-
Stage 1	549	544	-	353	377	-	-	-	-	-	-	-
Stage 2	339	366	-	485	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	107	575	53	107	596	1049	-	-	1059	-	-
Mov Cap-2 Maneuver	79	107	-	53	107	-	-	-	-	-	-	-
Stage 1	409	540	-	263	281	-	-	-	-	-	-	-
Stage 2	228	273	-	315	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	102.1	266	2.6	0.1
HCM LOS	F	F		

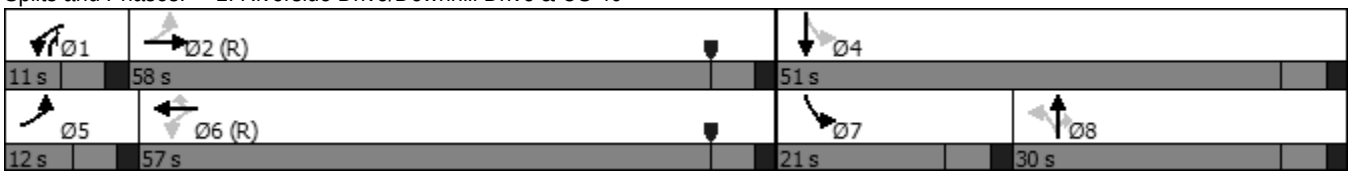
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1049	-	-	246	68	1059	-	-
HCM Lane V/C Ratio	0.185	-	-	1.005	1.166	0.005	-	-
HCM Control Delay (s)	9.2	0	-	102.1	266	8.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.7	-	-	9.7	6.2	0	-	-

Intersection Capacity Worksheets: Year 2026 Background With Improvements

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	115	1125	15	390	85	1	5	35	210	1
Future Volume (vph)	115	1125	15	390	85	1	5	35	210	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2	1	6			8	1	7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	11.0	30.0
Total Split (s)	12.0	58.0	11.0	57.0	57.0	30.0	30.0	11.0	21.0	51.0
Total Split (%)	10.0%	48.3%	9.2%	47.5%	47.5%	25.0%	25.0%	9.2%	17.5%	42.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Min	Min	None	None	Min
Act Effct Green (s)	78.7	71.4	72.3	66.4	66.4	6.0	6.0	11.9	27.0	27.0
Actuated g/C Ratio	0.66	0.60	0.60	0.55	0.55	0.05	0.05	0.10	0.22	0.22
v/c Ratio	0.24	0.63	0.08	0.48	0.11	0.02	0.06	0.20	0.94	0.22
Control Delay	8.1	18.2	7.7	18.9	1.2	54.0	55.4	3.8	83.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	18.2	7.7	18.9	1.2	54.0	55.4	3.8	83.3	9.1
LOS	A	B	A	B	A	D	E	A	F	A
Approach Delay		17.3		15.5			10.7			64.6
Approach LOS		B		B			B			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 53 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	

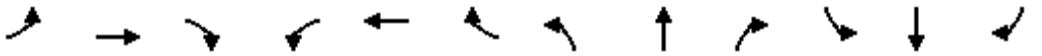
Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	132	1299	18	459	100	1	6	45	276	93
v/c Ratio	0.24	0.63	0.08	0.48	0.11	0.02	0.06	0.20	0.94	0.22
Control Delay	8.1	18.2	7.7	18.9	1.2	54.0	55.4	3.8	83.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	18.2	7.7	18.9	1.2	54.0	55.4	3.8	83.3	9.1
Queue Length 50th (ft)	32	338	4	206	0	1	5	0	198	1
Queue Length 95th (ft)	54	405	12	289	9	6	17	0	#260	28
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50			200	
Base Capacity (vph)	549	2062	237	947	914	256	372	229	294	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.63	0.08	0.48	0.11	0.00	0.02	0.20	0.94	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1125	5	15	390	85	1	5	35	210	1	70
Future Volume (veh/h)	115	1125	5	15	390	85	1	5	35	210	1	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.97		0.98	0.99		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	1841	1885	1870	1737	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	132	1293	6	18	459	100	1	6	45	276	1	92
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.77	0.77	0.77	0.76	0.76	0.76
Percent Heavy Veh, %	1	4	1	2	11	2	2	2	2	1	1	1
Cap, veh/h	488	2096	10	243	970	884	147	129	137	373	4	382
Arrive On Green	0.05	0.59	0.59	0.02	0.56	0.56	0.07	0.07	0.07	0.13	0.24	0.24
Sat Flow, veh/h	1795	3570	17	1781	1737	1582	1262	1870	1551	1795	17	1567
Grp Volume(v), veh/h	132	633	666	18	459	100	1	6	45	276	0	93
Grp Sat Flow(s),veh/h/ln	1795	1749	1838	1781	1737	1582	1262	1870	1551	1795	0	1584
Q Serve(g_s), s	3.8	28.1	28.1	0.5	19.0	3.6	0.1	0.4	3.3	15.0	0.0	5.7
Cycle Q Clear(g_c), s	3.8	28.1	28.1	0.5	19.0	3.6	0.1	0.4	3.3	15.0	0.0	5.7
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	488	1027	1079	243	970	884	147	129	137	373	0	387
V/C Ratio(X)	0.27	0.62	0.62	0.07	0.47	0.11	0.01	0.05	0.33	0.74	0.00	0.24
Avail Cap(c_a), veh/h	493	1027	1079	284	970	884	312	374	340	373	0	594
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	11.8	16.0	16.0	13.5	15.9	12.5	52.0	52.2	51.4	44.5	0.0	36.4
Incr Delay (d2), s/veh	0.3	2.8	2.6	0.1	1.7	0.3	0.0	0.1	1.4	7.6	0.0	0.3
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	1.5	11.4	11.9	0.2	7.7	1.3	0.0	0.2	1.3	8.7	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	18.8	18.7	13.6	17.6	12.7	52.1	52.3	52.8	52.1	0.0	36.7
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	A	D
Approach Vol, veh/h		1431			577			52			369	
Approach Delay, s/veh		18.1			16.6			52.7			48.3	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	76.5		35.3	11.7	73.0	21.0	14.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	52.0		45.0	6.0	51.0	15.0	24.0				
Max Q Clear Time (g_c+I1), s	2.5	30.1		7.7	5.8	21.0	17.0	5.3				
Green Ext Time (p_c), s	0.0	9.3		0.6	0.0	3.4	0.0	0.1				

Intersection Summary			
HCM 6th Ctrl Delay		23.1	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	25	170	25	5	5	95	270	45	10	385	25
Future Vol, veh/h	50	25	170	25	5	5	95	270	45	10	385	25
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	61	61	61	82	82	82	84	84	84
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	66	33	224	41	8	8	116	329	55	12	458	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1094	1113	473	1187	1073	329	488	0	0	384	0	0
Stage 1	497	497	-	561	561	-	-	-	-	-	-	-
Stage 2	597	616	-	626	512	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	190	208	587	164	220	708	1086	-	-	1174	-	-
Stage 1	551	545	-	509	510	-	-	-	-	-	-	-
Stage 2	486	482	-	469	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	165	183	587	80	194	708	1086	-	-	1174	-	-
Mov Cap-2 Maneuver	165	183	-	80	194	-	-	-	-	-	-	-
Stage 1	492	537	-	455	455	-	-	-	-	-	-	-
Stage 2	421	430	-	269	528	-	-	-	-	-	-	-

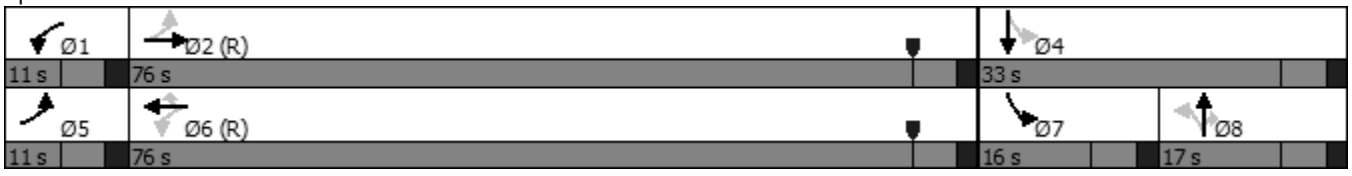
Approach	EB	WB	NB	SB
HCM Control Delay, s	26.1	79.7	2	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1086	-	-	171	587	101	1174	-	-
HCM Lane V/C Ratio	0.107	-	-	0.577	0.381	0.568	0.01	-	-
HCM Control Delay (s)	8.7	-	-	51.4	14.9	79.7	8.1	0	-
HCM Lane LOS	A	-	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.1	1.8	2.7	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	40	560	30	1070	150	2	15	180	5
Future Volume (vph)	40	560	30	1070	150	2	15	180	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		8		7	4
Permitted Phases	2		6		6		8	4	
Detector Phase	5	2	1	6	6	8	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	30.0
Total Split (s)	11.0	76.0	11.0	76.0	76.0	17.0	17.0	16.0	33.0
Total Split (%)	9.2%	63.3%	9.2%	63.3%	63.3%	14.2%	14.2%	13.3%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	None	Max
Act Effct Green (s)	77.4	74.4	76.2	72.2	72.2	11.0	11.0	27.0	27.0
Actuated g/C Ratio	0.64	0.62	0.64	0.60	0.60	0.09	0.09	0.22	0.22
v/c Ratio	0.35	0.32	0.07	1.07	0.17	0.02	0.09	0.87	0.37

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 45.9
Intersection Capacity Utilization 86.3%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40

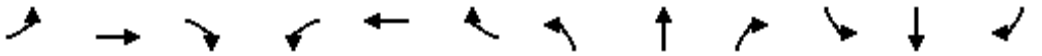


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	48	673	33	1189	167	3	23	240	167
v/c Ratio	0.35	0.32	0.07	1.07	0.17	0.02	0.09	0.87	0.37
Control Delay	14.5	11.9	7.0	73.7	3.3	50.0	0.6	72.9	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	11.9	7.0	73.7	3.3	50.0	0.6	72.9	12.1
Queue Length 50th (ft)	11	134	8	~1049	10	2	0	168	17
Queue Length 95th (ft)	22	157	18	#1309	39	9	0	#213	46
Internal Link Dist (ft)		1061		522		682			528
Turn Bay Length (ft)	100		100		175		50	200	
Base Capacity (vph)	137	2130	481	1110	982	174	269	276	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.32	0.07	1.07	0.17	0.02	0.09	0.87	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	560	5	30	1070	150	0	2	15	180	5	120
Future Volume (veh/h)	40	560	5	30	1070	150	0	2	15	180	5	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	0.99		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	1826	1885	1870	1856	1870	1900	1900	1900	1870	1870	1870
Adj Flow Rate, veh/h	48	667	6	33	1189	167	0	3	23	240	7	160
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.64	0.64	0.64	0.75	0.75	0.75
Percent Heavy Veh, %	1	5	1	2	3	2	0	0	0	2	2	2
Cap, veh/h	120	2104	19	494	1098	936	60	174	145	332	15	340
Arrive On Green	0.03	0.60	0.60	0.03	0.59	0.59	0.00	0.09	0.09	0.08	0.22	0.22
Sat Flow, veh/h	1795	3523	32	1781	1856	1582	1238	1900	1584	1781	66	1512
Grp Volume(v), veh/h	48	328	345	33	1189	167	0	3	23	240	0	167
Grp Sat Flow(s),veh/h/ln	1795	1735	1820	1781	1856	1582	1238	1900	1584	1781	0	1578
Q Serve(g_s), s	1.2	11.3	11.3	0.9	71.0	5.8	0.0	0.2	1.6	10.0	0.0	11.0
Cycle Q Clear(g_c), s	1.2	11.3	11.3	0.9	71.0	5.8	0.0	0.2	1.6	10.0	0.0	11.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	120	1036	1087	494	1098	936	60	174	145	332	0	355
V/C Ratio(X)	0.40	0.32	0.32	0.07	1.08	0.18	0.00	0.02	0.16	0.72	0.00	0.47
Avail Cap(c_a), veh/h	135	1036	1087	519	1098	936	60	174	145	332	0	355
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	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	12.0	12.0	9.3	24.5	11.2	0.0	49.6	50.2	46.3	0.0	40.3
Incr Delay (d2), s/veh	2.2	0.8	0.8	0.1	52.5	0.4	0.0	0.2	2.3	7.6	0.0	4.4
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	0.9	4.4	4.6	0.3	44.2	2.1	0.0	0.1	0.7	2.7	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	12.8	12.8	9.4	77.0	11.6	0.0	49.8	52.6	53.9	0.0	44.7
LnGrp LOS	C	B	B	A	E	B	A	D	D	D	A	D
Approach Vol, veh/h		721			1389			26			407	
Approach Delay, s/veh		14.1			67.5			52.2			50.1	
Approach LOS		B			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	77.7		33.0	10.0	77.0	16.0	17.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	70.0		27.0	5.0	70.0	10.0	11.0				
Max Q Clear Time (g_c+I1), s	2.9	13.3		13.0	3.2	73.0	12.0	3.6				
Green Ext Time (p_c), s	0.0	4.5		0.8	0.0	0.0	0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay		49.4	
HCM 6th LOS		D	

Notes

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

Intersection	
Int Delay, s/veh	18

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	10	170	40	20	5	175	415	25	5	395	55
Future Vol, veh/h	40	10	170	40	20	5	175	415	25	5	395	55
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	87	87	87
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	45	11	191	49	24	6	194	461	28	6	454	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1376	1375	486	1448	1378	461	517	0	0	489	0	0
Stage 1	498	498	-	849	849	-	-	-	-	-	-	-
Stage 2	878	877	-	599	529	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	121	145	575	108	145	596	1049	-	-	1059	-	-
Stage 1	549	544	-	353	377	-	-	-	-	-	-	-
Stage 2	339	366	-	485	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	117	575	57	117	596	1049	-	-	1059	-	-
Mov Cap-2 Maneuver	86	117	-	57	117	-	-	-	-	-	-	-
Stage 1	447	540	-	288	307	-	-	-	-	-	-	-
Stage 2	252	298	-	315	523	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.4	223.6	2.6	0.1
HCM LOS	D	F		

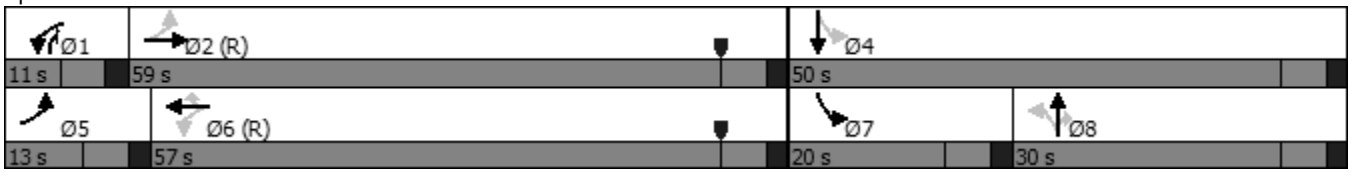
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1049	-	-	91	575	74	1059	-	-
HCM Lane V/C Ratio	0.185	-	-	0.617	0.332	1.071	0.005	-	-
HCM Control Delay (s)	9.2	-	-	94.1	14.3	223.6	8.4	0	-
HCM Lane LOS	A	-	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.7	-	-	2.9	1.4	5.8	0	-	-

Intersection Capacity Worksheets: Year 2040 Background

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	130	1335	55	435	100	5	5	50	240	1
Future Volume (vph)	130	1335	55	435	100	5	5	50	240	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2	1	6			8	1	7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	11.0	30.0
Total Split (s)	13.0	59.0	11.0	57.0	57.0	30.0	30.0	11.0	20.0	50.0
Total Split (%)	10.8%	49.2%	9.2%	47.5%	47.5%	25.0%	25.0%	9.2%	16.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Min	Min	None	None	Min
Act Effct Green (s)	78.6	71.1	74.0	67.0	67.0	6.2	6.2	13.2	26.2	26.2
Actuated g/C Ratio	0.66	0.59	0.62	0.56	0.56	0.05	0.05	0.11	0.22	0.22
v/c Ratio	0.23	0.71	0.28	0.26	0.12	0.09	0.06	0.27	0.97	0.20

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 24.6
Intersection Capacity Utilization 76.4%
Analysis Period (min) 15

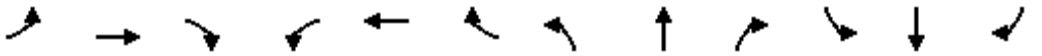
Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	141	1462	60	473	109	6	6	65	273	81
v/c Ratio	0.23	0.71	0.28	0.26	0.12	0.09	0.06	0.27	0.97	0.20
Control Delay	7.8	20.6	10.4	14.5	1.5	56.6	55.0	8.5	91.6	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	20.6	10.4	14.5	1.5	56.6	55.0	8.5	91.6	9.5
Queue Length 50th (ft)	34	413	14	94	0	5	5	0	197	1
Queue Length 95th (ft)	59	541	29	136	17	17	16	16	#298	39
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50		25	200	
Base Capacity (vph)	614	2056	211	1815	920	260	372	245	281	627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.71	0.28	0.26	0.12	0.02	0.02	0.27	0.97	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1335	10	55	435	100	5	5	50	240	1	70
Future Volume (veh/h)	130	1335	10	55	435	100	5	5	50	240	1	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.99		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	1841	1885	1870	1737	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	141	1451	11	60	473	109	6	6	65	273	1	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Percent Heavy Veh, %	1	4	1	2	11	2	2	2	2	1	1	1
Cap, veh/h	552	2021	15	222	1828	877	162	148	180	370	5	386
Arrive On Green	0.05	0.57	0.57	0.04	0.55	0.55	0.08	0.08	0.08	0.12	0.25	0.25
Sat Flow, veh/h	1795	3558	27	1781	3300	1582	1295	1870	1555	1795	20	1571
Grp Volume(v), veh/h	141	713	749	60	473	109	6	6	65	273	0	81
Grp Sat Flow(s),veh/h/ln	1795	1749	1836	1781	1650	1582	1295	1870	1555	1795	0	1591
Q Serve(g_s), s	4.0	35.7	35.7	1.7	9.0	4.0	0.5	0.4	4.6	14.0	0.0	4.9
Cycle Q Clear(g_c), s	4.0	35.7	35.7	1.7	9.0	4.0	0.5	0.4	4.6	14.0	0.0	4.9
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	552	994	1043	222	1828	877	162	148	180	370	0	391
V/C Ratio(X)	0.26	0.72	0.72	0.27	0.26	0.12	0.04	0.04	0.36	0.74	0.00	0.21
Avail Cap(c_a), veh/h	567	994	1043	232	1828	877	319	374	368	370	0	583
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	10.6	18.9	18.9	16.2	13.9	12.8	51.1	51.0	49.0	44.4	0.0	36.0
Incr Delay (d2), s/veh	0.2	4.4	4.3	0.6	0.3	0.3	0.1	0.1	1.2	7.5	0.0	0.3
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	1.6	14.8	15.5	0.7	3.3	1.5	0.2	0.2	1.9	0.8	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	23.3	23.2	16.9	14.3	13.1	51.2	51.2	50.2	52.0	0.0	36.2
LnGrp LOS	B	C	C	B	B	B	D	D	D	D	A	D
Approach Vol, veh/h		1603			642			77			354	
Approach Delay, s/veh		22.2			14.3			50.4			48.4	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	74.2		35.5	12.0	72.5	20.0	15.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	53.0		44.0	7.0	51.0	14.0	24.0				
Max Q Clear Time (g_c+I1), s	3.7	37.7		6.9	6.0	11.0	16.0	6.6				
Green Ext Time (p_c), s	0.0	8.7		0.5	0.0	3.8	0.0	0.2				

Intersection Summary			
HCM 6th Ctrl Delay		24.6	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	30	45	35	10	180
Future Vol, veh/h	95	30	45	35	10	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	108	34	51	40	11	205

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	142	0	267	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	-	-	4.1	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.363
Pot Cap-1 Maneuver	-	-	1453	-	727	912
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1453	-	701	912
Mov Cap-2 Maneuver	-	-	-	-	701	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	858	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	898	-	-	1453	-
HCM Lane V/C Ratio	0.24	-	-	0.035	-
HCM Control Delay (s)	10.3	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	14.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	35	165	30	5	5	100	320	55	10	460	30
Future Vol, veh/h	60	35	165	30	5	5	100	320	55	10	460	30
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	61	61	61	88	88	88	88	88	88
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	68	40	188	49	8	8	114	364	63	11	523	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1194	1217	540	1268	1171	364	557	0	0	427	0	0
Stage 1	562	562	-	592	592	-	-	-	-	-	-	-
Stage 2	632	655	-	676	579	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	162	181	538	144	193	676	1024	-	-	1132	-	-
Stage 1	508	510	-	489	494	-	-	-	-	-	-	-
Stage 2	465	463	-	440	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	140	159	538	69	169	676	1024	-	-	1132	-	-
Mov Cap-2 Maneuver	140	159	-	69	169	-	-	-	-	-	-	-
Stage 1	452	503	-	435	439	-	-	-	-	-	-	-
Stage 2	401	412	-	260	494	-	-	-	-	-	-	-

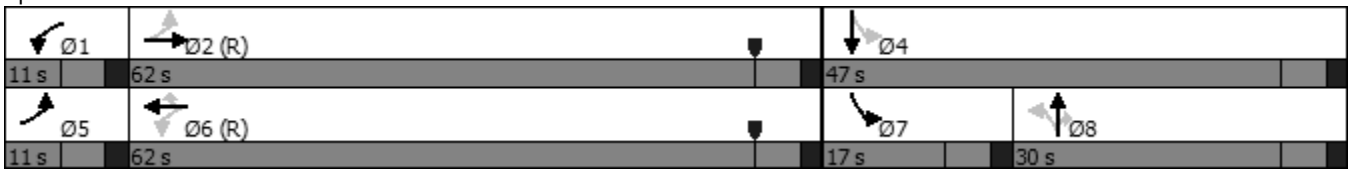
Approach	EB	WB	NB	SB
HCM Control Delay, s	38.5	127.6	1.9	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1024	-	-	146	538	85	1132	-	-
HCM Lane V/C Ratio	0.111	-	-	0.739	0.349	0.771	0.01	-	-
HCM Control Delay (s)	9	-	-	78.9	15.2	127.6	8.2	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	4.4	1.6	3.9	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	35	650	75	1270	170	5	5	35	210	5
Future Volume (vph)	35	650	75	1270	170	5	5	35	210	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6			8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	30.0	11.0	30.0
Total Split (s)	11.0	62.0	11.0	62.0	62.0	30.0	30.0	30.0	17.0	47.0
Total Split (%)	9.2%	51.7%	9.2%	51.7%	51.7%	25.0%	25.0%	25.0%	14.2%	39.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	Max	None	Max
Act Effct Green (s)	62.2	58.2	63.4	60.4	60.4	24.0	24.0	24.0	41.0	41.0
Actuated g/C Ratio	0.52	0.48	0.53	0.50	0.50	0.20	0.20	0.20	0.34	0.34
v/c Ratio	0.27	0.43	0.24	0.78	0.22	0.03	0.02	0.13	0.54	0.26

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.4
Intersection Capacity Utilization 74.3%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	718	82	1380	185	8	8	55	239	159
v/c Ratio	0.27	0.43	0.24	0.78	0.22	0.03	0.02	0.13	0.54	0.26
Control Delay	16.9	21.6	14.2	29.4	6.4	39.4	39.0	0.6	35.7	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	21.6	14.2	29.4	6.4	39.4	39.0	0.6	35.7	11.5
Queue Length 50th (ft)	13	191	28	483	20	5	5	0	140	27
Queue Length 95th (ft)	29	243	53	584	63	13	13	0	208	74
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50		50	200	
Base Capacity (vph)	142	1666	347	1763	844	247	380	427	441	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.43	0.24	0.78	0.22	0.03	0.02	0.13	0.54	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	650	10	75	1270	170	5	5	35	210	5	135
Future Volume (veh/h)	35	650	10	75	1270	170	5	5	35	210	5	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		1.00
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	1826	1885	1870	1856	1870	1900	1900	1900	1870	1870	1870
Adj Flow Rate, veh/h	38	707	11	82	1380	185	8	8	55	239	6	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	1	5	1	2	3	2	0	0	0	2	2	2
Cap, veh/h	161	1641	26	375	1687	757	308	380	320	485	20	522
Arrive On Green	0.03	0.47	0.47	0.04	0.48	0.48	0.20	0.20	0.20	0.09	0.34	0.34
Sat Flow, veh/h	1795	3496	54	1781	3526	1582	1239	1900	1598	1781	60	1528
Grp Volume(v), veh/h	38	351	367	82	1380	185	8	8	55	239	0	159
Grp Sat Flow(s),veh/h/ln	1795	1735	1816	1781	1763	1582	1239	1900	1598	1781	0	1587
Q Serve(g_s), s	1.3	16.1	16.1	2.8	40.3	8.3	0.6	0.4	3.4	11.0	0.0	8.8
Cycle Q Clear(g_c), s	1.3	16.1	16.1	2.8	40.3	8.3	0.6	0.4	3.4	11.0	0.0	8.8
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	161	814	852	375	1687	757	308	380	320	485	0	542
V/C Ratio(X)	0.24	0.43	0.43	0.22	0.82	0.24	0.03	0.02	0.17	0.49	0.00	0.29
Avail Cap(c_a), veh/h	182	814	852	380	1687	757	308	380	320	485	0	542
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	22.6	21.2	21.2	16.4	26.8	18.5	38.6	38.6	39.8	33.5	0.0	28.9
Incr Delay (d2), s/veh	0.7	1.7	1.6	0.3	4.5	0.8	0.2	0.1	1.2	0.8	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	0.6	6.8	7.1	1.2	17.2	3.2	0.2	0.2	1.5	5.9	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	22.8	22.8	16.7	31.4	19.3	38.8	38.7	40.9	34.3	0.0	30.3
LnGrp LOS	C	C	C	B	C	B	D	D	D	C	A	C
Approach Vol, veh/h		756			1647			71			398	
Approach Delay, s/veh		22.8			29.3			40.4			32.7	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	62.3		47.0	9.6	63.4	17.0	30.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	56.0		41.0	5.0	56.0	11.0	24.0				
Max Q Clear Time (g_c+I1), s	4.8	18.1		10.8	3.3	42.3	13.0	5.4				
Green Ext Time (p_c), s	0.0	4.8		1.1	0.0	8.6	0.0	0.2				

Intersection Summary			
HCM 6th Ctrl Delay		28.3	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	20	115	105	20	75
Future Vol, veh/h	65	20	115	105	20	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	74	23	131	119	23	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	97	0	467	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	381	-
Critical Hdwy	-	-	4.11	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	1503	-	558	962
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	506	962
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	630	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1503	-
HCM Lane V/C Ratio	0.133	-	-	0.087	-
HCM Control Delay (s)	10.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-

Intersection	
Int Delay, s/veh	40.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	10	175	50	20	5	170	490	30	10	470	60
Future Vol, veh/h	45	10	175	50	20	5	170	490	30	10	470	60
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	88	88	88
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	51	11	197	61	24	6	189	544	33	11	534	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1544	1545	568	1616	1546	544	602	0	0	577	0	0
Stage 1	590	590	-	922	922	-	-	-	-	-	-	-
Stage 2	954	955	-	694	624	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	92	115	517	82	114	535	975	-	-	982	-	-
Stage 1	489	495	-	321	349	-	-	-	-	-	-	-
Stage 2	307	337	-	430	478	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	61	91	517	~ 39	90	535	975	-	-	982	-	-
Mov Cap-2 Maneuver	61	91	-	~ 39	90	-	-	-	-	-	-	-
Stage 1	394	487	-	259	281	-	-	-	-	-	-	-
Stage 2	223	272	-	256	470	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	61	$ 570.3	2.4	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	975	-	-	65	517	50	982	-	-
HCM Lane V/C Ratio	0.194	-	-	0.951	0.38	1.829	0.012	-	-
HCM Control Delay (s)	9.6	-	-	203.6	16.2	$ 570.3	8.7	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.7	-	-	4.6	1.8	9	0	-	-

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

Intersection Capacity Worksheets: Year 2026 Background+ Project

Intersection	
Int Delay, s/veh	739.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	1125	5	15	390	89	1	5	35	223	1	78
Future Vol, veh/h	118	1125	5	15	390	89	1	5	35	223	1	78
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	85	85	85	77	77	77	76	76	76
Heavy Vehicles, %	1	4	1	2	11	2	2	2	2	1	1	1
Mvmt Flow	136	1293	6	18	459	105	1	6	45	293	1	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	566	0	0	1299	0	0	2170	2167	1295	2146	2121	519
Stage 1	-	-	-	-	-	-	1565	1565	-	550	550	-
Stage 2	-	-	-	-	-	-	605	602	-	1596	1571	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.509	4.009	3.309
Pot Cap-1 Maneuver	1011	-	-	533	-	-	34	47	198	~ 35	51	559
Stage 1	-	-	-	-	-	-	140	172	-	521	517	-
Stage 2	-	-	-	-	-	-	485	489	-	~ 135	172	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1009	-	-	533	-	-	24	39	198	~ 21	43	555
Mov Cap-2 Maneuver	-	-	-	-	-	-	24	39	-	~ 21	43	-
Stage 1	-	-	-	-	-	-	121	149	-	450	498	-
Stage 2	-	-	-	-	-	-	379	471	-	~ 86	149	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	58.5	$ 4576.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	118	1009	-	-	533	-	-	21	482
HCM Lane V/C Ratio	0.451	0.134	-	-	0.033	-	-	13.972	0.216
HCM Control Delay (s)	58.5	9.1	-	-	12	-	-	$ 6193.2	14.5
HCM Lane LOS	F	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	2	0.5	-	-	0.1	-	-	37	0.8

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

Intersection	
Int Delay, s/veh	23.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	147	66	40	56	27	150
Future Vol, veh/h	147	66	40	56	27	150
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	66	66	75	75
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	588	264	61	85	36	200

Major/Minor	Minor2		Major2	
Conflicting Flow All	207	85	0	0
Stage 1	207	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.1	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.2	-
Pot Cap-1 Maneuver	693	980	-	-
Stage 1	734	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	980	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	27.3	
HCM LOS	D	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	980	-	-
HCM Lane V/C Ratio	0.869	-	-
HCM Control Delay (s)	27.3	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	11.6	-	-

Intersection	
Int Delay, s/veh	35

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↕			↰	↱		↕	
Traffic Vol, veh/h	53	25	199	25	5	5	105	270	45	10	385	26
Future Vol, veh/h	53	25	199	25	5	5	105	270	45	10	385	26
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	61	61	61	82	82	82	84	84	84
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	70	33	262	41	8	8	128	329	55	12	458	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1119	1138	474	1230	1098	329	489	0	0	384	0	0
Stage 1	498	498	-	585	585	-	-	-	-	-	-	-
Stage 2	621	640	-	645	513	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	182	201	586	153	213	708	1085	-	-	1174	-	-
Stage 1	551	544	-	494	498	-	-	-	-	-	-	-
Stage 2	472	470	-	457	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	152	168	586	63	178	708	1085	-	-	1174	-	-
Mov Cap-2 Maneuver	152	168	-	63	178	-	-	-	-	-	-	-
Stage 1	468	536	-	419	423	-	-	-	-	-	-	-
Stage 2	388	399	-	234	528	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	115.5	119.7	2.2	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	331	81	1174	-	-
HCM Lane V/C Ratio	0.118	-	-	1.101	0.708	0.01	-	-
HCM Control Delay (s)	8.8	0	-	115.5	119.7	8.1	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	14	3.4	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	160	65	18	53	1
Future Vol, veh/h	1	160	65	18	53	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	182	74	20	60	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	94	0	-	0	268	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1500	-	-	-	721	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1500	-	-	-	720	975
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1500	-	-	-	724
HCM Lane V/C Ratio	0.001	-	-	-	0.085
HCM Control Delay (s)	7.4	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	386.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	560	5	30	1070	163	0	2	15	189	5	125
Future Vol, veh/h	48	560	5	30	1070	163	0	2	15	189	5	125
Conflicting Peds, #/hr	2	0	0	0	0	2	5	0	2	2	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	0	100	-	-	-	-	-	55	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	90	90	90	64	64	64	75	75	75
Heavy Vehicles, %	1	5	1	2	3	2	0	0	0	2	2	2
Mvmt Flow	57	667	6	33	1189	181	0	3	23	252	7	167

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1372	0	0	673	0	0	2219	2219	669	2147	2135	1287
Stage 1	-	-	-	-	-	-	781	781	-	1348	1348	-
Stage 2	-	-	-	-	-	-	1438	1438	-	799	787	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	503	-	-	918	-	-	32	44	461	~ 35	49	201
Stage 1	-	-	-	-	-	-	391	408	-	~ 186	219	-
Stage 2	-	-	-	-	-	-	167	200	-	379	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	502	-	-	918	-	-	4	37	460	~ 28	42	200
Mov Cap-2 Maneuver	-	-	-	-	-	-	4	37	-	~ 28	42	-
Stage 1	-	-	-	-	-	-	346	361	-	~ 165	211	-
Stage 2	-	-	-	-	-	-	26	192	-	315	357	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.2	26.2	$ 2343.1
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	196	502	-	-	918	-	-	28	175
HCM Lane V/C Ratio	0.136	0.114	-	-	0.036	-	-	9	0.99
HCM Control Delay (s)	26.2	13.1	-	-	9.1	-	-	$ 3872.8	119.2
HCM Lane LOS	D	B	-	-	A	-	-	F	F
HCM 95th %tile Q(veh)	0.5	0.4	-	-	0.1	-	-	31	8

Notes

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

Intersection	
Int Delay, s/veh	12.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	100	49	95	157	61	65
Future Vol, veh/h	100	49	95	157	61	65
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	16974	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	400	196	114	189	73	78

Major/Minor	Minor2		Major2	
Conflicting Flow All	417	189	0	0
Stage 1	417	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.5	6.2	4.11	-
Critical Hdwy Stg 1	5.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4	3.3	2.209	-
Pot Cap-1 Maneuver	530	858	-	-
Stage 1	595	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	858	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	18.2	
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	858	-	-
HCM Lane V/C Ratio	0.695	-	-
HCM Control Delay (s)	18.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	5.8	-	-

Intersection	
Int Delay, s/veh	50.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	42	10	188	40	20	5	204	415	25	5	395	58
Future Vol, veh/h	42	10	188	40	20	5	204	415	25	5	395	58
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	-	-	-	-	-	-	-	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	87	87	87
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	47	11	211	49	24	6	227	461	28	6	454	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1444	1443	488	1526	1448	461	521	0	0	489	0	0
Stage 1	500	500	-	915	915	-	-	-	-	-	-	-
Stage 2	944	943	-	611	533	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	108	132	574	95	131	596	1045	-	-	1059	-	-
Stage 1	547	543	-	324	352	-	-	-	-	-	-	-
Stage 2	311	341	-	478	525	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	92	574	~ 42	91	596	1045	-	-	1059	-	-
Mov Cap-2 Maneuver	66	92	-	~ 42	91	-	-	-	-	-	-	-
Stage 1	383	539	-	227	247	-	-	-	-	-	-	-
Stage 2	194	239	-	293	521	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	170.9	$ 398.4	3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1045	-	-	224	55	1059	-	-
HCM Lane V/C Ratio	0.217	-	-	1.204	1.441	0.005	-	-
HCM Control Delay (s)	9.4	0	-	170.9	$ 398.4	8.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	13.3	7.2	0	-	-

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	115	165	53	34	1
Future Vol, veh/h	1	115	165	53	34	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	131	188	60	39	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	351	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1318	-	-	-	646	822
Stage 1	-	-	-	-	818	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1318	-	-	-	645	822
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1318	-	-	-	649
HCM Lane V/C Ratio	0.001	-	-	-	0.061
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection Capacity Worksheets: Year 2026 Background+ Project With Improvements

Intersection	
Int Delay, s/veh	5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	147	66	40	56	27	150
Future Vol, veh/h	147	66	40	56	27	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	66	66	75	75
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	588	264	61	85	36	200

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	852	0	927	720
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.1	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.363
Pot Cap-1 Maneuver	-	-	795	-	300	420
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	832	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	795	-	276	420
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	27.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	-	-	795	-
HCM Lane V/C Ratio	0.607	-	-	0.076	-
HCM Control Delay (s)	27.5	-	-	9.9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	3.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	25	199	25	5	5	105	270	45	10	385	26
Future Vol, veh/h	53	25	199	25	5	5	105	270	45	10	385	26
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	61	61	61	82	82	82	84	84	84
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	70	33	262	41	8	8	128	329	55	12	458	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1119	1138	474	1230	1098	329	489	0	0	384	0	0
Stage 1	498	498	-	585	585	-	-	-	-	-	-	-
Stage 2	621	640	-	645	513	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	182	201	586	153	213	708	1085	-	-	1174	-	-
Stage 1	551	544	-	494	498	-	-	-	-	-	-	-
Stage 2	472	470	-	457	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	157	175	586	65	185	708	1085	-	-	1174	-	-
Mov Cap-2 Maneuver	157	175	-	65	185	-	-	-	-	-	-	-
Stage 1	486	536	-	436	439	-	-	-	-	-	-	-
Stage 2	404	415	-	234	528	-	-	-	-	-	-	-

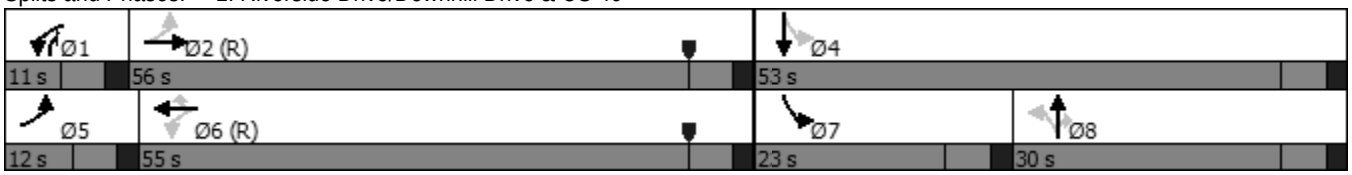
Approach	EB	WB	NB	SB
HCM Control Delay, s	28.2	111.7	2.2	0.2
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	162	586	84	1174	-	-
HCM Lane V/C Ratio	0.118	-	-	0.634	0.447	0.683	0.01	-	-
HCM Control Delay (s)	8.8	-	-	59.4	16	111.7	8.1	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	3.5	2.3	3.3	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	118	1125	15	390	94	1	5	35	236	1
Future Volume (vph)	118	1125	15	390	94	1	5	35	236	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2	1	6			8	1	7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	11.0	30.0
Total Split (s)	12.0	56.0	11.0	55.0	55.0	30.0	30.0	11.0	23.0	53.0
Total Split (%)	10.0%	46.7%	9.2%	45.8%	45.8%	25.0%	25.0%	9.2%	19.2%	44.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Min	Min	None	None	Min
Act Effct Green (s)	76.9	69.3	70.1	64.1	64.1	6.0	6.0	12.0	29.0	29.0
Actuated g/C Ratio	0.64	0.58	0.58	0.53	0.53	0.05	0.05	0.10	0.24	0.24
v/c Ratio	0.26	0.65	0.08	0.50	0.13	0.02	0.06	0.20	0.96	0.23

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 25.9
Intersection Capacity Utilization 70.2%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	1299	18	459	111	1	6	45	311	104
v/c Ratio	0.26	0.65	0.08	0.50	0.13	0.02	0.06	0.20	0.96	0.23
Control Delay	9.0	19.8	8.5	20.6	1.7	54.0	55.4	3.8	84.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	19.8	8.5	20.6	1.7	54.0	55.4	3.8	84.6	8.3
Queue Length 50th (ft)	36	354	4	216	0	1	5	0	223	1
Queue Length 95th (ft)	59	422	12	303	15	6	17	0	#288	28
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50			200	
Base Capacity (vph)	530	2003	227	914	886	254	372	230	323	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.65	0.08	0.50	0.13	0.00	0.02	0.20	0.96	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	1125	5	15	390	94	1	5	35	236	1	78
Future Volume (veh/h)	118	1125	5	15	390	94	1	5	35	236	1	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.97		0.98	0.99		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	1841	1885	1870	1737	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	136	1293	6	18	459	111	1	6	45	311	1	103
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.77	0.77	0.77	0.76	0.76	0.76
Percent Heavy Veh, %	1	4	1	2	11	2	2	2	2	1	1	1
Cap, veh/h	467	2036	9	232	937	853	146	129	137	403	4	409
Arrive On Green	0.05	0.57	0.57	0.02	0.54	0.54	0.07	0.07	0.07	0.14	0.26	0.26
Sat Flow, veh/h	1795	3570	17	1781	1737	1582	1250	1870	1551	1795	15	1570
Grp Volume(v), veh/h	136	633	666	18	459	111	1	6	45	311	0	104
Grp Sat Flow(s),veh/h/ln	1795	1749	1838	1781	1737	1582	1250	1870	1551	1795	0	1585
Q Serve(g_s), s	4.0	29.3	29.3	0.5	19.8	4.2	0.1	0.4	3.3	17.0	0.0	6.2
Cycle Q Clear(g_c), s	4.0	29.3	29.3	0.5	19.8	4.2	0.1	0.4	3.3	17.0	0.0	6.2
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	467	998	1048	232	937	853	146	129	137	403	0	413
V/C Ratio(X)	0.29	0.63	0.64	0.08	0.49	0.13	0.01	0.05	0.33	0.77	0.00	0.25
Avail Cap(c_a), veh/h	467	998	1048	273	937	853	310	374	340	403	0	621
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	12.9	17.4	17.4	14.7	17.3	13.7	52.0	52.2	51.4	43.7	0.0	35.1
Incr Delay (d2), s/veh	0.3	3.1	2.9	0.1	1.8	0.3	0.0	0.1	1.4	8.9	0.0	0.3
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	1.6	12.0	12.6	0.2	8.1	1.6	0.0	0.2	1.3	10.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	20.4	20.3	14.8	19.1	14.0	52.1	52.3	52.8	52.6	0.0	35.4
LnGrp LOS	B	C	C	B	B	B	D	D	D	D	A	D
Approach Vol, veh/h		1435			588			52			415	
Approach Delay, s/veh		19.7			18.0			52.7			48.3	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	74.5		37.3	12.0	70.7	23.0	14.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	50.0		47.0	6.0	49.0	17.0	24.0				
Max Q Clear Time (g_c+I1), s	2.5	31.3		8.2	6.0	21.8	19.0	5.3				
Green Ext Time (p_c), s	0.0	8.6		0.7	0.0	3.3	0.0	0.1				

Intersection Summary			
HCM 6th Ctrl Delay		24.8	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	100	49	95	157	62	65
Future Vol, veh/h	100	49	95	157	62	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	83	83	83	83
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	400	196	114	189	75	78

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	596	0	915	498
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	417	-
Critical Hdwy	-	-	4.11	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	985	-	305	564
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	985	-	266	564
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	21.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	365	-	-	985	-
HCM Lane V/C Ratio	0.419	-	-	0.116	-
HCM Control Delay (s)	21.8	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.4	-

Intersection	
Int Delay, s/veh	24.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	10	188	40	20	5	204	415	25	5	395	58
Future Vol, veh/h	42	10	188	40	20	5	204	415	25	5	395	58
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	87	87	87
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	47	11	211	49	24	6	227	461	28	6	454	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1444	1443	488	1526	1448	461	521	0	0	489	0	0
Stage 1	500	500	-	915	915	-	-	-	-	-	-	-
Stage 2	944	943	-	611	533	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	108	132	574	95	131	596	1045	-	-	1059	-	-
Stage 1	547	543	-	324	352	-	-	-	-	-	-	-
Stage 2	311	341	-	478	525	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	103	574	~ 46	102	596	1045	-	-	1059	-	-
Mov Cap-2 Maneuver	73	103	-	~ 46	102	-	-	-	-	-	-	-
Stage 1	428	539	-	254	276	-	-	-	-	-	-	-
Stage 2	220	267	-	293	521	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.9	$ 329	3	0.1
HCM LOS	E	F		

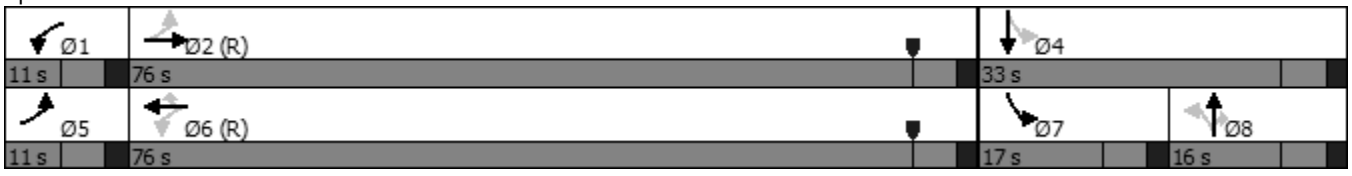
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1045	-	-	77	574	61	1059	-	-
HCM Lane V/C Ratio	0.217	-	-	0.759	0.368	1.299	0.005	-	-
HCM Control Delay (s)	9.4	-	-	135	14.9	$ 329	8.4	0	-
HCM Lane LOS	A	-	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	3.7	1.7	6.7	0	-	-

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	48	560	30	1070	176	2	15	197	5
Future Volume (vph)	48	560	30	1070	176	2	15	197	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6		8		7	4
Permitted Phases	2		6		6		8	4	
Detector Phase	5	2	1	6	6	8	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	30.0
Total Split (s)	11.0	76.0	11.0	76.0	76.0	16.0	16.0	17.0	33.0
Total Split (%)	9.2%	63.3%	9.2%	63.3%	63.3%	13.3%	13.3%	14.2%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	None	Max
Act Effct Green (s)	77.4	74.4	76.2	72.2	72.2	10.0	10.0	27.0	27.0
Actuated g/C Ratio	0.64	0.62	0.64	0.60	0.60	0.08	0.08	0.22	0.22
v/c Ratio	0.42	0.32	0.07	1.07	0.20	0.02	0.09	0.94	0.38

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 47.0
Intersection Capacity Utilization 86.3%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40

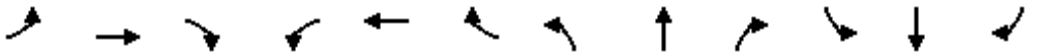


Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	673	33	1189	196	3	23	263	174
v/c Ratio	0.42	0.32	0.07	1.07	0.20	0.02	0.09	0.94	0.38
Control Delay	18.9	11.9	7.0	73.7	4.4	51.0	0.7	85.5	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	11.9	7.0	73.7	4.4	51.0	0.7	85.5	12.9
Queue Length 50th (ft)	13	134	8	~1049	19	2	0	187	22
Queue Length 95th (ft)	30	157	18	#1309	52	9	0	#251	52
Internal Link Dist (ft)		1061		522		682			528
Turn Bay Length (ft)	100		100		175		50	200	
Base Capacity (vph)	137	2130	481	1110	982	158	257	279	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.32	0.07	1.07	0.20	0.02	0.09	0.94	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	560	5	30	1070	176	0	2	15	197	5	125
Future Volume (veh/h)	48	560	5	30	1070	176	0	2	15	197	5	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	0.99		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	1826	1885	1870	1856	1870	1900	1900	1900	1870	1870	1870
Adj Flow Rate, veh/h	57	667	6	33	1189	196	0	3	23	263	7	167
Peak Hour Factor	0.84	0.84	0.84	0.90	0.90	0.90	0.64	0.64	0.64	0.75	0.75	0.75
Percent Heavy Veh, %	1	5	1	2	3	2	0	0	0	2	2	2
Cap, veh/h	124	2104	19	494	1094	933	60	158	132	335	14	341
Arrive On Green	0.04	0.60	0.60	0.03	0.59	0.59	0.00	0.08	0.08	0.09	0.22	0.22
Sat Flow, veh/h	1795	3523	32	1781	1856	1582	1230	1900	1581	1781	63	1514
Grp Volume(v), veh/h	57	328	345	33	1189	196	0	3	23	263	0	174
Grp Sat Flow(s),veh/h/ln	1795	1735	1820	1781	1856	1582	1230	1900	1581	1781	0	1578
Q Serve(g_s), s	1.5	11.3	11.3	0.9	70.7	7.0	0.0	0.2	1.6	11.0	0.0	11.5
Cycle Q Clear(g_c), s	1.5	11.3	11.3	0.9	70.7	7.0	0.0	0.2	1.6	11.0	0.0	11.5
Prop In Lane	1.00		0.02	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	124	1036	1087	494	1094	933	60	158	132	335	0	355
V/C Ratio(X)	0.46	0.32	0.32	0.07	1.09	0.21	0.00	0.02	0.17	0.78	0.00	0.49
Avail Cap(c_a), veh/h	135	1036	1087	519	1094	933	60	158	132	335	0	355
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	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	12.0	12.0	9.4	24.6	11.5	0.0	50.5	51.2	47.1	0.0	40.5
Incr Delay (d2), s/veh	2.7	0.8	0.8	0.1	54.0	0.5	0.0	0.2	2.9	11.6	0.0	4.8
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	1.0	4.4	4.6	0.3	44.6	2.6	0.0	0.1	0.8	3.4	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	12.8	12.8	9.5	78.6	12.0	0.0	50.7	54.0	58.6	0.0	45.3
LnGrp LOS	C	B	B	A	F	B	A	D	D	E	A	D
Approach Vol, veh/h		730			1418			26			437	
Approach Delay, s/veh		14.3			67.8			53.6			53.3	
Approach LOS		B			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	77.7		33.0	10.3	76.7	17.0	16.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	70.0		27.0	5.0	70.0	11.0	10.0				
Max Q Clear Time (g_c+I1), s	2.9	13.3		13.5	3.5	72.7	13.0	3.6				
Green Ext Time (p_c), s	0.0	4.5		0.8	0.0	0.0	0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay		50.3	
HCM 6th LOS		D	

Notes

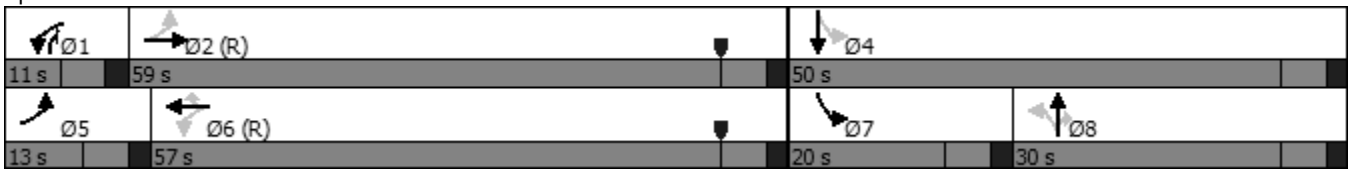
User approved pedestrian interval to be less than phase max green.

Intersection Capacity Worksheets: Year 2040 Background+ Project

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	133	1335	55	435	109	5	5	50	266	1
Future Volume (vph)	133	1335	55	435	109	5	5	50	266	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2	1	6			8	1	7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	11.0	11.0	30.0
Total Split (s)	13.0	59.0	11.0	57.0	57.0	30.0	30.0	11.0	20.0	50.0
Total Split (%)	10.8%	49.2%	9.2%	47.5%	47.5%	25.0%	25.0%	9.2%	16.7%	41.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Min	Min	None	None	Min
Act Effct Green (s)	78.7	71.1	73.8	66.9	66.9	6.2	6.2	13.2	26.2	26.2
Actuated g/C Ratio	0.66	0.59	0.62	0.56	0.56	0.05	0.05	0.11	0.22	0.22
v/c Ratio	0.24	0.71	0.29	0.26	0.13	0.09	0.06	0.27	1.07	0.22

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 28.1
Intersection Capacity Utilization 77.8%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40

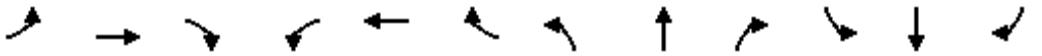


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	145	1462	60	473	118	6	6	65	302	90
v/c Ratio	0.24	0.71	0.29	0.26	0.13	0.09	0.06	0.27	1.07	0.22
Control Delay	7.8	20.6	10.5	14.6	1.9	56.6	55.0	8.5	117.4	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	20.6	10.5	14.6	1.9	56.6	55.0	8.5	117.4	9.2
Queue Length 50th (ft)	35	413	14	94	0	5	5	0	~242	1
Queue Length 95th (ft)	61	541	29	137	21	17	16	16	#351	41
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50		25	200	
Base Capacity (vph)	615	2056	210	1811	919	258	372	245	281	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.71	0.29	0.26	0.13	0.02	0.02	0.27	1.07	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	1335	10	55	435	109	5	5	50	266	1	78
Future Volume (veh/h)	133	1335	10	55	435	109	5	5	50	266	1	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.99		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	1841	1885	1870	1737	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	145	1451	11	60	473	118	6	6	65	302	1	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.77	0.77	0.77	0.88	0.88	0.88
Percent Heavy Veh, %	1	4	1	2	11	2	2	2	2	1	1	1
Cap, veh/h	550	2021	15	222	1825	875	162	148	180	370	4	387
Arrive On Green	0.05	0.57	0.57	0.04	0.55	0.55	0.08	0.08	0.08	0.12	0.25	0.25
Sat Flow, veh/h	1795	3558	27	1781	3300	1582	1285	1870	1555	1795	18	1573
Grp Volume(v), veh/h	145	713	749	60	473	118	6	6	65	302	0	90
Grp Sat Flow(s),veh/h/ln	1795	1749	1836	1781	1650	1582	1285	1870	1555	1795	0	1591
Q Serve(g_s), s	4.2	35.7	35.7	1.7	9.0	4.3	0.5	0.4	4.6	14.0	0.0	5.4
Cycle Q Clear(g_c), s	4.2	35.7	35.7	1.7	9.0	4.3	0.5	0.4	4.6	14.0	0.0	5.4
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	550	994	1043	222	1825	875	162	148	180	370	0	391
V/C Ratio(X)	0.26	0.72	0.72	0.27	0.26	0.13	0.04	0.04	0.36	0.82	0.00	0.23
Avail Cap(c_a), veh/h	562	994	1043	232	1825	875	317	374	368	370	0	583
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	10.6	18.9	18.9	16.2	14.0	13.0	51.1	51.0	49.0	45.7	0.0	36.2
Incr Delay (d2), s/veh	0.3	4.4	4.3	0.6	0.3	0.3	0.1	0.1	1.2	13.2	0.0	0.3
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	1.6	14.8	15.5	0.7	3.3	1.6	0.2	0.2	1.9	3.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	23.3	23.2	16.9	14.3	13.3	51.2	51.2	50.2	58.9	0.0	36.5
LnGrp LOS	B	C	C	B	B	B	D	D	D	E	A	D
Approach Vol, veh/h		1607			651			77			392	
Approach Delay, s/veh		22.1			14.4			50.4			53.7	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	74.2		35.5	12.2	72.4	20.0	15.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	53.0		44.0	7.0	51.0	14.0	24.0				
Max Q Clear Time (g_c+I1), s	3.7	37.7		7.4	6.2	11.0	16.0	6.6				
Green Ext Time (p_c), s	0.0	8.7		0.6	0.0	3.8	0.0	0.2				

Intersection Summary			
HCM 6th Ctrl Delay		25.6	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	64	45	41	22	180
Future Vol, veh/h	114	64	45	41	22	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	7
Mvmt Flow	130	73	51	47	25	205

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	203	0	316	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	149	-
Critical Hdwy	-	-	4.1	-	6.4	6.27
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.363
Pot Cap-1 Maneuver	-	-	1381	-	681	864
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1381	-	655	864
Mov Cap-2 Maneuver	-	-	-	-	655	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	835	-	-	1381	-
HCM Lane V/C Ratio	0.275	-	-	0.037	-
HCM Control Delay (s)	10.9	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	16.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	35	181	30	5	5	105	320	55	10	460	31
Future Vol, veh/h	63	35	181	30	5	5	105	320	55	10	460	31
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	61	61	61	88	88	88	88	88	88
Heavy Vehicles, %	4	2	4	4	2	4	0	0	0	2	2	2
Mvmt Flow	72	40	206	49	8	8	119	364	63	11	523	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1205	1228	541	1288	1182	364	558	0	0	427	0	0
Stage 1	563	563	-	602	602	-	-	-	-	-	-	-
Stage 2	642	665	-	686	580	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.52	6.24	7.14	6.52	6.24	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.018	3.336	3.536	4.018	3.336	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	178	537	139	190	676	1023	-	-	1132	-	-
Stage 1	507	509	-	483	489	-	-	-	-	-	-	-
Stage 2	459	458	-	434	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	136	155	537	62	166	676	1023	-	-	1132	-	-
Mov Cap-2 Maneuver	136	155	-	62	166	-	-	-	-	-	-	-
Stage 1	448	502	-	427	432	-	-	-	-	-	-	-
Stage 2	393	405	-	243	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.2	156.3	2	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1023	-	-	142	537	77	1132	-	-
HCM Lane V/C Ratio	0.117	-	-	0.784	0.383	0.852	0.01	-	-
HCM Control Delay (s)	9	-	-	88.1	15.8	156.3	8.2	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	4.8	1.8	4.3	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	125	45	18	53	5
Future Vol, veh/h	5	125	45	18	53	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	142	51	20	60	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	215	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1529	-	-	-	773	1004
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1529	-	-	-	770	1004
Mov Cap-2 Maneuver	-	-	-	-	770	-
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	874	-

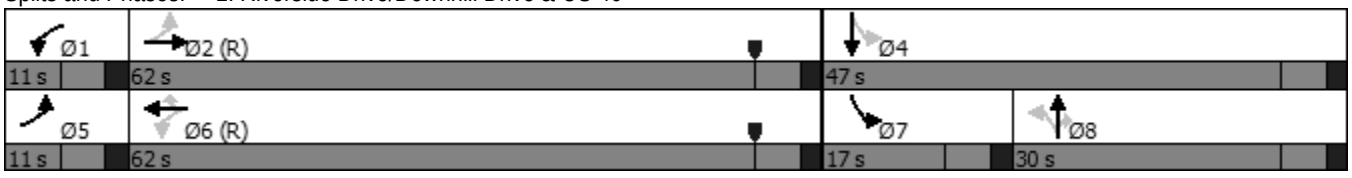
Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1529	-	-	-	786
HCM Lane V/C Ratio	0.004	-	-	-	0.084
HCM Control Delay (s)	7.4	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	43	650	75	1270	196	5	5	35	227	5
Future Volume (vph)	43	650	75	1270	196	5	5	35	227	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases	5	2	1	6			8		7	4
Permitted Phases	2		6		6	8		8	4	
Detector Phase	5	2	1	6	6	8	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	25.0	11.0	25.0	25.0	30.0	30.0	30.0	11.0	30.0
Total Split (s)	11.0	62.0	11.0	62.0	62.0	30.0	30.0	30.0	17.0	47.0
Total Split (%)	9.2%	51.7%	9.2%	51.7%	51.7%	25.0%	25.0%	25.0%	14.2%	39.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max	Max	None	Max
Act Effct Green (s)	62.2	58.2	62.2	58.2	58.2	24.0	24.0	24.0	41.0	41.0
Actuated g/C Ratio	0.52	0.48	0.52	0.48	0.48	0.20	0.20	0.20	0.34	0.34
v/c Ratio	0.34	0.43	0.24	0.81	0.26	0.03	0.02	0.13	0.59	0.27

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 25.7
Intersection Capacity Utilization 74.3%
Analysis Period (min) 15

Splits and Phases: 1: Riverside Drive/Downhill Drive & US 40



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	718	82	1380	213	8	8	55	258	165
v/c Ratio	0.34	0.43	0.24	0.81	0.26	0.03	0.02	0.13	0.59	0.27
Control Delay	19.2	21.6	14.2	31.7	8.0	39.4	39.0	0.6	37.1	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	21.6	14.2	31.7	8.0	39.4	39.0	0.6	37.1	12.1
Queue Length 50th (ft)	16	191	28	483	33	5	5	0	153	31
Queue Length 95th (ft)	34	243	53	584	81	13	13	0	225	79
Internal Link Dist (ft)		1061		522			682			528
Turn Bay Length (ft)	100		100		175	50		50	200	
Base Capacity (vph)	137	1666	346	1699	818	246	380	427	441	604
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.43	0.24	0.81	0.26	0.03	0.02	0.13	0.59	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	650	10	75	1270	196	5	5	35	227	5	140
Future Volume (veh/h)	43	650	10	75	1270	196	5	5	35	227	5	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		1.00
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	1826	1885	1870	1856	1870	1900	1900	1900	1870	1870	1870
Adj Flow Rate, veh/h	47	707	11	82	1380	213	8	8	55	258	6	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.64	0.64	0.64	0.88	0.88	0.88
Percent Heavy Veh, %	1	5	1	2	3	2	0	0	0	2	2	2
Cap, veh/h	164	1641	26	375	1676	752	307	380	320	485	20	523
Arrive On Green	0.03	0.47	0.47	0.04	0.48	0.48	0.20	0.20	0.20	0.09	0.34	0.34
Sat Flow, veh/h	1795	3496	54	1781	3526	1582	1233	1900	1598	1781	58	1529
Grp Volume(v), veh/h	47	351	367	82	1380	213	8	8	55	258	0	165
Grp Sat Flow(s),veh/h/ln	1795	1735	1816	1781	1763	1582	1233	1900	1598	1781	0	1587
Q Serve(g_s), s	1.6	16.1	16.1	2.8	40.5	9.8	0.6	0.4	3.4	11.0	0.0	9.2
Cycle Q Clear(g_c), s	1.6	16.1	16.1	2.8	40.5	9.8	0.6	0.4	3.4	11.0	0.0	9.2
Prop In Lane	1.00		0.03	1.00		1.00	1.00		1.00	1.00		0.96
Lane Grp Cap(c), veh/h	164	814	852	375	1676	752	307	380	320	485	0	542
V/C Ratio(X)	0.29	0.43	0.43	0.22	0.82	0.28	0.03	0.02	0.17	0.53	0.00	0.30
Avail Cap(c_a), veh/h	179	814	852	380	1676	752	307	380	320	485	0	542
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	23.0	21.2	21.2	16.4	27.1	19.1	38.7	38.6	39.8	34.1	0.0	29.0
Incr Delay (d2), s/veh	1.0	1.7	1.6	0.3	4.7	0.9	0.2	0.1	1.2	1.1	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	0.7	6.8	7.1	1.2	17.4	3.8	0.2	0.2	1.5	1.1	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	22.8	22.8	16.7	31.9	20.0	38.8	38.7	40.9	35.3	0.0	30.5
LnGrp LOS	C	C	C	B	C	C	D	D	D	D	A	C
Approach Vol, veh/h		765			1675			71			423	
Approach Delay, s/veh		22.9			29.6			40.4			33.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	62.3		47.0	10.0	63.0	17.0	30.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	5.0	56.0		41.0	5.0	56.0	11.0	24.0				
Max Q Clear Time (g_c+I1), s	4.8	18.1		11.2	3.6	42.5	13.0	5.4				
Green Ext Time (p_c), s	0.0	4.8		1.1	0.0	8.5	0.0	0.2				

Intersection Summary			
HCM 6th Ctrl Delay		28.7	
HCM 6th LOS		C	

Notes

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

Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	77	42	115	124	54	75
Future Vol, veh/h	77	42	115	124	54	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	1	0	0	6
Mvmt Flow	88	48	131	141	61	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	136	0	515	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	-	-	4.11	-	6.4	6.26
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.354
Pot Cap-1 Maneuver	-	-	1454	-	523	930
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1454	-	472	930
Mov Cap-2 Maneuver	-	-	-	-	472	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	661	-	-	1454	-
HCM Lane V/C Ratio	0.222	-	-	0.09	-
HCM Control Delay (s)	12	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.3	-

Intersection	
Int Delay, s/veh	48.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	10	185	50	20	5	186	490	30	10	470	63
Future Vol, veh/h	47	10	185	50	20	5	186	490	30	10	470	63
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	-	-	140	-	-	-	200	-	200	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	82	82	82	90	90	90	88	88	88
Heavy Vehicles, %	5	2	5	4	2	4	2	2	2	5	5	5
Mvmt Flow	53	11	208	61	24	6	207	544	33	11	534	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1582	1583	570	1660	1586	544	606	0	0	577	0	0
Stage 1	592	592	-	958	958	-	-	-	-	-	-	-
Stage 2	990	991	-	702	628	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.52	6.25	7.14	6.52	6.24	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.52	-	6.14	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.018	3.345	3.536	4.018	3.336	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	87	109	515	77	108	535	972	-	-	982	-	-
Stage 1	487	494	-	307	336	-	-	-	-	-	-	-
Stage 2	293	324	-	426	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	84	515	~ 34	84	535	972	-	-	982	-	-
Mov Cap-2 Maneuver	56	84	-	~ 34	84	-	-	-	-	-	-	-
Stage 1	383	486	-	242	264	-	-	-	-	-	-	-
Stage 2	207	255	-	244	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	73.7	$ 697.6	2.6	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	59	515	44	982	-	-
HCM Lane V/C Ratio	0.213	-	-	1.086	0.404	2.079	0.012	-	-
HCM Control Delay (s)	9.7	-	-	259	16.6	$ 697.6	8.7	0	-
HCM Lane LOS	A	-	-	F	C	F	A	A	-
HCM 95th %tile Q(veh)	0.8	-	-	5.2	1.9	9.5	0	-	-

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	85	125	53	34	5
Future Vol, veh/h	5	85	125	53	34	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	97	142	60	39	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	202	0	-	0	281	172
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1370	-	-	-	709	872
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1370	-	-	-	705	872
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	723
HCM Lane V/C Ratio	0.004	-	-	-	0.061
HCM Control Delay (s)	7.6	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2