40th and Colorado Apartments

Traffic Impact Study

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40TH AND COLORADO APARTMENTS

MOBILITY (TRAFFIC IMPACT) STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this mobility (traffic impact) study for the 40th and Colorado mixed income housing development on the property in the northwest corner of Albion Street and Park Hill Square in Denver, Colorado. The 6.5± acre property currently is vacant and bounded by Colorado Boulevard to the west, Albion to the east, East (A) Line tracks to the north, and mixed-use development to the east and south. **Figure 1** provides a vicinity map for the proposed project.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of the 40th and Colorado Apartments project. The mobility study addresses existing, short-term, and long-term 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 and County of Denver staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represent the periods of highest trip generation for the proposed use and adjacent street traffic.

2.0 Project Description

The 40th and Colorado Apartments site will have up to 600 multi-family units servicing individuals and families with a mix of income. It is understood that there will be 300 affordable units for families, 150 affordable units for seniors, and 150 market rate units. The project proposes to maintain one of the existing access on Albion Street at Park Hill Square, construct one new access on Albion Street, and connect internally to the commercial site to the south that has direct access to 40th Avenue. All of the accesses will be full movement and side-street stop-controlled. It was assumed that the apartments will be completed by Year 2028. The site plan and accesses are provided on **Figure 2**.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were collected in February 2024 at four (4) existing intersections during the weekday AM and PM peak hours, including pedestrians and bicyclists. Daily traffic volumes were collected along 40th Avenue and Albion Street. Existing, historic, and future traffic volumes on the study roadways were gathered from Colorado Department of Transportation's (CDOT) Transportation Data Management System (TDMS), CDOT's Online Transportation Information System (OTIS), and the DRCOG Focus Model. The existing traffic volumes are illustrated on **Figure 3**. The existing intersection geometry and traffic control are also shown on this figure.

Signal-related information for the existing signalized intersections were provided by the City staff and utilized within the analysis. Count data is provided in the **Appendix**.

3.2 Evaluation Methodology

The traffic operations analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Existing peak hour factors were applied to the intersections for the existing and future scenarios. Study intersections were evaluated using Synchro software (v11).

3.3 Level of Service Capacity Analysis

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

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as "Level of Service" (LOS) that is defined by the *HCM*. LOS characterizes the operational conditions of an intersection's traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and

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

convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement.

Typically, LOS A through C is considered to be acceptable for the overall intersection operations and LOS D overall during peak hours is acceptable. Individual movements may be allowed to fall to LOS E at signalized intersections. Minor movements at unsignalized intersections, such as left turns onto a major arterial, may be allowed to fall below LOS D. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS for each scenario. A more detailed discussion of the LOS methodology is contained in the **Appendix** for reference.

4.0 Existing Conditions

4.1 Roadways

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

Colorado Boulevard (State Highway 2) is a north-south principal arterial that currently has a six-lane cross-section (plus auxiliary lanes) through the study area that provides access through urban and suburban areas of the city. Colorado Boulevard (SH 2) is a CDOT facility and is classified as NR-B within the study area. This roadway extends from Quincy Avenue (south) to Vasquez Boulevard (north) and connects communities to residential neighborhoods, employment centers, shopping centers, and recreational amenities. Colorado Boulevard has a full interchange with I-70 just north of the project property. This roadway currently serves approximately 49,900 vpd north of 40th Avenue (Year 2022, CDOT). The posted speed limit is 40 miles per hour (mph) within the study area.

40th Avenue is an east-west, two-lane arterial west of Colorado Boulevard and a local street east of Colorado Boulevard. 40th Avenue parallels I-70 and extends from Colorado Boulevard to Downtown Denver (west) where it bends south and changes to Blake Street. This roadway provides access to the 40th and Colorado Station for bus and light-rail service, residential neighborhoods, schools, industrial businesses, and retail centers. This roadway currently serves approximately 8,780 vpd east of Colorado Boulevard (Year 2024). The posted speed limit is 30 mph within the study area.

Smith Road is an east-west, two-lane arterial roadway that parallels the Union Pacific Railroad (UPRR) tracks and commuter rail tracks, extending from Albion Street to Xanthia Street (east). Discontinuously, Smith Road extends into the City of Aurora to the east. Smith Road provides access to several industrial parks and distribution centers, with the potential to induce truck traffic to pass through the mixed use area near the 40th and Colorado Station. The posted speed limit is 35 mph west of Dahlia and 30 mph east of Dahlia, transitioning to 25mph approaching Albion Street westbound and serves 4,600 vpd just east of Albion Street.

Albion Street is a north-south, two-lane collector street that currently extends from 40th Avenue to Smith Road within the study area. This roadway provides access to the adjacent Park Hill multi-family apartments and commercial retail stores. The posted speed limit is 25 mph within the study area. The *40th & Colorado Next Steps Study*[2] identified Albion Street as a location that could benefit from traffic calming to slow vehicles and improve pedestrian crossing.

Dahlia Street is a north-south, two-lane collector roadway that provides access to several industrial businesses and the Park Hill neighborhood. The posted speed limit is 30 mph within the study area.

4.2 Intersections

The study area includes four (4) existing intersections that are listed below with the current traffic control and were analyzed for existing and future year traffic operations:

1. Colorado Boulevard at 40th Avenue [signalized]
2. 40th Avenue at the Commercial Access [side-street stop-control]
3. Albion Street at Park Hill Square [side-street stop-control]
4. Smith Road at Dahlia Street [signalized]

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

4.3 Pedestrian and Bicycle

Currently, there are sidewalks and/or multi-use paths on both sides of Colorado Boulevard, 40th Avenue, Albion Street, Smith Road, and Dahlia Street that connect pedestrians through and out of the study area

[2] *40th & Colorado Next Steps Study*. City of Denver. January 2017.

and connecting to the 40th and Colorado Station. There are no on-street bike facilities along the study roadways; however, bicyclists are permitted to ride in the travel lane or on the multi-use paths.

4.4 Transit

The City and County of Denver is serviced by Regional Transportation District (RTD). The 40th and Colorado Apartments are located across the road from the existing 40th and Colorado Station, which is a transit hub for bus and light rail services. Currently, the 40th and Colorado Station provides access to one (1) commuter rail line (East) and five (5) bus routes (#24, #37, #40, #44, #49).

The East Rail Line, also known as the A Line, travels between downtown Denver and the Denver International Airport with stops at the National Western Complex, several neighborhoods, and transfer stations. The bus routes that service the 40th and Colorado Station are as listed:

- **Route 24 (University)** links the station to the University Park-n-Ride via Colorado Boulevard. This bus route connects Denver to Cherry Hills Village, Greenwood Village, and Highlands Ranch. Midway the bus stops at the University of Denver Station that is serviced by two (2) light rail lines and other bus routes.

- **Route 37 (Smith Road Industrial)** provides access to the industrial and commercial between the station and the 40th Avenue and Airport Boulevard Station. The bus operates from the 40th and Colorado Station during peak times only and travels north on Colorado Boulevard to then head east into Aurora.

- **Route 40 (Colorado Boulevard)** links the station to the Southmoor Station via Colorado Boulevard. This bus route connects Denver to Aurora and Glendale.

- **Route 44 (44th Avenue)** travels from the station through Downtown Denver and to Wheat Ridge. The bus stops at Union Station and turns around at the Wheat Ridge-Ward Road Station.

- **Route 49 (Commerce City)** links Denver to Commerce City via local roadways including Colorado Boulevard and Dahlia Street. At the Commerce City – 72nd Station there are additional bus routes and the N Line.

Along the rail and bus routes, patrons are able to transfer to other transit services as desired.

4.5 Existing Intersection Capacity Analysis

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

The following study intersection has movements that operate at LOS E/F during the one of both peak hours:

- ***#1 – Colorado Boulevard at 40th Avenue:*** This signalized intersection operates overall at LOS C in the AM peak hour and LOS D in the PM peak hour; however, there are several movements that are currently operating at LOS E or F. The eastbound and northbound left-turns were estimated to operate at LOS E in both peak hours. The southbound left-turn was calculated to operate at LOS F in the AM peak hour and LOS E in the PM peak hour. The 95th percentile queues for the eastbound and northbound left-turns were calculated to be maintained within the existing storage lengths. During the AM peak hour, the southbound left-turn movement was calculated to be approximately 13 feet longer than the existing storage length.

  Recommendations: Delays are typical of left-turn movements on arterial streets especially with protected phasing and limited green time. Consider adjusting signal timing to reduce the delay and queue length on the southbound left-turn to be maintained within the existing storage. The improvement in delays and queues is provided in **Table 3**. It is understood that any adjustments will need to be evaluated with the progression on Colorado Boulevard. It appears that the storage length can be extended with modifications to the existing median, if desired.

5.0 Future Conditions (No Project)

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, data provided by CDOT 20-Year traffic data and DRCOG Regional Traffic Models was utilized. Based on CDOT data, the 20-Year factor on Colorado Boulevard (SH 2) was between 1.11 and 1.12, which equates to an annual growth rate of 0.5%. DRCOG growth ranged from 0% to 3.2% annually depending on the roadway segment. Side streets with currently low volumes had the highest annual growth percentage from DRCOG, whereas growth rates on Colorado Boulevard were nearly identical between DRCOG and CDOT estimates. Based on the data, a 0.5% annual growth rate was applied to the existing traffic volumes to forecast future volumes without the project. The Year 2028 background volumes are summarized on **Figure 4** and the Year 2045 background volumes are summarized on **Figure 5.**

5.2 Year 2028 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2028 background scenario and to identify any capacity constraints associated with background traffic (refer to **Section 5.1** for growth assumptions). The background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. The results of the LOS calculations for the intersections are summarized in **Table 1** (refer to **Appendix**). The 95th percentile queue lengths are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. This analysis assumed the existing signal timing at both of the signalized intersections would remain.

In summary, the study intersections operate similarly to the existing conditions with all intersections operating overall at LOS D or better in both peak hours. The following intersection will continue to have movements that operate at LOS E/F as described below:

- ***#1 – Colorado Boulevard at 40th Avenue:*** This signalized intersection was estimated to operate overall at LOS C in the AM peak hour and LOS D in the PM peak hour; however, the eastbound and northbound left-turns were estimated to continue to operate at LOS E in one or both peak hours. The southbound left-turn was calculated to continue to operate at to LOS F in the AM peak hour and begin to operate at LOS F in the PM peak hour. The 95th percentile queues for the

eastbound and northbound left-turns were calculated to be maintained within the existing storage lengths. During the AM peak hour, the southbound left-turn movement was calculated to exceed the existing storage length.

Recommendations: Delays are typical of left-turn movements on arterial streets especially with protected phasing and limited green time. Consider adjusting signal timing to reduce the delay and queue length on the southbound left-turn to be maintained within the existing storage. The improvement in delays and queues is provided in **Table 3**. It is understood that any adjustments will need to be evaluated with the progression on Colorado Boulevard. It appears that the storage length can be extended with modifications to the existing median, if desired.

5.3 Year 2045 Background Intersection Capacity Analysis

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

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes. The results of the LOS calculations for the intersections are summarized in **Table 1**. The 95th percentile queue lengths are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. This analysis assumed the existing signal timing at both signalized intersections would remain.

In summary, the study intersections are anticipated to experience additional delay with an increase in background traffic especially on already congested movements. The following intersections begin to operate overall or have movements that were calculated to begin to operate at LOS E/F as described below:

- ***#1 – Colorado Boulevard at 40th Avenue:*** This signalized intersection was estimated to begin to operate overall at LOS D in the AM peak hour and LOS F in the PM peak hour. The southbound left-turns were estimated to begin operating at LOS F in both peak hours and anticipated to experience cycle failure in the AM peak hour. The northbound left-turn was estimated to continue to operate at LOS E in both peak hours. During the PM peak hour, the northbound and southbound through movements were estimated to begin operating at LOS F due to high volumes. The 95th percentile queues for the eastbound and northbound left-turns were calculated to be maintained within the existing storage lengths, while the 95th percentile queue for the

southbound left-turn movement was calculated to continue to exceed the existing storage length. The 95th percentile queues for the northbound and southbound through movements were calculated to be up to 879 feet and 947 feet, respectively.

Recommendations: Consider adjusting signal timing to reduce the delay and queue lengths on multiple movements. Consider restriping the existing pavement on the westbound approach to provide two left-turn lanes and change to protected only left-turn phasing. The improvement in delays and queues is provided in **Table 3**. It is understood that any adjustments will need to be evaluated with the progression on Colorado Boulevard. It appears that the southbound left-turn storage length can be extended with modifications to the existing median, if desired.

6.0 Future Conditions with the 40th and Colorado Apartments

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed 40th and Colorado development project. The trip rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*[3] were applied to estimate the traffic for #223 "Affordable Housing (Income Limits)", #252 "Senior Adult Housing – Multifamily", and #221 "Multifamily Housing (Mid-Rise – Close to Rail Transit". The ITE database has limited data on affordable senior housing, therefore, the market rate trip data was applied (more conservative) to the senior units. The affordable housing trip rates are higher than the market-rate multifamily housing trip rates and considered conservative for this analysis. Currently, the national database for affordable housing is limited to five (5) studies.

Table 4 provides the detailed trip generation estimates for the project (refer to the **Appendix**). The proposed project is expected to experience mostly new trips, also known as 'primary trips,' as well as non-auto trips which are 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.

[3] *Trip Generation Handbook, 11th Edition*, Institute of Transportation Engineers, 2021.

Non-Auto Trips. These trips are those that are completed by walking, biking, or transit. The existing and future pedestrian and bicycle amenities will encourage residents, employees, and visitors to make non-auto trips to/from the 40th and Colorado community. Although the project is in close proximity to the 40th and Colorado Station, it was conservatively assumed 10% non-auto in the analysis.

It was estimated that the 40th and Colorado Apartments will generate up to 2,377 daily vehicle trips with 205 vehicle trips in the AM peak hour and 197 vehicle trips in the PM peak hour.

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area, as well as regional growth and future roadway infrastructure. The assumed distributions are listed below in **Table 5** and on **Figure 6.**

Table 5: Trip Distribution Summary

To/From	Distribution
North via Colorado Boulevard	40%
South via Colorado Boulevard	40%
East via Smith Road	5%
West via 40th Avenue	10%
North via Dahlia Street	4%
South via Dahlia Street	1%

Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network and to the three (3) accesses for the weekday AM and PM peak hour periods based on the most convenient route. The site-generated volumes are shown on **Figure 7.**

6.3 Proposed Roadway Network and Access

Access to the 40th and Colorado Apartments site is planned via the existing access on Albion Street at Park Hill Square (south end of the property) and a new access on Albion Street, south of the bend to Smith Road. In addition, the 40th and Colorado project will connect to the internal roadway that transverses the commercial area and provides direct access to 40th Avenue just east of Colorado Boulevard. Auxiliary lanes are not warranted at the access intersections on Albion Street. It is proposed that the accesses be full

movement and side-street stop-control. The proposed access locations are illustrated on **Figure 7** with the proposed lane configurations and traffic control.

6.4 Year 2028 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the 40th and Colorado Apartments trips in the short-term scenario. The site-generated volumes were added to the Year 2028 background volumes and are illustrated on **Figure 8**. This analysis assumed the existing signal timing at all signalized intersections would remain.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. The details of LOS for each movement are provided in **Table 1** (refer to **Appendix**). The 95th percentile queue lengths are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

The project trips have minimal impact on the performance of the study intersections compared to the background scenario with improvements. The majority of the overall and movement levels-of-service are the same as Year 2028 background, including the movements that were estimated to operate at LOS E/F. At the intersection of **Colorado Boulevard and 40th Avenue** the southbound left-turn lane will continue operating at LOS F in both peak hours and degrade the overall performance from LOS C to D in the AM peak hour and LOS D to E in the PM peak hour. The 95th percentile queue for this movement will continue to extend beyond the existing storage length without improvements. As recommended in the background scenario, adjust the signal timing to accommodate the additional traffic on specific movements and consider extending the southbound left-turn lane for additional storage. The westbound approach has pavement width for a second left turn lane, which was assumed to be restriped as a second left turn lane. Signal timing was adjusted to change the westbound left turn to protected-only phasing to accommodate the second left turn lane. The improvement in the level of service and queuing with the second westbound left turn lane is summarized in **Table 3**. The existing and proposed accesses were calculated to operate overall at LOS A in both peak hours with all movements operating at LOS C or better.

6.5 Year 2045 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the 40th and Colorado Apartments trips in the long-term scenario. The site-generated volumes were added to the Year 2045 background volumes and are illustrated on **Figure 9**. This analysis assumed the existing signal timing at all signalized intersections would remain.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term volumes. The details of LOS for each movement are provided in **Table 1** (refer to **Appendix**). The 95th percentile queue lengths are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

The project trips have minimal impact on the performance of the study intersections compared to the background scenario with improvements. The majority of the overall and movement levels-of-service are the same as Year 2045 background, including the movements that were estimated to operate at LOS E/F. At the already congested intersection of **Colorado Boulevard and 40th Avenue,** the additional traffic does not change the overall performance from LOS D in the AM peak hour or LOS F in the PM peak hour. The southbound left-turn lane will continue operating at LOS F in both peak hours and is anticipated to experience cycle failure. The 95th percentile queue for this movement will continue to extend beyond the existing storage length without improvements. As recommended in the background scenario, adjust the signal timing to accommodate the additional traffic on specific movements and consider extending the southbound left-turn lane for additional storage. The second westbound left turn lane and protected-only signal phasing increases overall delay at the intersection but has queuing and safety benefits. High delay for protected-only left turn movements at major intersections can be accepted for improved safety performance. The improvement in the level of service and queuing with the second westbound left turn lane is summarized in **Table 3**. The existing and proposed accesses were calculated to operate overall at LOS A in both peak hours with all movements operating at LOS C or better.

7.0 Pedestrian and Bicycle Facilities

The project will utilize the existing sidewalks and crosswalks within the study area. Residents are anticipated to walk or bike to the 40th and Colorado Station. Internal sidewalks will circulate and connect to existing facilities.

7.1 Pedestrian Crossing Evaluation at Albion Street and Park Hill Square

There is an existing Level A (marked and signed) crosswalk to cross Albion Street at Park Hill Square shown in Photo 1. Count data collected for this project shows how the crossing is being utilized under existing conditions. Existing data was compared to the City and County of Denver *Uncontrolled Pedestrian Crossing Guidelines*[4] to ensure that the existing treatment at the crossing is appropriate. The use of existing pedestrian volume to evaluate the crosswalk was approved by DOTI staff because there are no activity generators east of Albion Street in the vicinity of this crossing that would attract pedestrian demand from the project.

Photo 1: Albion Street and Park Hill Square

At present, the north crosswalk at the intersection had zero (0) pedestrians in the AM peak hour and four (4) pedestrians in the PM peak hour. The south crosswalk had one (1) pedestrian in the AM peak hour and one (1) pedestrian in the PM peak hour. There were no bicyclists observed crossing Albion Street at Park Hill Square. Despite the low observed pedestrian volume, it is recommended that the existing crosswalk remain in place due to the connectivity it provides from multifamily residential uses east of Albion Street to the 40th and Colorado transit station to the west. **The existing Level A treatment is appropriate for the street cross section and observed vehicle volume and speed on Albion Street.** Albion Street has been identified as a route for trucks to access the industrial uses located east of the study area, so pedestrian interaction with trucks is of concern for DOTI. The observed truck percentage on Albion Street is only 5.5%, within an acceptable level to be controlled by the existing crossing treatment.

[4] *City and County of Denver Uncontrolled Pedestrian Crossing Guidelines*. April 2022.

7.2 Pedestrian Crossing Evaluation at Albion Street and Project Access

The proposed project access on Albion Street shown in Photo 2 creates a new opportunity for an additional pedestrian crossing. It is anticipated that the improved pedestrian circulation through the project site to the 40th and Colorado transit station will induce pedestrian demand from the multifamily residential uses east of Albion Street to access the 40th and Colorado station. The proposed project access location on Albion Street aligns with pedestrian paths through the multifamily complex to the east. Providing a marked and signed crosswalk at the project access will align with desire paths through the property to the east and through the project. The project is not expected to add pedestrian demand on the crosswalk since there are only residential uses to the east. **A marked and signed crosswalk is the appropriate treatment for the new crossing should the volume threshold in the *Uncontrolled Pedestrian Crossing Guidelines*[5] (UPCG) be met.** The marked pedestrian crossing would need to be located on the north leg of the new intersection to ensure that the distance requirement from Park Hill Square is met per the UPCG.

7.2.1 Sight Distance Evaluation

Due to the proximity of the curve from Smith Road to Albion Street, sight distance at a new crossing was checked to ensure that crossing pedestrians can be safely seen by drivers traveling westbound to southbound on the curve. It was determined that there is adequate sight distance available for the crosswalk to be installed at the north leg of the intersection, considering the 30 mph observed 85th percentile speed. It should be noted that the curve is signed at 20 mph advisory speed so additional speed mitigation would further help improve visibility for pedestrians crossing at the project access. Advanced warning signage is recommended to alert drivers to the crosswalk. Installing the crosswalk on the north leg of the project access reduces conflicts with turning vehicles to the project and is required to satisfy crosswalk spacing minimum per UPCG from the existing crosswalk at Park Hill Square. A median refuge island, which could be installed within the painted median on the north leg of the project access intersection, would allow for additional signage opportunities and

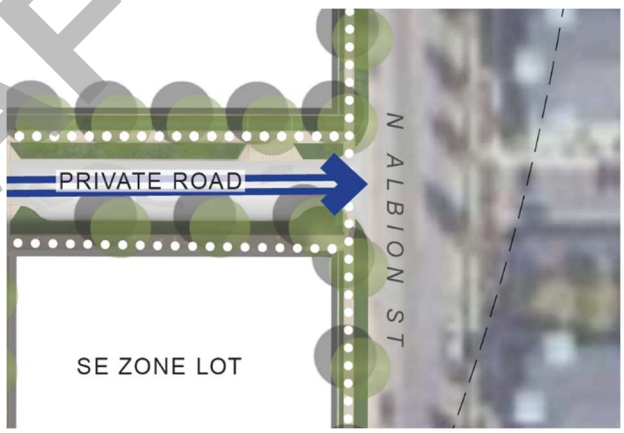


Photo 2: Albion Street and Project Access

[5] *City and County of Denver Uncontrolled Pedestrian Crossing Guidelines*. April 2022.

reduced exposure for pedestrians crossing. The access intersection for this project should be designed to include a pedestrian curb ramp at the preferred location for the marked crossing. The proposed access intersection location is slightly south of the crosswalk location analyzed for sight distance in Figure 6.5 of the *40th & Colorado Next Steps Study* and would therefore have improved visibility for westbound/southbound vehicles as compared to Figure 6.5 (exact sight distance available will be further analyzed at the exact proposed location within the civil site plan).

8.0 Queuing Analysis

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

As shown in **Table 2**, the majority of the queues are shorter than the provided storage length in all scenarios. The movements that were calculated to have queues extending beyond the existing storage length were discussed in the appropriate capacity analysis scenario.

As previously discussed, it is recommended that the southbound left-turn at Colorado Boulevard and 40th Avenue intersection be extended with reconstruction of the existing median. The westbound left-turn at the same intersection was estimated to extend beyond the existing storage in the future by one (1) vehicle. There is limited length on 40th Avenue due to the proximity to the commercial access. It is anticipated that the queue will not impact the commercial access. Providing a second westbound left turn lane by restriping the existing pavement and changing the signal timing to protected only phasing ensures that the westbound left turn queue on 40th Avenue can be contained within the available storage.

9.0 CDOT Access Permit

CDOT requires an access permit when the side-street volume increases the permitted volume by 20% or more. The new trips on 40th Avenue accessing Colorado Boulevard (SH 2) will add approximately 184 vehicles in the AM peak hour and 178 vehicles in the PM peak hour. This equates to approximately 32% increase in traffic over the background volumes in the AM peak hour and 24% of the PM peak hour. The additional volumes associated with 40th and Colorado Apartments may require an updated access permit depending on the approved volume of the existing permit for 40th Avenue.

10.0 Conclusions

The 40th and Colorado Apartments project proposes to develop up to 600 multi-family dwelling units with a mix of incomes and demographics. There will be apartments to serve limited income families, individuals, and seniors, as well as some market-rate apartments. The project property is located in the northwest corner of Albion Street and Park Hill Square. The project includes maintaining the existing access on Albion Street, adding a new access on Albion Street, and connecting to the internal roadway for access on 40th Avenue.

The project was estimated to generate approximately 2,377 daily vehicle trips with 205 vehicle trips in the AM peak hour and 197 vehicle trips in the PM peak hour. **It was determined that the existing roadway system with identified background improvements can adequately accommodate the projected traffic volumes for buildout conditions.** The access intersections are recommended to be full movement and side-street stop-control.

The following mitigations measures should be considered to improve the existing and background traffic deficiencies (**without project trips**):

- **Colorado Boulevard at 40th Avenue:**
    - Adjust signal timing to add time to the southbound left-turn phase *[Existing and Short-Term Background]*
    - Adjust signal timing to reduce delay on several movements *[Long-Term Background]*

- Extend the southbound left-turn storage to a minimum of 275 feet. *[Existing and Background]*
- Consider restriping the westbound approach to provide dual left turn lanes and change signal timing to protected-only for westbound left-turns. *[Background]*

The following mitigations measures should be built **with the project**:

- **Albion Street at New (North) Access:**
  - Provide full movement with side-street stop-control
  - Construct new curb ramp on the north leg for future marked and signed crosswalk to serve the multifamily development to the east. Consider installing a raised median refuge to enhance the crossing if this location satisfies pedestrian demand to qualify for a marked and signed crosswalk per the UPCG.
- **Albion Street at Park Hill Square:**
  - Maintain full movement and side-street stop-control
- **40th Avenue at Commercial Access:**
  - Maintain full movement and side-street stop-control

Tables and Figures:

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	Existing (Year 2024)				Year 2028 Background				Year 2028 Bkgrd + Project				Year 2045 Background				Year 2045 Bkgrd + Project			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Signalized Control																				
1. Colorado Blvd at 40th Avenue	**34**	**C**	**49**	**D**	**34**	**C**	**53**	**D**	**41**	**D**	**62**	**E**	**41**	**D**	**80**	**F**	**53**	**D**	**92**	**F**
Eastbound Left	72	E	71	E	73	E	74	E	73	E	74	E	86	F	89	F	86	F	89	F
Eastbound Through	44	D	35	C	44	D	34	C	41	D	34	C	44	D	34	C	41	D	34	C
Eastbound Right	45	D	64	E	45	D	36	D	41	D	36	D	45	D	36	D	41	D	36	D
Westbound Left	44	D	39	D	44	D	39	D	48	D	41	D	45	D	40	D	51	D	42	D
Westbound Through+Right	48	D	43	D	48	D	43	D	47	D	43	D	47	D	43	D	47	D	43	D
Northbound Left	67	E	61	E	67	E	61	E	67	E	61	E	70	E	63	E	70	E	63	E
Northbound Through	22	C	46	D	23	C	50	D	25	C	66	E	24	C	83	F	27	C	105	F
Northbound Right	17	B	24	C	17	B	25	C	20	B	28	C	18	B	26	C	20	B	29	C
Southbound Left	111	F	80	E	111	F	81	F	>120	F	>120	F	>120	F	83	F	>120	F	>120	F
Southbound Through	31	C	54	D	33	C	60	E	40	D	67	E	44	D	103	F	61	E	113	F
Southbound Right	20	B	28	C	20	B	29	C	22	C	30	C	21	C	31	C	23	C	32	C
4. Smith Road at Dahlia Street	**23**	**C**	**26**	**C**	**24**	**C**	**27**	**C**	**23**	**C**	**25**	**C**	**24**	**C**	**27**	**C**	**23**	**C**	**25**	**C**
Eastbound Left	45	D	46	D	46	D	46	D	58	E	61	E	46	D	46	D	57	E	61	E
Eastbound Through+Right	21	C	21	C	22	C	21	C	20	B	21	C	22	C	22	C	20	C	21	C
Westbound Left	26	C	26	C	26	C	26	C	23	C	23	C	26	C	26	C	23	C	23	C
Westbound Through	29	C	35	C	29	C	35	C	24	C	30	C	29	C	37	D	25	C	31	C
Westbound Right	13	B	18	B	13	B	18	B	12	B	15	B	13	B	19	B	12	B	16	B
Northbound Left	46	D	49	D	46	D	49	D	65	E	60	E	46	D	49	D	65	E	60	E
Northbound Through+Right	23	C	25	C	24	C	25	C	22	C	24	C	24	C	25	C	22	C	24	C
Southbound Left	26	C	25	C	26	C	25	C	24	C	24	C	26	C	25	C	24	C	25	C
Southbound Through+Right	21	C	21	C	21	C	21	C	19	B	20	C	21	C	21	C	19	B	20	C

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	Existing (Year 2024)				Year 2028 Background				Year 2028 Bkgrd + Project				Year 2045 Background				Year 2045 Bkgrd + Project			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Stop-Controlled																				
2. 40th Avenue at Commercial Access	**2**	**A**	**2**	**A**	**2**	**A**	**2**	**A**	**3**	**A**	**2**	**A**	**2**	**A**	**2**	**A**	**3**	**A**	**2**	**A**
Eastbound Left	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*9*	*A*
Eastbound Through	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Westbound Through+Right	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
Southbound Left+Right	*11*	*B*	*12*	*B*	*11*	*B*	*12*	*B*	*12*	*B*	*13*	*B*	*11*	*B*	*12*	*B*	*13*	*B*	*14*	*B*
3. Albion Street at Park Hill Square	**4**	**A**	**1**	**A**	**4**	**A**	**1**	**A**	**3**	**A**	**2**	**A**	**3**	**A**	**1**	**A**	**3**	**A**	**2**	**A**
Eastbound Left+Through+Right	*10*	*B*	*13*	*B*	*10*	*B*	*13*	*B*	*12*	*B*	*15*	*B*	*11*	*B*	*14*	*B*	*12*	*B*	*16*	*C*
Westbound Left+Through+Right	*11*	*B*	*14*	*B*	*11*	*B*	*14*	*B*	*14*	*B*	*17*	*C*	*12*	*B*	*15*	*B*	*14*	*B*	*18*	*C*
Northbound Left+Through+Right	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*	*8*	*A*
Southbound Left+Through+Right	*8*	*A*	*0*	*A*	*8*	*A*	*0*	*A*	*8*	*A*	*0*	*A*	*8*	*A*	*0*	*A*	*0*	*A*	*0*	*A*
101. Albion Street at Access									**3**	**A**	**2**	**A**					**3**	**A**	**2**	**A**
Eastbound Left+Right	*Future Project Intersection*				*Future Project Intersection*				*10*	*A*	*11*	*B*	*Future Project Intersection*				*10*	*A*	*12*	*B*
Northbound Left+Through									*8*	*A*	*8*	*A*					*8*	*A*	*8*	*A*
Southbound Through+Right									*0*	*A*	*0*	*A*					*0*	*A*	*0*	*A*

Note: Delay represented in average seconds per vehicle.

Table 2 - Peak Hour 95th Percentile Queue Summary

Intersection and Lanes Groups	Existing Storage (Proposed)	Existing (Year 2024)		Year 2028 Background		Year 2028 Bkgrd + Project		Year 2045 Background		Year 2045 Bkgrd + Project	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. Colorado Blvd at 40th Avenue		*Signalized*		*Signalized*		*Signalized*		*Signalized*		*Signalized*	
Eastbound Left	530'	109'	196'	111'	204'	111'	204'	128'	229'	128'	229'
Eastbound Through	-	112'	114'	112'	114'	117'	125'	120'	123'	126'	134'
Eastbound Right	215'	1'	43'	2'	43'	2'	43'	10'	46'	10'	46'
Westbound Left	150'	97'	119'	100'	121'	148'	144'	109'	132'	**155'**	**156'**
Westbound Through+Right	-	65'	117'	66'	120'	85'	125'	71'	133'	93'	139'
Northbound Left	380'	95'	80'	101'	80'	101'	80'	111'	89'	111'	89'
Northbound Through	-	392'	760'	402'	782'	402'	782'	449'	879'	449'	879'
Northbound Right	185'	0'	0'	0'	0'	12'	6'	2'	0'	20'	12'
Southbound Left	140' (275')	**153'**	133'	**153'**	139'	**213'**	**249'**	**177'**	**152'**	**237'**	**258'**
Southbound Through	-	725'	822'	748'	846'	748'	846'	851'	947'	851'	947'
Southbound Right	200'	84'	86'	88'	90'	88'	90'	107'	112'	107'	112'
2. 40th Avenue at Commercial Access		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*	
Eastbound Left	50'	3'	5'	3'	3'	5'	8'	3'	5'	5'	8'
Eastbound Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Westbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left+Right	-	13'	13'	13'	13'	23'	20'	13'	15'	23'	20'
3. Albion Street at Park Hill Square		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*		*Side-Street Stop*	
Eastbound Left+Through+Right	-	5'	5'	5'	5'	10'	8'	5'	5'	10'	10'
Westbound Left+Through+Right	-	10'	5'	10'	5'	13'	8'	10'	5'	15'	8'
Northbound Left+Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left+Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
4. Smith Road at Dahlia Street		*Signalized*		*Signalized*		*Signalized*		*Signalized*		*Signalized*	
Eastbound Left	425'	9'	24'	25'	24'	33'	28'	32'	24'	39'	28'
Eastbound Through+Right	-	101'	94'	103'	97'	109'	100'	112'	104'	119'	108'
Westbound Left	290'	9'	11'	13'	12'	13'	12'	13'	12'	13'	12'
Westbound Through	-	86'	234'	86'	238'	88'	243'	94'	263'	97'	269'
Westbound Right	290'	0'	36'	0'	40'	0'	40'	0'	51'	0'	51'
Northbound Left	150'	21'	55'	25'	57'	26'	59'	25'	57'	26'	59'
Northbound Through+Right	-	35'	93'	37'	95'	37'	95'	37'	103'	37'	103'
Southbound Left	240'	56'	40'	55'	40'	55'	40'	62'	44'	62'	44'
Southbound Through+Right	-	69'	47'	73'	48'	74'	49'	77'	49'	77'	49'
101. Albion Street at Access						*Side-Street Stop*				*Side-Street Stop*	
Eastbound Left+Right	-	*Future Project Intersection*		*Future Project Intersection*		10'	8'	*Future Project Intersection*		10'	8'
Northbound Left+Through	-					3'	5'			3'	5'
Southbound Through+Right	-					0'	0'			0'	0'

Table 3 - Peak Hour Intersection WITH IMPROVEMENTS Level of Service and 95th Percentile Queues Summary

Intersection and Lanes Groups	Existing Storage (Proposed)	Existing (Year 2024)				Year 2028 Background				Year 2028 Bkgrd + Project				Year 2045 Background				Year 2045 Bkgrd + Project			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Signalized Control																					
1. Colorado Blvd at 40th Avenue		**33**	**C**			**34**	**C**	**48**	**D**	**40**	**D**	**49**	**D**	**40**	**D**	**54**	**D**	**46**	**D**	**57**	**E**
Eastbound Left		*71*	E	*N/A*		*73*	E	*69*	E	*73*	E	*69*	E	*67*	E	*73*	E	*71*	E	*89*	F
Eastbound Through		*44*	*D*			*44*	*D*	*35*	*D*	*44*	*D*	*41*	*D*	*44*	*D*	*38*	*D*	*46*	*D*	*44*	*D*
Eastbound Right		*45*	*D*			*45*	*D*	*37*	*D*	*44*	*D*	*43*	*D*	*44*	*D*	*41*	*D*	*47*	*D*	*49*	*D*
Westbound Left		*44*	*D*			*44*	*D*	*41*	*D*	*80*	E	*85*	F	*46*	*D*	*47*	*D*	*70*	E	*77*	E
Westbound Through+Right		*48*	*D*			*48*	*D*	*44*	*D*	*47*	*D*	*49*	*D*	*48*	*D*	*50*	*D*	*50*	*D*	*59*	E
Northbound Left		*67*	E			*67*	E	*61*	E	*67*	E	*61*	E	*70*	E	*63*	E	*70*	E	*63*	E
Northbound Through		*23*	*C*			*23*	*C*	*46*	*D*	*28*	*C*	*52*	*D*	*26*	*C*	*50*	*D*	*29*	*C*	*63*	E
Northbound Right		*18*	*B*			*18*	*B*	*24*	*C*	*21*	*C*	*26*	*C*	*19*	*B*	*23*	*C*	*22*	*C*	*25*	*C*
Southbound Left		*69*	E			*69*	E	*71*	E	*71*	E	*74*	E	*73*	E	*74*	E	*72*	E	*81*	F
Southbound Through		*31*	*C*			*33*	*C*	*53*	*D*	*40*	*D*	*42*	*D*	*45*	*D*	*62*	E	*53*	*D*	*52*	*D*
Southbound Right		*20*	*B*			*20*	*B*	*28*	*C*	*22*	*C*	*26*	*C*	*21*	*C*	*27*	*C*	*22*	*C*	*25*	*C*
1. Colorado Blvd at 40th Avenue		***95th Percentile Queues***																			
Eastbound Left	530'	*109'*		*N/A*		*111'*		*192'*		*111'*		*192'*		*105'*		*218'*		*118'*		*229'*	
Eastbound Through	-	*112'*				*112'*		*118'*		*122'*		*146'*		*120'*		*140'*		*143'*		*168'*	
Eastbound Right	215'	*1'*				*2'*		*45'*		*2'*		*51'*		*10'*		*53'*		*0'*		*70'*	
Westbound Left	150'	*97'*				*100'*		*126'*		*139'*		*150'*		*109'*		***155'***		*138'*		***154'***	
Westbound Through+Right	-	*65'*				*66'*		*125'*		*81'*		*146'*		*72'*		*155'*		*96'*		*171'*	
Northbound Left	380'	*95'*				*101'*		*80'*		*101'*		*80'*		*111'*		*89'*		*11'*		*89'*	
Northbound Through	-	*419'*				*430'*		*782'*		*469'*		*746'*		*515'*		*783'*		*461'*		*758'*	
Northbound Right	185'	*0'*				*0'*		*0'*		*13'*		*41'*		*2'*		*0'*		*0'*		*43'*	
Southbound Left	140' (275')	*112'*				*112'*		*117'*		***141'***		***181'***		*125'*		*130'*		***153'***		***214'***	
Southbound Through	-	*725'*				*748'*		*823'*		*748'*		*740'*		*851'*		*829'*		*778'*		*782'*	
Southbound Right	200'	*84'*				*88'*		*88'*		*88'*		*123'*		*107'*		*96'*		*97'*		*132'*	

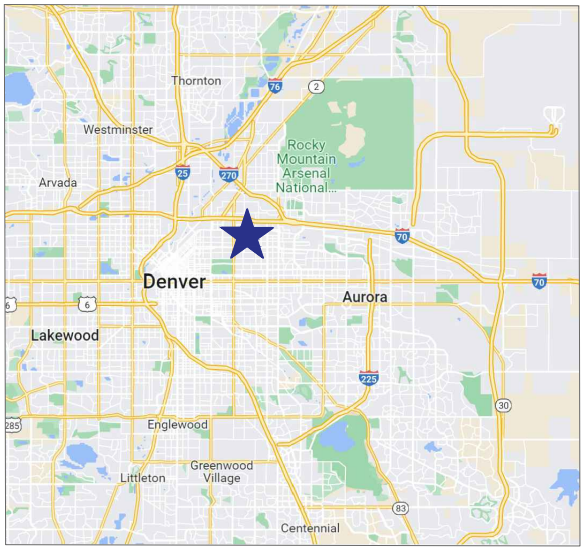
Note: Delay represented in average seconds per vehicle.

Table 4 - Trip Generation Summary

Land Use	Size	Unit	Non-Auto Factor	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE#223: Affordable Housing (Income Limits)	300	DU	0.90	4.81	1,299	650	649	0.50	135	39	96	0.46	124	73	51
ITE#252: Senior Adult Housing - Multifamily	150	DU	0.90	3.24	437	219	218	0.20	27	9	18	0.25	34	19	15
ITE#221: Multifamily Housing (Mid-Rise) - Close to Rail Transit	150	DU	0.90	4.75	641	321	320	0.32	43	15	28	0.29	39	25	14
Total Added Trips					***2,377***	***1,190***	***1,187***		***205***	***63***	***142***		***197***	***117***	***80***

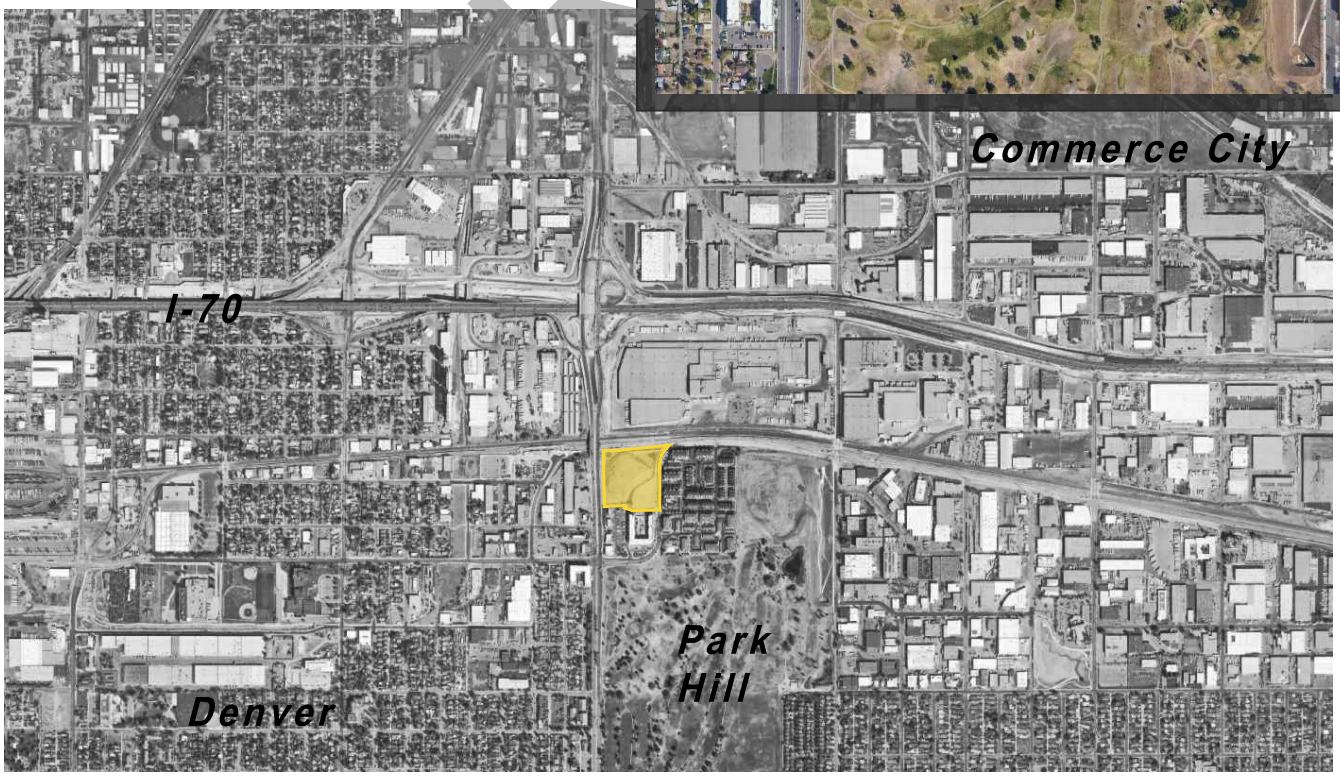
Source : ITE Trip Generation 11th Edition, 2021.

Regional Map



Project Map

Area Map

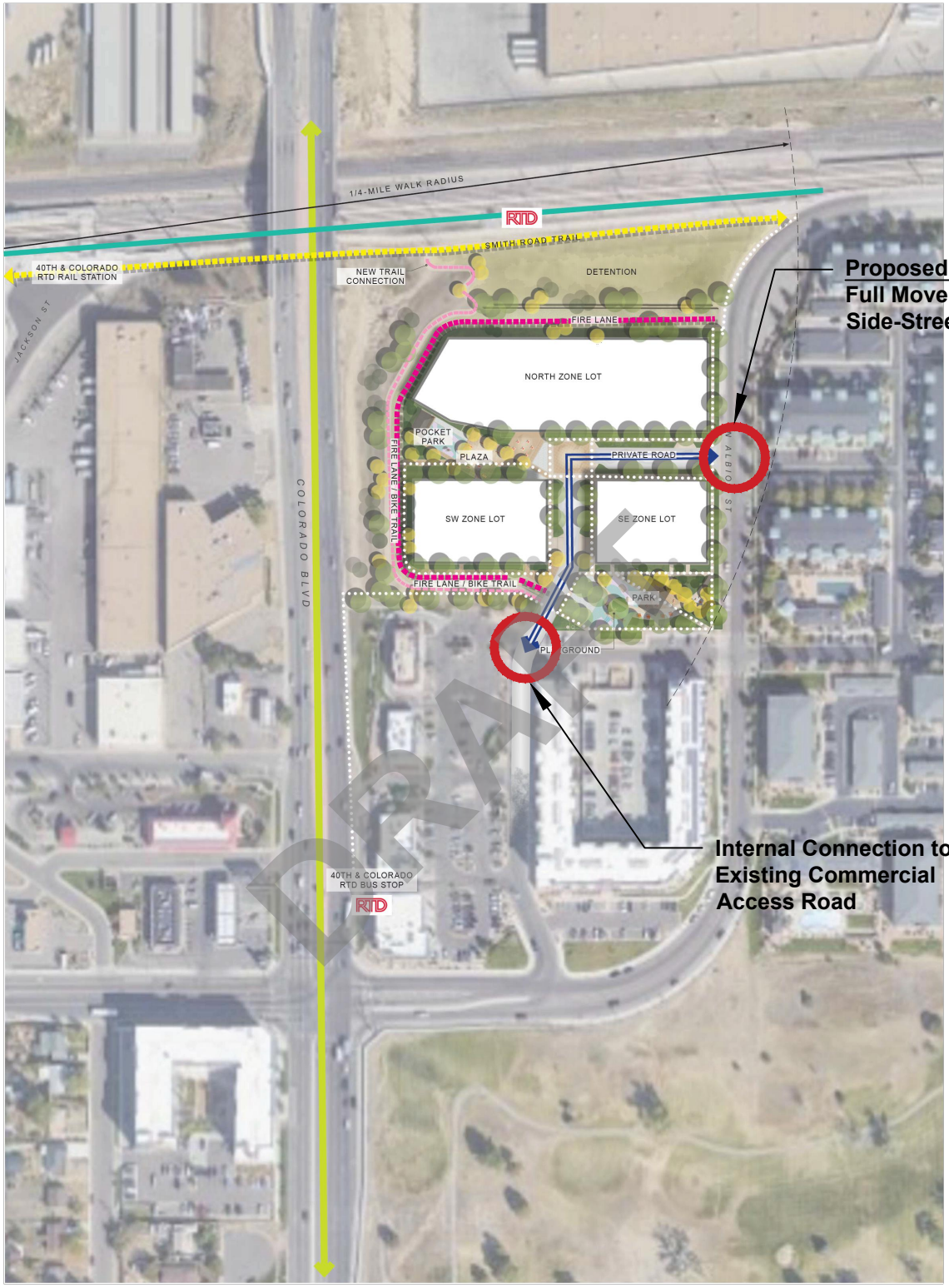


FOX TUTTLE TRANSPORTATION GROUP

40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

VICINITY MAP

FT #	23026	Original Scale	NTS	Date	6/6/24	Drawn by	SKK	Figure #	1



SCALE: 1" = 50'-0"

LEGEND

EXISTING TRAIL
ROAD IMPROVEMENTS
A - LINE COMMUTER RAIL
40TH AND COLORADO RAIL STATION
PEDESTRIAN CONNECTIONS
RTD BUS LINE
FIRE LANE
BIKE TRAIL

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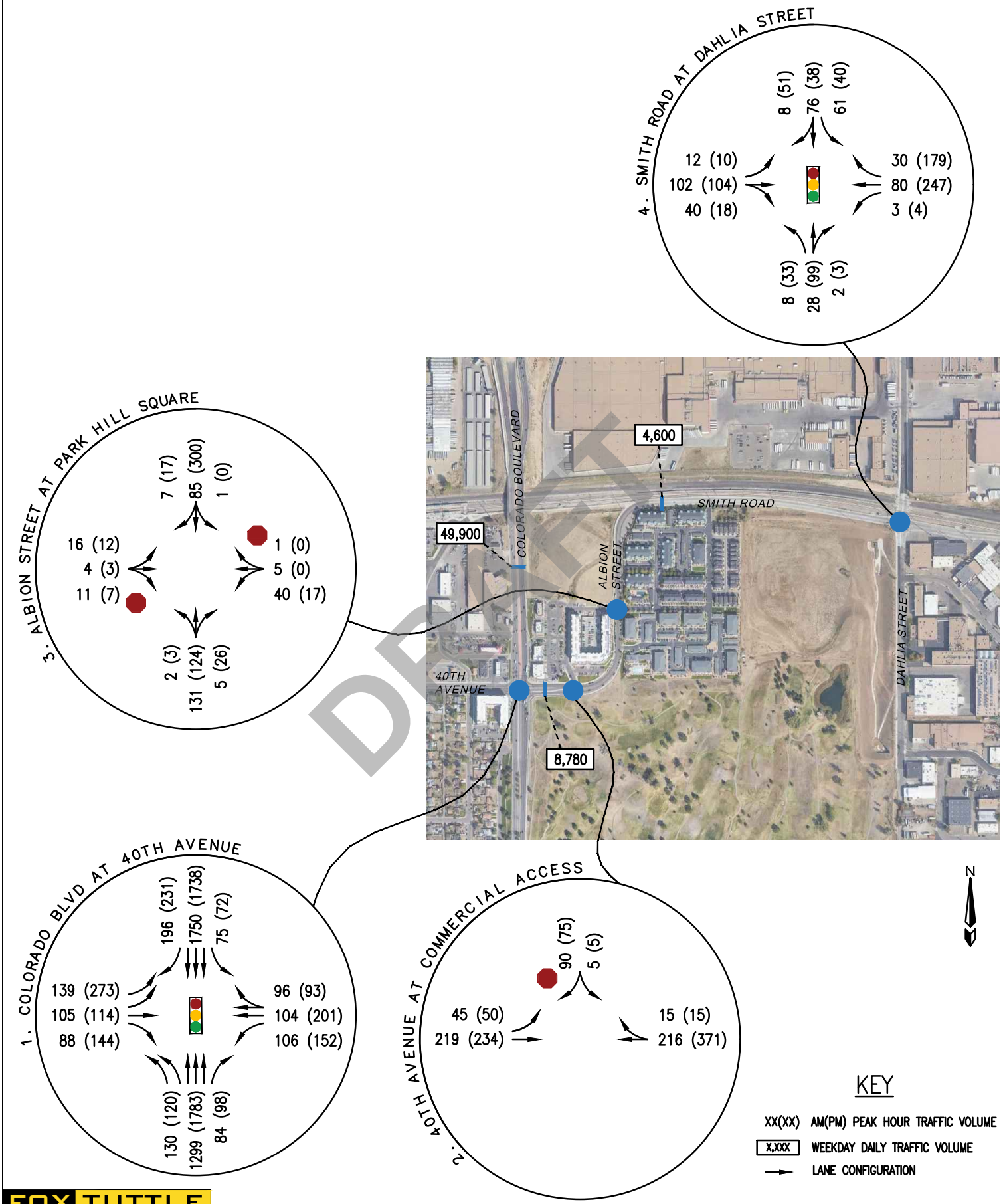
CONCEPTUAL SITE PLAN

FT #	23026	Original Scale	NTS	Date	8/13/24	Drawn by	SKK	Figure #	2



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40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

YEAR 2024 EXISTING TRAFFIC VOLUMES

FT #	23026	Original Scale	NTS	Date	6/6/24	Drawn by	SKK	Figure #	3

4. SMITH ROAD AT DAHLIA STREET

10 (50) 80 (40) 60 (40)
10 (10) 105 (105) 40 (20)
30 (185) 80 (250) 5 (5)
10 (35) 30 (100) 2 (5)

3. ALBION STREET AT PARK HILL SQUARE

5 (15) 85 (305) 1 (0)
15 (10) 5 (5) 10 (5)
1 (0) 5 (0) 40 (15)
2 (5) 135 (125) 5 (25)

1. COLORADO BLVD AT 40TH AVENUE

200 (235) 1785 (1775) 75 (75)
140 (280) 105 (115) 90 (145)
100 (95) 105 (205) 110 (155)
135 (120) 1325 (1820) 85 (100)

2. 40TH AVENUE AT COMMERCIAL ACCESS

90 (75) 5 (5)
45 (50) 225 (240)
15 (15) 220 (380)

N

KEY

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

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40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

YEAR 2028 BACKGROUND TRAFFIC VOLUMES

FT #	23026	Original Scale	NTS	Date	6/6/24	Drawn by	SKK	Figure #	4

4. SMITH ROAD AT DAHLIA STREET

10 (55) 85 (40) 70 (45)
15 (10) 115 (115) 45 (20)
35 (200) 90 (275) 5 (5)
10 (35) 30 (110) 2 (5)

3. ALBION STREET AT PARK HILL SQUARE

5 (15) 95 (335) 1 (0)
15 (10) 5 (5) 10 (5)
1 (0) 5 (0) 40 (15)
2 (5) 145 (140) 5 (25)

1. COLORADO BLVD AT 40TH AVENUE

220 (255) 1945 (1930) 85 (80)
155 (305) 115 (125) 100 (160)
105 (105) 115 (225) 120 (170)
145 (135) 1440 (1980) 95 (110)

2. 40TH AVENUE AT COMMERCIAL ACCESS

90 (75) 5 (5)
45 (50) 245 (260)
15 (15) 240 (410)

N

KEY

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

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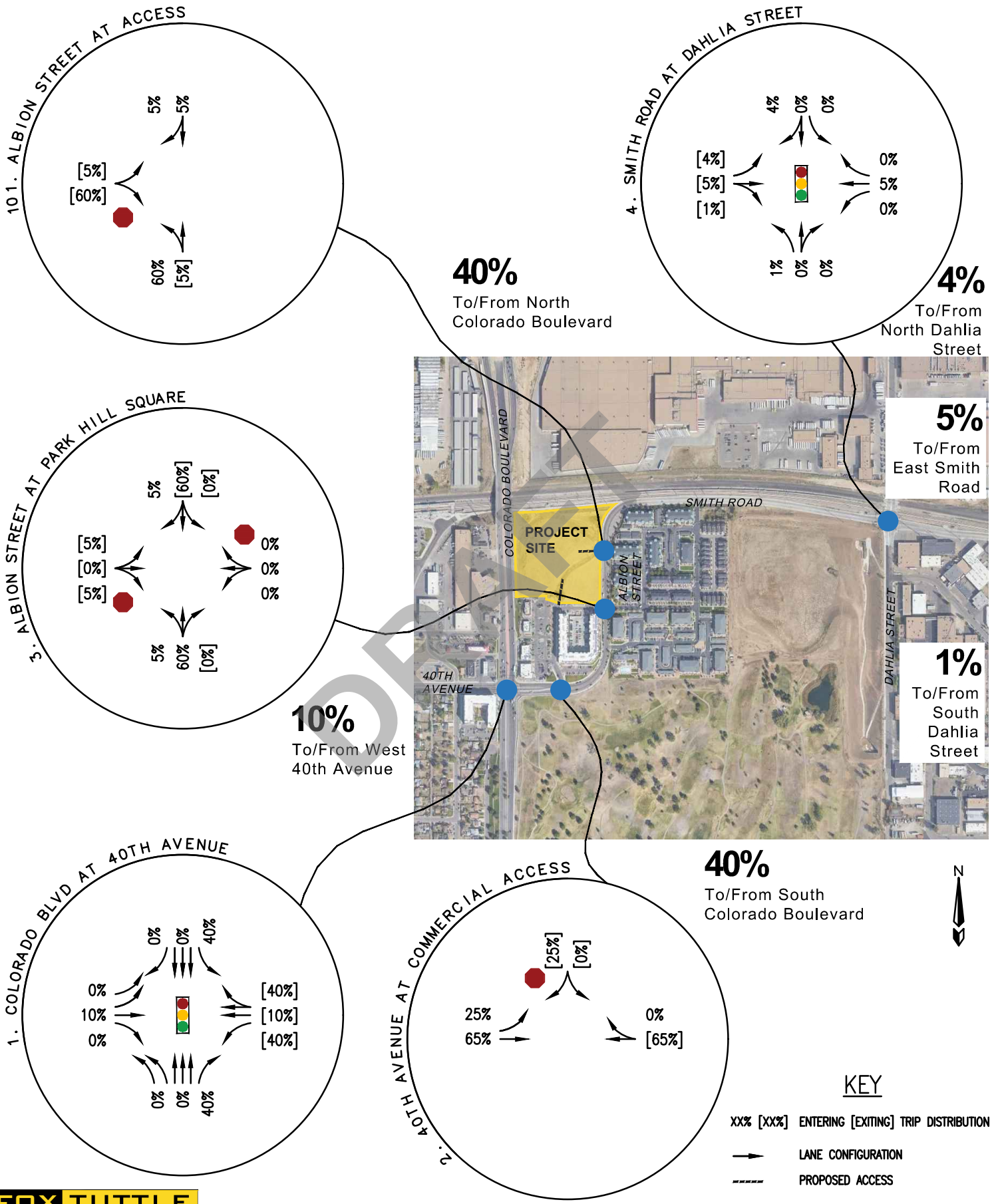
40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

YEAR 2045 BACKGROUND TRAFFIC VOLUMES

FT #	23026	Original Scale	NTS	Date	6/6/24	Drawn by	SKK	Figure #	5



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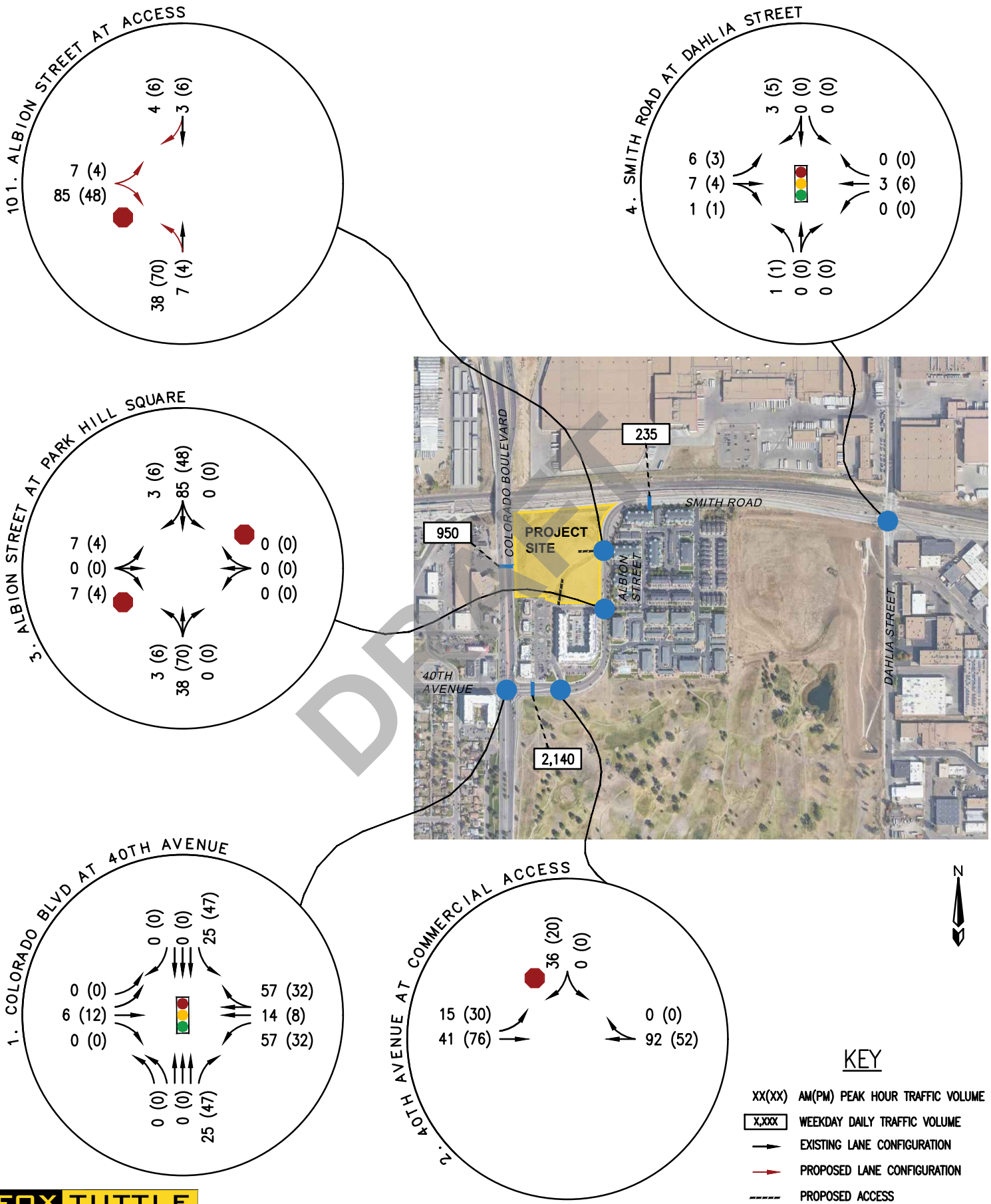
40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

TRIP DISTRIBUTION

FT #	23026	Original Scale	NTS	Date	8/13/24	Drawn by	SKK	Figure #	6



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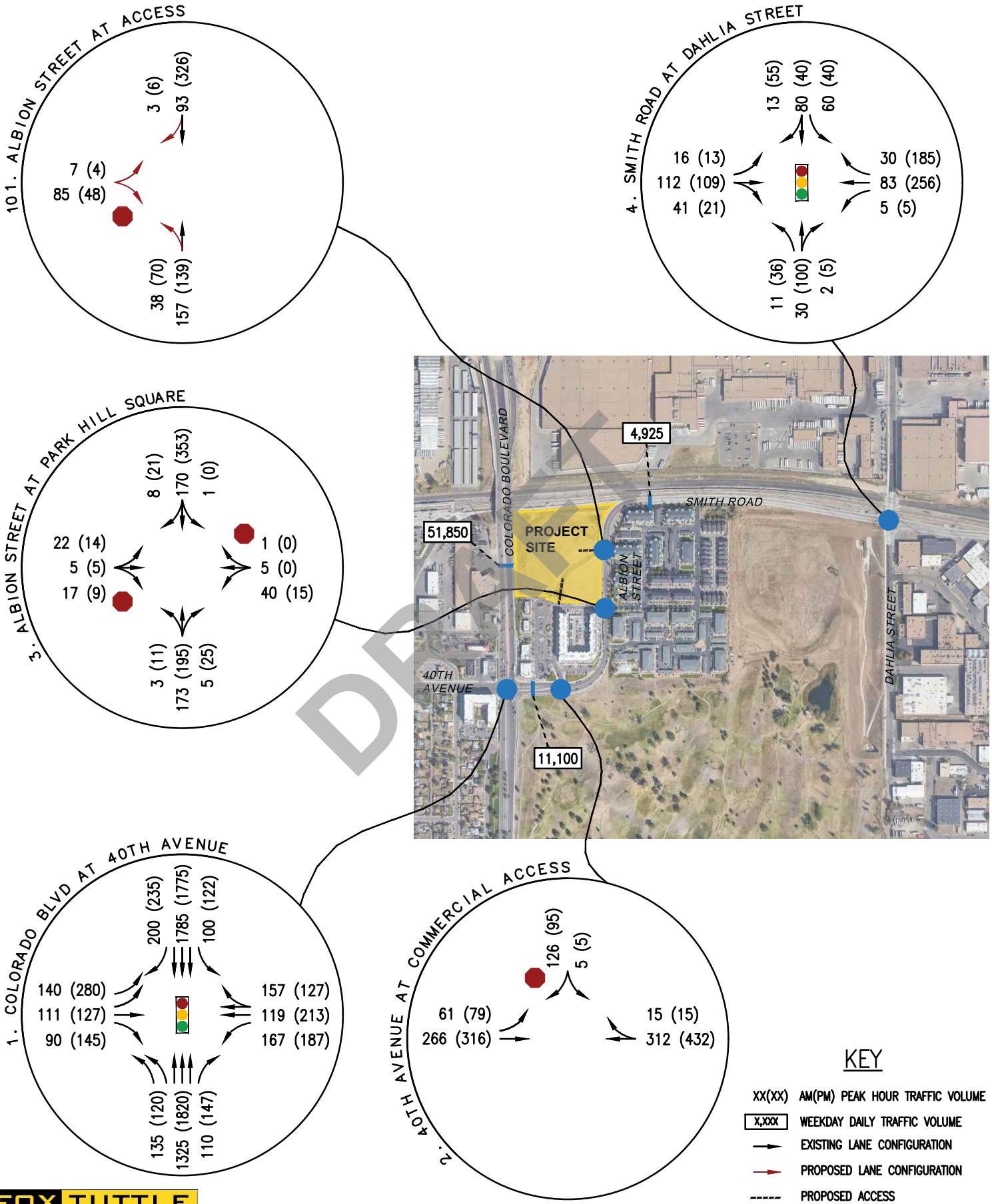
40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

SITE-GENERATED TRIPS

FT #	23026	Original Scale	NTS	Date	8/13/24	Drawn by	SKK	Figure #	7



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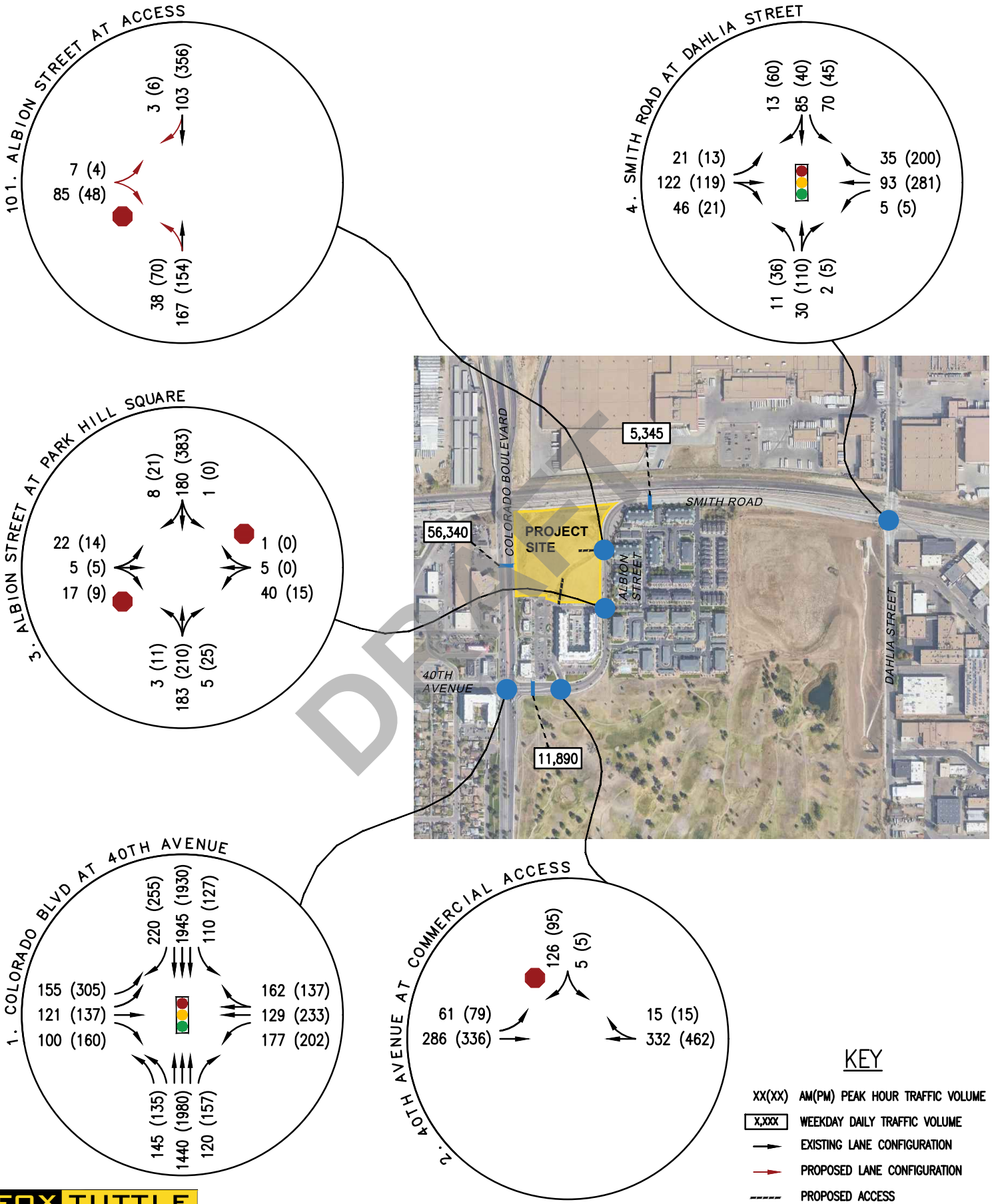
TRANSPORTATION GROUP

40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

YEAR 2028 BACKGROUND + PROJECT TRAFFIC VOLUMES

FT #	23026	Original Scale	NTS	Date	8/13/24	Drawn by	SKK	Figure #	8



FOX TUTTLE
TRANSPORTATION GROUP

40TH AND COLORADO APARTMENTS TRAFFIC IMPACT STUDY

YERA 2045 BACKGROUND + PROJECT TRAFFIC VOLUMES

FT #	23026	Original Scale	NTS	Date	8/13/24	Drawn by	SKK	Figure #	9

Appendix:

Level of Service Definitions

Existing Count Data

Intersection Capacity Worksheets

Level of Service Definitions

LEVEL OF SERVICE (LOS) 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*		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 can 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.

** Delay ranges based on 2010 Highway Capacity Manual Criteria*

Existing Count Data

Location: 40th Ave E/O Colorado Blvd
Date Range: 2/14/2024 - 2/20/2024
Site Code: 01

Time	Wednesday 2/14/2024			Thursday 2/15/2024			Friday 2/16/2024			Saturday 2/17/2024			Sunday 2/18/2024			Monday 2/19/2024			Tuesday 2/20/2024			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	14	20	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	20	34
1:00 AM	11	10	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	10	21
2:00 AM	8	16	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	16	24
3:00 AM	6	13	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	13	19
4:00 AM	41	16	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	16	57
5:00 AM	112	69	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	69	181
6:00 AM	169	150	319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	169	150	319
7:00 AM	261	286	547	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	261	286	547
8:00 AM	255	289	544	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	255	289	544
9:00 AM	256	220	476	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256	220	476
10:00 AM	211	203	414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	211	203	414
11:00 AM	**319**	**301**	**620**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**319**	**301**	**620**
12:00 PM	**320**	367	687	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**320**	367	687
1:00 PM	289	300	589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289	300	589
2:00 PM	262	320	582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262	320	582
3:00 PM	272	370	642	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	272	370	642
4:00 PM	275	**419**	694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	275	**419**	694
5:00 PM	286	411	**697**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286	411	**697**
6:00 PM	207	274	481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	207	274	481
7:00 PM	187	193	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	187	193	380
8:00 PM	138	141	279	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	138	141	279
9:00 PM	121	118	239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	118	239
10:00 PM	92	92	184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	92	184
11:00 PM	34	33	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	33	67
Total	**4,146**	**4,631**	**8,777**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4,146**	**4,631**	**8,777**
Percent	**47%**	**53%**		-	-		-	-		-	-		-	-		-	-		-	-		**47%**	**53%**	
AM Peak	11:00	11:00	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	11:00	11:00
Vol.	319	301	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	319	301	620
PM Peak	12:00	16:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12:00	16:00	17:00
Vol.	320	419	697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	320	419	697

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

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Vehicle Classification Report Summary

Location: 40th Ave E/O Colorado Blvd

Count Direction: Eastbound / Westbound

Date Range: 2/14/2024 to 2/14/2024

Site Code: 01

Direction	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Eastbound	16	3,326	611	58	97	19	0	0	19	0	0	0	0	4,146
	0.4%	80.2%	14.7%	1.4%	2.3%	0.5%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
Westbound	34	3,733	663	44	80	45	0	1	31	0	0	0	0	4,631
	0.7%	80.6%	14.3%	1.0%	1.7%	1.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	
Total	50	7,059	1,274	102	177	64	0	1	50	0	0	0	0	8,777
	0.6%	80.4%	14.5%	1.2%	2.0%	0.7%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

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Vehicle Speed Report Summary

Location: 40th Ave E/O Colorado Blvd

Direction: Eastbound / Westbound

Date Range: 2/14/2024 to 2/14/2024

Site Code: 01

Direction	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
Eastbound	19	196	1,181	1,019	1,281	410	32	3	0	0	1	4	0	0	0	0	0	4,146
	0.5%	4.7%	28.5%	24.6%	30.9%	9.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
Westbound	49	835	1,655	1,203	703	158	23	3	1	0	0	1	0	0	0	0	0	4,631
	1.1%	18.0%	35.7%	26.0%	15.2%	3.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Total	68	1,031	2,836	2,222	1,984	568	55	6	1	0	1	5	0	0	0	0	0	8,777
	0.8%	11.7%	32.3%	25.3%	22.6%	6.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

Total Study Percentile Speed Summary		
Eastbound		
50th Percentile (Median)	23.3	mph
85th Percentile	29.2	mph
95th Percentile	31.8	mph
Westbound		
50th Percentile (Median)	19.1	mph
85th Percentile	25.7	mph
95th Percentile	29.3	mph

Total Study Speed Statistics		
Eastbound		
Mean (Average) Speed	23.3	mph
10 mph Pace	16.9 - 26.9	mph
Percent in Pace	57.7	%
Westbound		
Mean (Average) Speed	19.9	mph
10 mph Pace	14.1 - 24.1	mph
Percent in Pace	64.1	%

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Location: Albion St S/O Smith Rd
Date Range: 2/14/2024 - 2/20/2024
Site Code: 02

Time	Wednesday 2/14/2024			Thursday 2/15/2024			Friday 2/16/2024			Saturday 2/17/2024			Sunday 2/18/2024			Monday 2/19/2024			Tuesday 2/20/2024			Mid-Week Average		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	8	13	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	13	21
1:00 AM	8	7	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	7	15
2:00 AM	5	11	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	11	16
3:00 AM	2	7	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	7	9
4:00 AM	35	8	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	8	43
5:00 AM	84	26	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	26	110
6:00 AM	105	55	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	55	160
7:00 AM	146	85	231	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	146	85	231
8:00 AM	137	128	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137	128	265
9:00 AM	140	101	241	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	101	241
10:00 AM	118	99	217	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	99	217
11:00 AM	**176**	**167**	**343**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**176**	**167**	**343**
12:00 PM	**186**	195	381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**186**	195	381
1:00 PM	170	155	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	155	325
2:00 PM	133	200	333	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133	200	333
3:00 PM	158	248	406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	158	248	406
4:00 PM	139	**318**	**457**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	**318**	**457**
5:00 PM	130	275	405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	275	405
6:00 PM	81	148	229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	148	229
7:00 PM	50	67	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	67	117
8:00 PM	51	43	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	43	94
9:00 PM	42	51	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	51	93
10:00 PM	31	35	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	35	66
11:00 PM	12	12	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	24
Total	**2,147**	**2,454**	**4,601**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2,147**	**2,454**	**4,601**
Percent	**47%**	**53%**		-	-		-	-		-	-		-	-		-	-		-	-		**47%**	**53%**	
AM Peak	11:00	11:00	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	11:00	11:00
Vol.	176	167	343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	176	167	343
PM Peak	12:00	16:00	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12:00	16:00	16:00
Vol.	186	318	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	186	318	457

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

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Vehicle Classification Report Summary

Location: Albion St S/O Smith Rd

Count Direction: Northbound / Southbound

Date Range: 2/14/2024 to 2/14/2024

Site Code: 02

Direction	FHWA Vehicle Classification													Total Volume
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Northbound	8	1,609	364	44	88	14	0	0	20	0	0	0	0	2,147
	0.4%	74.9%	17.0%	2.0%	4.1%	0.7%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	
Southbound	14	1,855	424	33	62	28	0	0	38	0	0	0	0	2,454
	0.6%	75.6%	17.3%	1.3%	2.5%	1.1%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	
Total	22	3,464	788	77	150	42	0	0	58	0	0	0	0	4,601
	0.5%	75.3%	17.1%	1.7%	3.3%	0.9%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

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Vehicle Speed Report Summary

Location: Albion St S/O Smith Rd

Direction: Northbound / Southbound

Date Range: 2/14/2024 to 2/14/2024

Site Code: 02

Direction	Speed Range (mph)																	Total Volume
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	
Northbound	2	16	63	452	1,010	512	81	8	3	0	0	0	0	0	0	0	0	2,147
	0.1%	0.7%	2.9%	21.1%	47.0%	23.8%	3.8%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Southbound	6	47	212	884	1,021	252	26	4	0	0	2	0	0	0	0	0	0	2,454
	0.2%	1.9%	8.6%	36.0%	41.6%	10.3%	1.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Total	8	63	275	1,336	2,031	764	107	12	3	0	2	0	0	0	0	0	0	4,601
	0.2%	1.4%	6.0%	29.0%	44.1%	16.6%	2.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Total Study Percentile Speed Summary			Total Study Speed Statistics		
Northbound			**Northbound**		
50th Percentile (Median)	27.7	mph	Mean (Average) Speed	27.7	mph
85th Percentile	32.0	mph	10 mph Pace	22.8 - 32.8	mph
95th Percentile	34.7	mph	Percent in Pace	78.2	%
Southbound			**Southbound**		
50th Percentile (Median)	25.3	mph	Mean (Average) Speed	25.1	mph
85th Percentile	29.3	mph	10 mph Pace	20.5 - 30.5	mph
95th Percentile	31.9	mph	Percent in Pace	78.0	%

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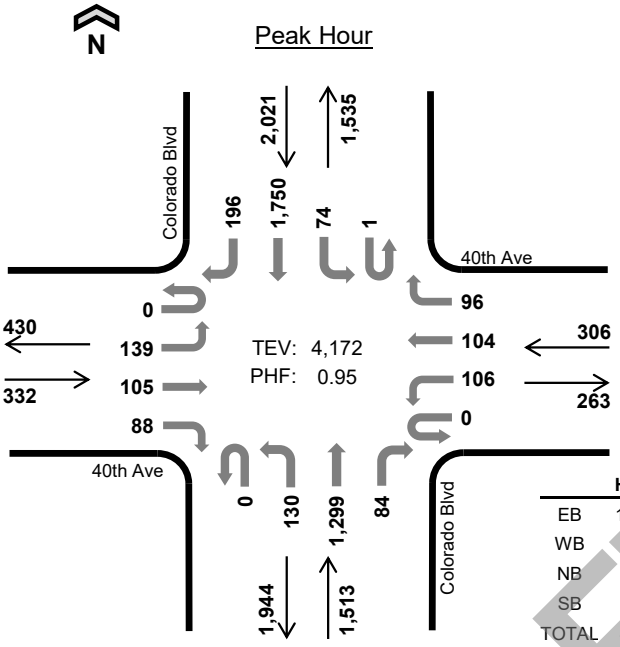
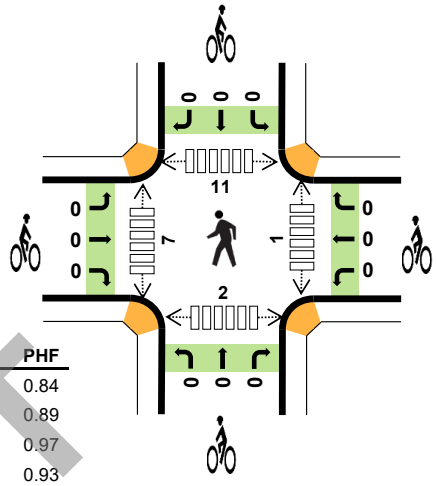
Colorado Blvd
40th Ave

Date: 02/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	11.7%	0.84
WB	5.9%	0.89
NB	2.6%	0.97
SB	5.3%	0.93
TOTAL	4.9%	0.95

Two-Hour Count Summaries

Interval Start	40th Ave Eastbound				40th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	44	20	22	0	17	14	32	0	17	293	18	0	16	329	34	856	0
7:15 AM	0	31	21	11	0	22	19	37	0	24	358	24	3	18	450	47	1,065	0
7:30 AM	0	39	17	17	0	23	18	28	0	25	367	22	1	23	396	51	1,027	0
7:45 AM	**0**	**42**	**29**	**28**	**0**	**34**	**22**	**30**	**0**	**36**	**311**	**23**	**0**	**19**	**429**	**44**	**1,047**	3,995
8:00 AM	**0**	**26**	**25**	**22**	**0**	**32**	**28**	**19**	**0**	**31**	**326**	**20**	**0**	**13**	**403**	**56**	**1,001**	4,140
8:15 AM	**0**	**37**	**26**	**21**	**0**	**19**	**30**	**29**	**0**	**29**	**333**	**26**	**1**	**20**	**468**	**54**	**1,093**	4,168
8:30 AM	**0**	**34**	**25**	**17**	**0**	**21**	**24**	**18**	**0**	**34**	**329**	**15**	**0**	**22**	**450**	**42**	**1,031**	**4,172**
8:45 AM	0	49	20	18	0	17	30	22	0	43	291	26	2	15	435	24	992	4,117
Count Total	0	302	183	156	0	185	185	215	0	239	2,608	174	7	146	3,360	352	8,112	0
Peak Hour All	**0**	**139**	**105**	**88**	**0**	**106**	**104**	**96**	**0**	**130**	**1,299**	**84**	**1**	**74**	**1,750**	**196**	**4,172**	**0**
Peak Hour HV	**0**	**23**	**7**	**9**	**0**	**3**	**8**	**7**	**0**	**7**	**31**	**1**	**0**	**3**	**76**	**29**	**204**	**0**
Peak Hour HV%	**-**	**17%**	**7%**	**10%**	**-**	**3%**	**8%**	**7%**	**-**	**5%**	**2%**	**1%**	**0%**	**4%**	**4%**	**15%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	9	1	10	24	*44*	0	0	0	0	*0*	0	2	1	1	*4*
7:15 AM	12	4	10	31	*57*	0	0	0	0	*0*	0	2	2	1	*5*
7:30 AM	7	5	9	21	*42*	0	1	0	0	*1*	0	1	8	1	*10*
7:45 AM	**7**	**7**	**7**	**23**	***44***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
8:00 AM	**8**	**4**	**7**	**27**	***46***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**3**	**0**	*6*
8:15 AM	**12**	**4**	**9**	**31**	***56***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**2**	**1**	*7*
8:30 AM	**12**	**3**	**16**	**27**	***58***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**5**	**1**	***7***
8:45 AM	11	6	12	14	*43*	0	0	0	0	*0*	1	2	2	3	*8*
Count Total	78	34	80	198	*390*	0	1	0	0	*1*	2	14	24	8	*48*
Peak Hour	**39**	**18**	**39**	**108**	***204***	**0**	**0**	**0**	**0**	***0***	**1**	**7**	**11**	**2**	***21***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	40th Ave Eastbound				40th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	1	2	0	0	0	1	0	1	9	0	0	1	21	2	44	0
7:15 AM	0	7	1	4	0	2	1	1	0	0	9	1	0	0	27	4	57	0
7:30 AM	0	6	0	1	0	0	3	2	0	2	6	1	0	1	17	3	42	0
7:45 AM	**0**	**5**	**0**	**2**	**0**	**2**	**3**	**2**	**0**	**2**	**5**	**0**	**0**	**1**	**17**	**5**	**44**	187
8:00 AM	**0**	**4**	**2**	**2**	**0**	**0**	**2**	**2**	**0**	**1**	**5**	**1**	**0**	**1**	**20**	**6**	**46**	189
8:15 AM	**0**	**5**	**3**	**4**	**0**	**0**	**2**	**2**	**0**	**1**	**8**	**0**	**0**	**1**	**22**	**8**	**56**	188
8:30 AM	**0**	**9**	**2**	**1**	**0**	**1**	**1**	**1**	**0**	**3**	**13**	**0**	**0**	**0**	**17**	**10**	**58**	**204**
8:45 AM	0	8	1	2	0	0	4	2	0	0	11	1	0	0	12	2	43	203
Count Total	0	50	10	18	0	5	16	13	0	10	66	4	0	5	153	40	390	0
Peak Hour	**0**	**23**	**7**	**9**	**0**	**3**	**8**	**7**	**0**	**7**	**31**	**1**	**0**	**3**	**76**	**29**	**204**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	40th Ave Eastbound			40th Ave Westbound			Colorado Blvd Northbound			Colorado Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

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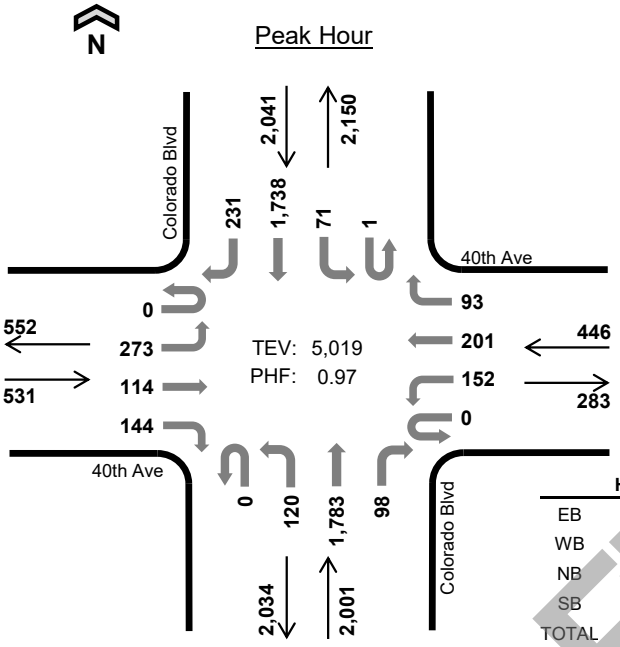
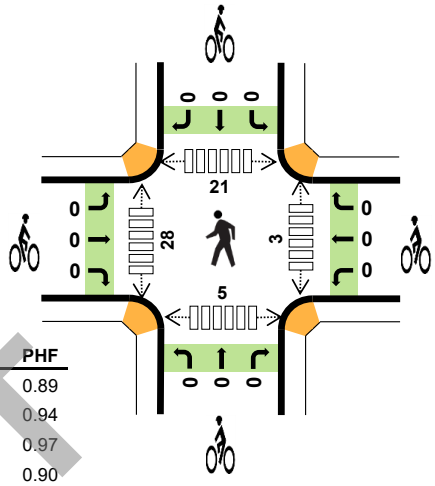
Colorado Blvd
40th Ave

Date: 02/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	8.9%	0.89
WB	2.7%	0.94
NB	4.1%	0.97
SB	1.6%	0.90
TOTAL	3.5%	0.97

Two-Hour Count Summaries

Interval Start	40th Ave Eastbound				40th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	59	26	37	1	34	40	20	1	23	427	19	1	13	447	50	1,198	0
4:15 PM	**0**	**72**	**21**	**33**	**0**	**42**	**51**	**17**	**0**	**29**	**440**	**28**	**0**	**14**	**394**	**54**	**1,195**	0
4:30 PM	**0**	**65**	**31**	**40**	**0**	**38**	**50**	**25**	**0**	**27**	**471**	**17**	**1**	**19**	**445**	**61**	**1,290**	0
4:45 PM	**0**	**79**	**34**	**36**	**0**	**42**	**54**	**23**	**0**	**30**	**434**	**24**	**0**	**22**	**412**	**55**	**1,245**	4,928
5:00 PM	**0**	**57**	**28**	**35**	**0**	**30**	**46**	**28**	**0**	**34**	**438**	**29**	**0**	**16**	**487**	**61**	**1,289**	**5,019**
5:15 PM	0	64	27	32	1	32	71	17	0	38	347	32	1	14	430	49	1,155	4,979
5:30 PM	0	51	17	30	0	31	47	17	0	33	410	26	0	24	411	48	1,145	4,834
5:45 PM	0	41	27	20	0	26	41	14	0	35	337	23	1	17	387	56	1,025	4,614
Count Total	0	488	211	263	2	275	400	161	1	249	3,304	198	4	139	3,413	434	9,542	0
Peak Hour All	**0**	**273**	**114**	**144**	**0**	**152**	**201**	**93**	**0**	**120**	**1,783**	**98**	**1**	**71**	**1,738**	**231**	**5,019**	**0**
Peak Hour HV	**0**	**40**	**3**	**4**	**0**	**0**	**6**	**6**	**0**	**7**	**74**	**2**	**0**	**5**	**16**	**12**	**175**	**0**
Peak Hour HV%	**-**	**15%**	**3%**	**3%**	**-**	**0%**	**3%**	**6%**	**-**	**6%**	**4%**	**2%**	**0%**	**7%**	**1%**	**5%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	2	15	10	*38*	0	0	0	0	*0*	1	2	1	0	*4*
4:15 PM	**13**	**2**	**23**	**8**	***46***	**0**	**0**	**0**	**0**	***0***	**1**	**4**	**3**	**0**	*8*
4:30 PM	**16**	**4**	**26**	**8**	***54***	**0**	**0**	**0**	**0**	***0***	**2**	**7**	**2**	**0**	*11*
4:45 PM	**9**	**1**	**16**	**11**	***37***	**0**	**0**	**0**	**0**	***0***	**0**	**5**	**6**	**3**	*14*
5:00 PM	**9**	**5**	**18**	**6**	***38***	**0**	**0**	**0**	**0**	***0***	**0**	**12**	**10**	**2**	***24***
5:15 PM	15	6	10	7	*38*	0	0	1	0	*1*	0	3	5	0	*8*
5:30 PM	7	1	14	5	*27*	0	0	0	0	*0*	1	1	12	3	*17*
5:45 PM	13	3	10	3	*29*	1	0	0	0	*1*	0	7	9	0	*16*
Count Total	93	24	132	58	*307*	1	0	1	0	*2*	5	41	48	8	*102*
Peak Hour	**47**	**12**	**83**	**33**	***175***	**0**	**0**	**0**	**0**	***0***	**3**	**28**	**21**	**5**	***57***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	40th Ave Eastbound				40th Ave Westbound				Colorado Blvd Northbound				Colorado Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	9	1	1	0	0	2	0	0	0	15	0	0	2	6	2	38	0
4:15 PM	**0**	**10**	**2**	**1**	**0**	**0**	**1**	**1**	**0**	**2**	**20**	**1**	**0**	**0**	**5**	**3**	**46**	0
4:30 PM	**0**	**15**	**0**	**1**	**0**	**0**	**1**	**3**	**0**	**2**	**24**	**0**	**0**	**1**	**5**	**2**	**54**	0
4:45 PM	**0**	**8**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**16**	**0**	**0**	**2**	**4**	**5**	**37**	175
5:00 PM	**0**	**7**	**1**	**1**	**0**	**0**	**3**	**2**	**0**	**3**	**14**	**1**	**0**	**2**	**2**	**2**	**38**	**175**
5:15 PM	0	14	0	1	0	0	4	2	0	0	8	2	0	1	1	5	38	167
5:30 PM	0	6	0	1	0	0	0	1	0	3	11	0	0	0	2	3	27	140
5:45 PM	0	12	0	1	0	1	2	0	0	2	7	1	0	1	0	2	29	132
Count Total	0	81	4	8	0	1	14	9	0	12	115	5	0	9	25	24	307	0
Peak Hour	**0**	**40**	**3**	**4**	**0**	**0**	**6**	**6**	**0**	**7**	**74**	**2**	**0**	**5**	**16**	**12**	**175**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	40th Ave Eastbound			40th Ave Westbound			Colorado Blvd Northbound			Colorado Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Count Total	0	1	0	0	0	0	0	1	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

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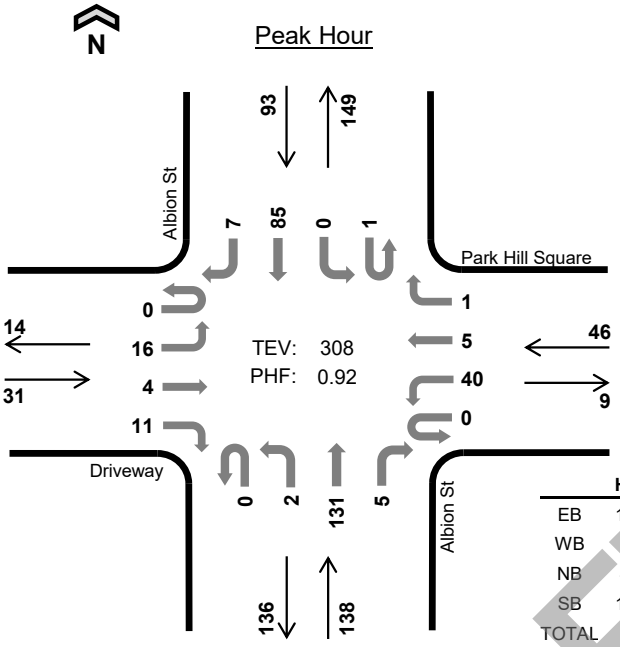
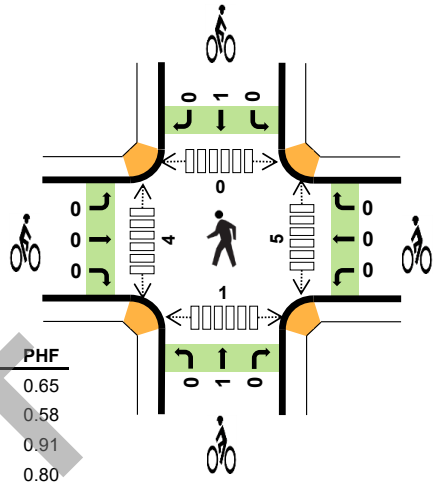
Albion St
Park Hill Square

Date: 02/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	12.9%	0.65
WB	0.0%	0.58
NB	4.3%	0.91
SB	17.2%	0.80
TOTAL	8.4%	0.92

Two-Hour Count Summaries

Interval Start	Driveway Eastbound				Park Hill Square Westbound				Albion St Northbound				Albion St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	0	1	0	6	1	0	0	0	29	1	0	0	17	1	60	0
7:15 AM	**0**	**5**	**2**	**1**	**0**	**18**	**2**	**0**	**0**	**0**	**32**	**2**	**1**	**0**	**20**	**1**	**84**	0
7:30 AM	**0**	**4**	**0**	**3**	**0**	**5**	**2**	**1**	**0**	**0**	**31**	**3**	**0**	**0**	**23**	**3**	**75**	0
7:45 AM	**0**	**6**	**2**	**4**	**0**	**10**	**1**	**0**	**0**	**0**	**32**	**0**	**0**	**0**	**14**	**2**	**71**	290
8:00 AM	**0**	**1**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**2**	**36**	**0**	**0**	**0**	**28**	**1**	**78**	**308**
8:15 AM	0	4	0	1	0	3	1	0	0	0	31	3	0	0	27	2	72	296
8:30 AM	0	4	0	0	0	4	0	0	0	1	31	2	0	0	29	1	72	293
8:45 AM	0	3	0	1	0	1	0	0	0	0	34	4	0	0	29	6	78	300
Count Total	0	31	4	14	0	54	7	1	0	3	256	15	1	0	187	17	590	0
Peak Hour All	**0**	**16**	**4**	**11**	**0**	**40**	**5**	**1**	**0**	**2**	**131**	**5**	**1**	**0**	**85**	**7**	**308**	**0**
Peak Hour HV	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**15**	**1**	**26**	**0**
Peak Hour HV%	**-**	**6%**	**0%**	**27%**	**-**	**0%**	**0%**	**0%**	**-**	**50%**	**4%**	**0%**	**0%**	**-**	**18%**	**14%**	**8%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
7:30 AM	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**1**	**1**	***2***	**1**	**1**	**0**	**0**	*2*
7:45 AM	**4**	**0**	**0**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**0**	**0**	*4*
8:00 AM	**0**	**0**	**4**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	***2***
8:15 AM	0	0	4	1	*5*	0	0	0	0	*0*	1	0	1	0	*2*
8:30 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	1	0	0	*1*
8:45 AM	0	0	2	5	*7*	0	0	0	0	*0*	0	2	1	0	*3*
Count Total	4	0	16	24	*44*	0	0	1	1	*2*	6	7	2	1	*16*
Peak Hour	**4**	**0**	**6**	**16**	***26***	**0**	**0**	**1**	**1**	***2***	**5**	**4**	**0**	**1**	***10***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				Park Hill Square				Albion St				Albion St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**4**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**1**	**7**	0
7:45 AM	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**7**	21
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**4**	**0**	**8**	**26**
8:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	5	27
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	23
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	7	23
Count Total	0	1	0	3	0	0	0	0	0	1	15	0	0	0	23	1	44	0
Peak Hour	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**15**	**1**	**26**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Driveway			Park Hill Square			Albion St			Albion St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1	0	**0**	**1**	**0**	**2**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	1	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	**0**

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

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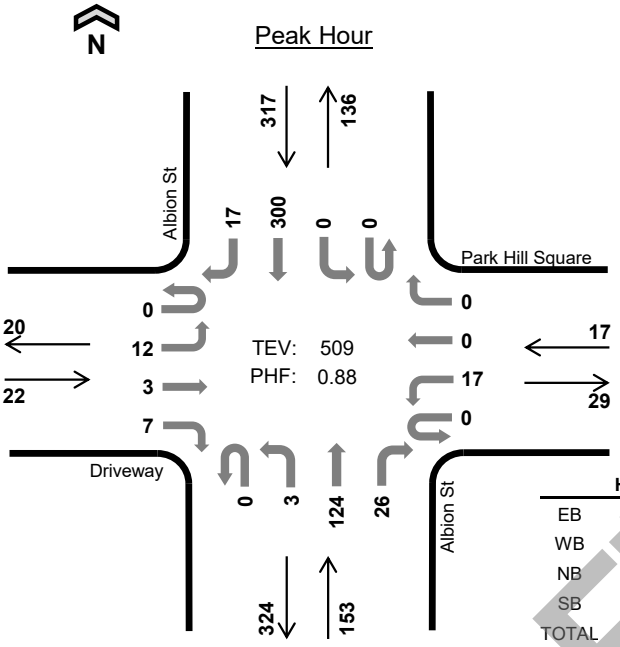
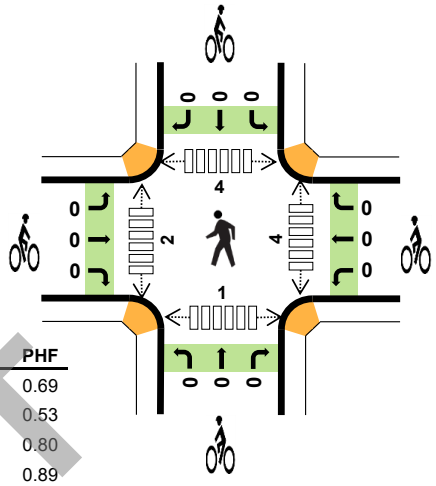
Albion St
Park Hill Square

Date: 02/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	4.5%	0.69
WB	0.0%	0.53
NB	5.9%	0.80
SB	1.6%	0.89
TOTAL	2.9%	0.88

Two-Hour Count Summaries

Interval Start	Driveway Eastbound				Park Hill Square Westbound				Albion St Northbound				Albion St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**5**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**36**	**3**	**0**	**0**	**73**	**4**	**126**	0
4:15 PM	**0**	**3**	**1**	**1**	**0**	**8**	**0**	**0**	**0**	**0**	**26**	**8**	**0**	**0**	**76**	**3**	**126**	0
4:30 PM	**0**	**2**	**2**	**1**	**0**	**3**	**0**	**0**	**0**	**1**	**37**	**10**	**0**	**0**	**85**	**4**	**145**	0
4:45 PM	**0**	**2**	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**2**	**25**	**5**	**0**	**0**	**66**	**6**	**112**	**509**
5:00 PM	0	2	0	1	0	4	1	0	0	1	41	5	0	0	60	7	122	505
5:15 PM	0	2	0	3	0	2	1	0	0	2	33	9	0	0	74	4	130	509
5:30 PM	0	0	1	1	0	6	1	0	0	2	24	4	0	0	71	3	113	477
5:45 PM	0	2	0	1	0	2	0	0	0	0	28	11	0	0	49	8	101	466
Count Total	0	18	4	13	0	31	3	0	0	8	250	55	0	0	554	39	975	0
Peak Hour All	**0**	**12**	**3**	**7**	**0**	**17**	**0**	**0**	**0**	**3**	**124**	**26**	**0**	**0**	**300**	**17**	**509**	**0**
Peak Hour HV	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**5**	**0**	**15**	**0**
Peak Hour HV%	**-**	**8%**	**0%**	**0%**	**-**	**0%**	**-**	**-**	**-**	**0%**	**6%**	**4%**	**-**	**-**	**2%**	**0%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**1**	**0**	**2**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**3**	**0**	*4*
4:30 PM	**0**	**0**	**4**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	*3*
4:45 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**1**	***4***
5:00 PM	1	1	3	3	*8*	0	0	0	0	*0*	3	6	0	0	*9*
5:15 PM	1	0	3	3	*7*	0	1	0	0	*1*	5	1	0	2	*8*
5:30 PM	0	0	1	2	*3*	0	0	0	0	*0*	0	3	3	1	*7*
5:45 PM	0	0	2	2	*4*	1	0	0	0	*1*	1	0	0	1	*2*
Count Total	3	1	18	15	*37*	1	1	0	0	*2*	13	12	7	5	*37*
Peak Hour	**1**	**0**	**9**	**5**	***15***	**0**	**0**	**0**	**0**	***0***	**4**	**2**	**4**	**1**	***11***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				Park Hill Square				Albion St				Albion St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**5**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**6**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**15**
5:00 PM	0	1	0	0	0	1	0	0	0	0	3	0	0	0	3	0	8	20
5:15 PM	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	7	22
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	19
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	22
Count Total	0	2	0	1	0	1	0	0	0	0	17	1	0	0	15	0	37	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**5**	**0**	**15**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Driveway			Park Hill Square			Albion St			Albion St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Count Total	0	1	0	1	0	0	0	0	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

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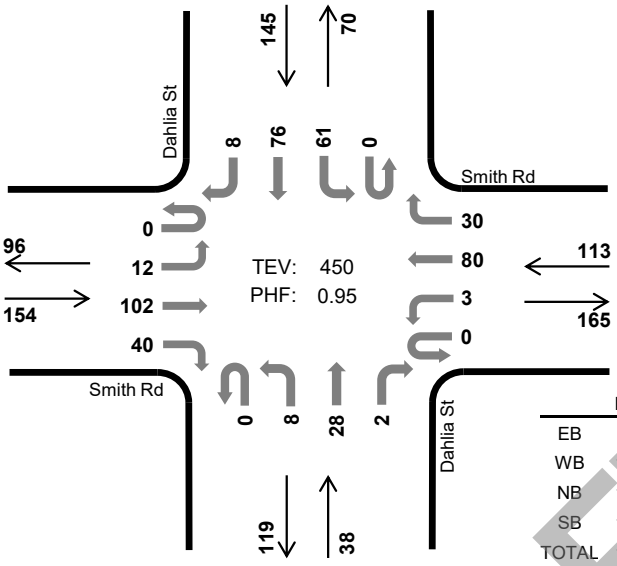
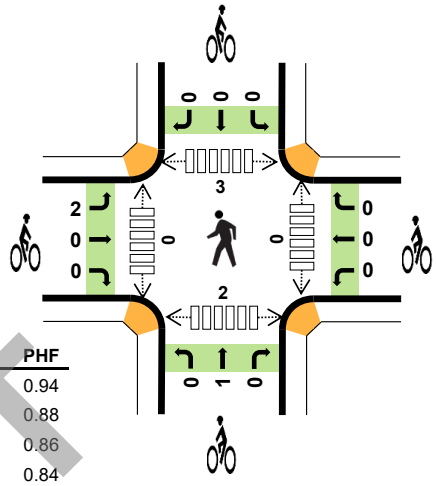
Dahlia St
Smith Rd

Date: 02/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour



	HV %:	PHF
EB	5.2%	0.94
WB	15.9%	0.88
NB	18.4%	0.86
SB	11.7%	0.84
TOTAL	11.1%	0.95



Two-Hour Count Summaries

Interval Start	Smith Rd Eastbound				Smith Rd Westbound				Dahlia St Northbound				Dahlia St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	20	13	0	2	13	5	0	3	5	1	0	6	14	1	87	0
7:15 AM	0	5	22	12	0	1	14	8	0	2	9	2	0	7	13	4	99	0
7:30 AM	**0**	**2**	**26**	**10**	**0**	**1**	**20**	**8**	**0**	**1**	**7**	**0**	**0**	**17**	**21**	**1**	**114**	0
7:45 AM	**0**	**2**	**28**	**7**	**0**	**1**	**15**	**8**	**0**	**2**	**8**	**1**	**0**	**16**	**26**	**1**	**115**	415
8:00 AM	**0**	**4**	**26**	**11**	**0**	**1**	**23**	**8**	**0**	**3**	**8**	**0**	**0**	**16**	**13**	**5**	**118**	446
8:15 AM	**0**	**4**	**22**	**12**	**0**	**0**	**22**	**6**	**0**	**2**	**5**	**1**	**0**	**12**	**16**	**1**	**103**	**450**
8:30 AM	0	3	26	6	0	0	14	2	0	7	2	2	0	2	13	2	79	415
8:45 AM	0	5	23	11	0	5	31	8	0	3	10	0	0	18	16	2	132	432
Count Total	0	29	193	82	0	11	152	53	0	23	54	7	0	94	132	17	847	0
Peak Hour All	**0**	**12**	**102**	**40**	**0**	**3**	**80**	**30**	**0**	**8**	**28**	**2**	**0**	**61**	**76**	**8**	**450**	**0**
Peak Hour HV	**0**	**1**	**6**	**1**	**0**	**2**	**12**	**4**	**0**	**1**	**6**	**0**	**0**	**10**	**6**	**1**	**50**	**0**
Peak Hour HV%	**-**	**8%**	**6%**	**3%**	**-**	**67%**	**15%**	**13%**	**-**	**13%**	**21%**	**0%**	**-**	**16%**	**8%**	**13%**	**11%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	1	3	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	3	5	5	*14*	0	0	0	1	*1*	0	0	0	1	*1*
7:30 AM	**1**	**6**	**2**	**7**	***16***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
7:45 AM	**1**	**5**	**1**	**4**	***11***	**1**	**0**	**1**	**0**	***2***	**0**	**0**	**1**	**0**	*1*
8:00 AM	**2**	**3**	**3**	**3**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
8:15 AM	**4**	**4**	**1**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	***2***
8:30 AM	2	3	2	0	*7*	0	0	0	0	*0*	0	1	0	1	*2*
8:45 AM	2	5	4	3	*14*	0	0	0	0	*0*	0	3	0	0	*3*
Count Total	15	30	21	26	*92*	2	0	1	1	*4*	0	4	3	4	*11*
Peak Hour	**8**	**18**	**7**	**17**	***50***	**2**	**0**	**1**	**0**	***3***	**0**	**0**	**3**	**2**	***5***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Smith Rd Eastbound				Smith Rd Westbound				Dahlia St Northbound				Dahlia St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	2	0	0	1	0	0	0	3	0	0	0	1	0	7	0
7:15 AM	0	0	0	1	0	0	2	1	0	0	5	0	0	0	2	3	14	0
7:30 AM	**0**	**0**	**1**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**4**	**3**	**0**	**16**	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**11**	48
8:00 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**2**	**0**	**0**	**1**	**1**	**1**	**11**	52
8:15 AM	**0**	**1**	**2**	**1**	**0**	**0**	**2**	**2**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**12**	**50**
8:30 AM	0	1	0	1	0	0	1	2	0	1	0	1	0	0	0	0	7	41
8:45 AM	0	1	1	0	0	0	4	1	0	0	4	0	0	1	1	1	14	44
Count Total	0	3	7	5	0	2	20	8	0	2	18	1	0	11	10	5	92	0
Peak Hour	**0**	**1**	**6**	**1**	**0**	**2**	**12**	**4**	**0**	**1**	**6**	**0**	**0**	**10**	**6**	**1**	**50**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Smith Rd Eastbound			Smith Rd Westbound			Dahlia St Northbound			Dahlia St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:30 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:45 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	2	0	0	0	0	0	0	1	0	0	0	1	4	0
Peak Hour	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**

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

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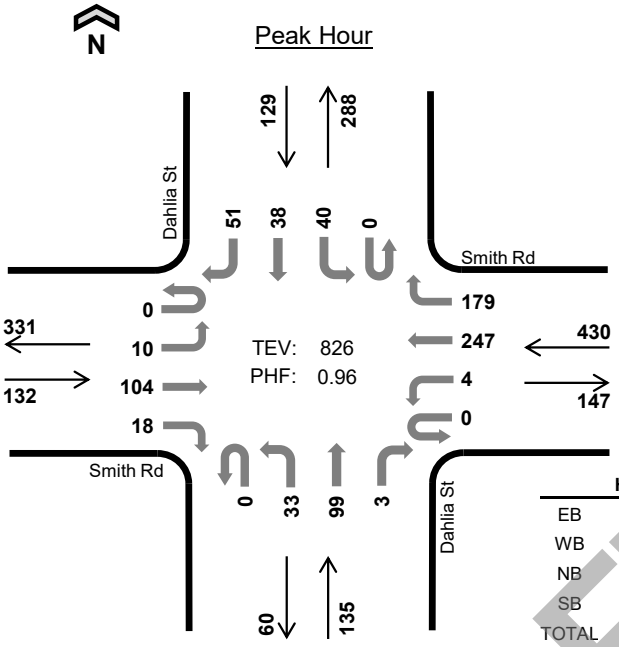
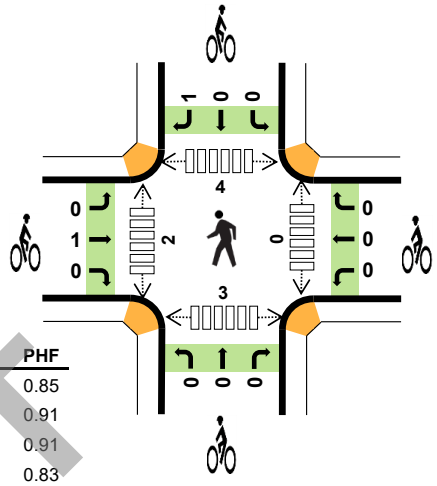
Dahlia St
Smith Rd

Date: 02/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour



	HV %:	PHF
EB	6.8%	0.85
WB	3.5%	0.91
NB	5.9%	0.91
SB	7.8%	0.83
TOTAL	5.1%	0.96



Two-Hour Count Summaries

Interval Start	Smith Rd Eastbound				Smith Rd Westbound				Dahlia St Northbound				Dahlia St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**2**	**28**	**6**	**0**	**2**	**65**	**30**	**0**	**9**	**20**	**1**	**0**	**14**	**7**	**13**	**197**	0
4:15 PM	**0**	**2**	**19**	**7**	**0**	**0**	**64**	**39**	**0**	**7**	**29**	**1**	**0**	**9**	**15**	**15**	**207**	0
4:30 PM	**0**	**2**	**34**	**3**	**0**	**1**	**62**	**49**	**0**	**8**	**24**	**1**	**0**	**10**	**6**	**15**	**215**	0
4:45 PM	**0**	**4**	**23**	**2**	**0**	**1**	**56**	**61**	**0**	**9**	**26**	**0**	**0**	**7**	**10**	**8**	**207**	**826**
5:00 PM	0	4	25	10	0	2	58	46	0	6	17	0	0	9	8	6	191	820
5:15 PM	0	5	26	1	0	1	67	33	0	6	23	0	0	6	7	12	187	800
5:30 PM	0	1	21	4	0	1	63	28	0	3	9	1	0	5	11	13	160	745
5:45 PM	0	4	26	2	0	0	48	18	0	2	8	1	0	6	3	10	128	666
Count Total	0	24	202	35	0	8	483	304	0	50	156	5	0	66	67	92	1,492	0
Peak Hour All	**0**	**10**	**104**	**18**	**0**	**4**	**247**	**179**	**0**	**33**	**99**	**3**	**0**	**40**	**38**	**51**	**826**	**0**
Peak Hour HV	**0**	**1**	**6**	**2**	**0**	**0**	**6**	**9**	**0**	**0**	**8**	**0**	**0**	**4**	**5**	**1**	**42**	**0**
Peak Hour HV%	**-**	**10%**	**6%**	**11%**	**-**	**0%**	**2%**	**5%**	**-**	**0%**	**8%**	**0%**	**-**	**10%**	**13%**	**2%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**3**	**1**	**1**	**4**	***9***	**1**	**0**	**0**	**1**	***2***	**0**	**1**	**1**	**2**	*4*
4:15 PM	**1**	**8**	**2**	**5**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**4**	**1**	**2**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**0**	*3*
4:45 PM	**1**	**5**	**3**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***
5:00 PM	4	7	0	2	*13*	0	0	0	3	*3*	0	1	2	1	*4*
5:15 PM	3	2	3	4	*12*	0	0	0	1	*1*	0	0	0	1	*1*
5:30 PM	1	4	1	2	*8*	0	0	0	1	*1*	0	0	0	0	*0*
5:45 PM	2	0	0	2	*4*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	19	28	12	20	*79*	1	0	0	6	*7*	0	3	8	5	*16*
Peak Hour	**9**	**15**	**8**	**10**	***42***	**1**	**0**	**0**	**1**	***2***	**0**	**2**	**4**	**3**	***9***

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Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Smith Rd Eastbound				Smith Rd Westbound				Dahlia St Northbound				Dahlia St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**1**	**0**	**9**	0
4:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**0**	**0**	**2**	**0**	**0**	**1**	**3**	**1**	**16**	0
4:30 PM	**0**	**1**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**8**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**9**	**42**
5:00 PM	0	2	1	1	0	0	4	3	0	0	0	0	0	1	1	0	13	46
5:15 PM	0	0	3	0	0	0	1	1	0	0	3	0	0	0	1	3	12	42
5:30 PM	0	0	1	0	0	0	2	2	0	0	1	0	0	0	2	0	8	42
5:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	4	37
Count Total	0	4	11	4	0	0	13	15	0	0	12	0	0	5	9	6	79	0
Peak Hour	**0**	**1**	**6**	**2**	**0**	**0**	**6**	**9**	**0**	**0**	**8**	**0**	**0**	**4**	**5**	**1**	**42**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Smith Rd Eastbound			Smith Rd Westbound			Dahlia St Northbound			Dahlia St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	3	3
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	1	0	0	0	0	0	0	0	1	1	4	7	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**

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

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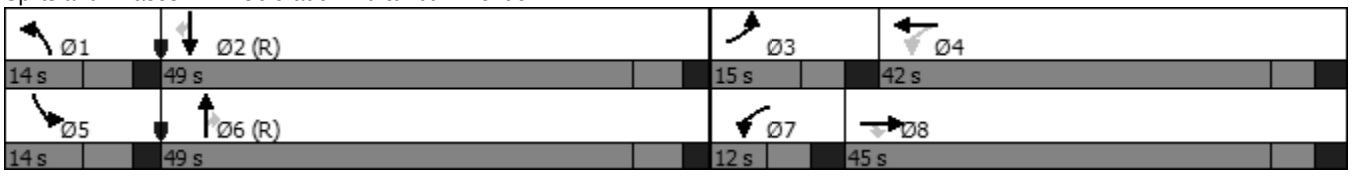
Intersection Capacity Worksheets: Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	139	105	88	106	104	130	1299	84	75	1750	196
Future Volume (vph)	139	105	88	106	104	130	1299	84	75	1750	196
Lane Group Flow (vph)	165	125	105	119	225	134	1339	87	90	2108	236
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	49.0	49.0	14.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	40.8%	40.8%	11.7%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.79	0.37	0.27	0.46	0.38	0.58	0.58	0.11	0.65	0.90	0.29
Control Delay	81.5	42.7	2.4	38.6	22.2	65.1	27.1	0.3	76.0	36.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.5	42.7	2.4	38.6	22.2	65.1	27.1	0.3	76.0	36.8	9.3
Queue Length 50th (ft)	65	94	0	79	45	52	249	0	66	473	27
Queue Length 95th (ft)	#109	112	1	97	65	#95	392	0	#153	#725	84
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	261	1006	230	2324	795	138	2344	800
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.21	0.19	0.46	0.22	0.58	0.58	0.11	0.65	0.90	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	105	88	106	104	96	130	1299	84	75	1750	196
Future Volume (veh/h)	139	105	88	106	104	96	130	1299	84	75	1750	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	165	125	105	119	117	108	134	1339	87	90	2108	236
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	336	257	265	281	235	187	2467	760	101	2446	756
Arrive On Green	0.07	0.18	0.18	0.04	0.15	0.15	0.05	0.49	0.49	0.06	0.49	0.49
Sat Flow, veh/h	3182	1870	1433	1725	1818	1517	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	165	125	105	119	114	111	134	1339	87	90	2108	236
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1725	1777	1558	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.1	7.0	7.8	5.0	7.0	7.8	4.6	22.1	3.6	6.2	44.8	11.1
Cycle Q Clear(g_c), s	6.1	7.0	7.8	5.0	7.0	7.8	4.6	22.1	3.6	6.2	44.8	11.1
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	336	257	265	275	241	187	2467	760	101	2446	756
V/C Ratio(X)	0.78	0.37	0.41	0.45	0.41	0.46	0.72	0.54	0.11	0.89	0.86	0.31
Avail Cap(c_a), veh/h	212	592	454	265	518	455	200	2467	760	101	2446	756
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	1.00	1.00
Uniform Delay (d), s/veh	55.1	43.3	43.6	43.0	45.8	46.2	55.8	21.5	16.7	56.1	27.0	18.4
Incr Delay (d2), s/veh	16.6	0.7	1.0	1.2	1.0	1.4	10.8	0.9	0.3	55.1	4.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.3	2.8	0.9	3.2	3.1	2.2	8.5	1.4	4.2	17.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	44.0	44.6	44.2	46.8	47.5	66.6	22.3	17.0	111.2	31.3	19.5
LnGrp LOS	E	D	D	D	D	D	E	C	B	F	C	B
Approach Vol, veh/h		395			344			1560			2434	
Approach Delay, s/veh		55.7			46.1			25.8			33.1	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	65.9	15.0	25.6	14.0	65.4	12.0	28.6
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	7.0	42.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	6.6	46.8	8.1	9.8	8.2	24.1	7.0	9.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	9.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	219	216	15	5	90
Future Vol, veh/h	45	219	216	15	5	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	261	243	17	6	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	260	0	-	0	621	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	369	-
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	1304	-	-	-	451	787
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1304	-	-	-	433	787
Mov Cap-2 Maneuver	-	-	-	-	433	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	699	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1304	-	-	-	755
HCM Lane V/C Ratio	0.041	-	-	-	0.148
HCM Control Delay (s)	7.9	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	4	11	40	5	1	2	131	5	1	85	7
Future Vol, veh/h	16	4	11	40	5	1	2	131	5	1	85	7
Conflicting Peds, #/hr	0	0	1	1	0	0	4	0	5	5	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	58	58	58	91	91	91	80	80	80
Heavy Vehicles, %	13	2	13	0	0	0	4	4	4	2	17	17
Mvmt Flow	25	6	17	69	9	2	2	144	5	1	106	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	275	116	281	277	152	119	0	0	154	0	0
Stage 1	117	117	-	156	156	-	-	-	-	-	-	-
Stage 2	156	158	-	125	121	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.52	6.33	7.1	6.5	6.2	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.018	3.417	3.5	4	3.3	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	658	632	907	675	634	900	1457	-	-	1426	-	-
Stage 1	862	799	-	851	772	-	-	-	-	-	-	-
Stage 2	821	767	-	884	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	646	624	903	652	626	896	1451	-	-	1419	-	-
Mov Cap-2 Maneuver	646	624	-	652	626	-	-	-	-	-	-	-
Stage 1	857	795	-	845	767	-	-	-	-	-	-	-
Stage 2	809	762	-	859	796	-	-	-	-	-	-	-

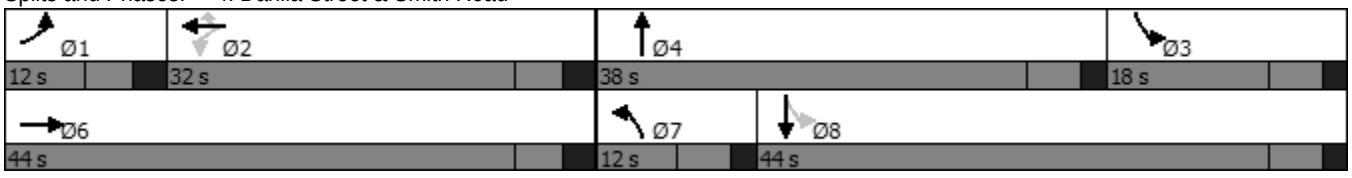
Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11.3	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	715	653	1419	-	-
HCM Lane V/C Ratio	0.002	-	-	0.067	0.121	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10.4	11.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	102	3	80	30	8	28	61	76
Future Volume (vph)	2	102	3	80	30	8	28	61	76
Lane Group Flow (vph)	2	152	3	91	34	9	35	73	100
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.02	0.23	0.01	0.21	0.06	0.10	0.06	0.14	0.16
Control Delay	45.0	18.8	27.7	30.4	0.2	47.2	23.1	21.5	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	18.8	27.7	30.4	0.2	47.2	23.1	21.5	20.0
Queue Length 50th (ft)	1	54	1	45	0	6	15	30	39
Queue Length 95th (ft)	9	101	9	86	0	21	35	56	69
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	103	669	284	432	526	91	568	520	639
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	0.02	0.23	0.01	0.21	0.06	0.10	0.06	0.14	0.16

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 99.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	102	40	3	80	30	8	28	2	61	76	8
Future Volume (veh/h)	2	102	40	3	80	30	8	28	2	61	76	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		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	1826	1826	1826	1663	1663	1663	1633	1633	1633	1722	1722	1722
Adj Flow Rate, veh/h	2	109	43	3	91	34	9	33	2	73	90	10
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	5	5	5	16	16	16	18	18	18	12	12	12
Cap, veh/h	88	474	187	371	454	382	79	492	30	498	584	65
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1739	1236	487	1093	1663	1401	1555	1522	92	1640	1523	169
Grp Volume(v), veh/h	2	0	152	3	91	34	9	0	35	73	0	100
Grp Sat Flow(s),veh/h/ln	1739	0	1723	1093	1663	1401	1555	0	1614	1640	0	1692
Q Serve(g_s), s	0.1	0.0	5.9	0.2	4.2	1.2	0.5	0.0	1.5	0.0	0.0	3.8
Cycle Q Clear(g_c), s	0.1	0.0	5.9	0.2	4.2	1.2	0.5	0.0	1.5	0.0	0.0	3.8
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.06	1.00		0.10
Lane Grp Cap(c), veh/h	88	0	661	371	454	382	79	0	522	498	0	649
V/C Ratio(X)	0.02	0.00	0.23	0.01	0.20	0.09	0.11	0.00	0.07	0.15	0.00	0.15
Avail Cap(c_a), veh/h	105	0	661	371	454	382	94	0	522	514	0	649
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.7	0.0	20.6	26.3	27.7	12.4	44.9	0.0	23.2	25.5	0.0	20.0
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.0	1.0	0.5	0.6	0.0	0.2	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.5	0.1	1.8	0.6	0.2	0.0	0.6	1.3	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	0.0	21.4	26.3	28.7	12.9	45.5	0.0	23.4	25.7	0.0	20.5
LnGrp LOS	D	A	C	C	C	B	D	A	C	C	A	C
Approach Vol, veh/h		154			128			44			173	
Approach Delay, s/veh		21.7			24.4			27.9			22.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.1	6.2	2.0	3.5		7.9	2.5	5.8				
Green Ext Time (p_c), s	0.0	0.5	0.1	0.1		0.9	0.0	0.5				

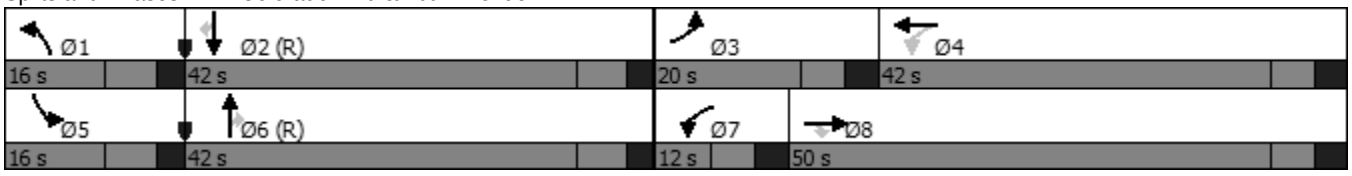
Intersection Summary			
HCM 6th Ctrl Delay		23.3	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	273	114	144	152	201	120	1783	89	72	1738	231
Future Volume (vph)	273	114	144	152	201	120	1783	89	72	1738	231
Lane Group Flow (vph)	307	128	162	162	313	124	1838	92	80	1931	257
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	50.0	50.0	12.0	42.0	16.0	42.0	42.0	16.0	42.0	42.0
Total Split (%)	16.7%	41.7%	41.7%	10.0%	35.0%	13.3%	35.0%	35.0%	13.3%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.87	0.32	0.36	0.64	0.58	0.50	0.83	0.12	0.58	0.93	0.34
Control Delay	76.7	39.9	6.8	47.7	40.5	60.1	35.3	0.3	69.3	41.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	39.9	6.8	47.7	40.5	60.1	35.3	0.3	69.3	41.6	6.7
Queue Length 50th (ft)	122	87	0	98	98	47	457	0	60	487	13
Queue Length 95th (ft)	#196	114	43	119	117	80	#760	0	#133	#822	86
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	667	637	253	1012	262	2202	792	145	2086	746
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.19	0.25	0.64	0.31	0.47	0.83	0.12	0.55	0.93	0.34

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	114	144	152	201	93	120	1783	89	72	1738	231
Future Volume (veh/h)	273	114	144	152	201	93	120	1783	89	72	1738	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	307	128	162	162	214	99	124	1838	92	80	1931	257
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	357	507	403	348	486	215	177	1952	585	100	1950	593
Arrive On Green	0.11	0.27	0.27	0.04	0.21	0.21	0.05	0.39	0.39	0.06	0.40	0.40
Sat Flow, veh/h	3319	1870	1487	1753	2369	1050	3346	4944	1480	1697	4863	1478
Grp Volume(v), veh/h	307	128	162	162	158	155	124	1838	92	80	1931	257
Grp Sat Flow(s),veh/h/ln	1659	1870	1487	1753	1777	1642	1673	1648	1480	1697	1621	1478
Q Serve(g_s), s	10.9	6.4	10.7	5.0	9.3	9.9	4.4	43.0	4.8	5.6	47.3	15.1
Cycle Q Clear(g_c), s	10.9	6.4	10.7	5.0	9.3	9.9	4.4	43.0	4.8	5.6	47.3	15.1
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	357	507	403	348	364	337	177	1952	585	100	1950	593
V/C Ratio(X)	0.86	0.25	0.40	0.47	0.43	0.46	0.70	0.94	0.16	0.80	0.99	0.43
Avail Cap(c_a), veh/h	360	670	533	348	518	479	251	1952	585	127	1950	593
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	1.00	1.00
Uniform Delay (d), s/veh	52.6	34.2	35.8	38.1	41.6	41.9	55.9	35.0	23.4	55.8	35.7	26.1
Incr Delay (d2), s/veh	18.3	0.3	0.6	1.0	0.8	1.0	5.0	10.6	0.6	23.7	18.2	2.3
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	5.4	2.9	3.9	1.7	4.2	4.1	1.9	18.4	1.8	3.0	21.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	34.5	36.4	39.0	42.4	42.8	60.9	45.5	24.0	79.5	53.9	28.4
LnGrp LOS	E	C	D	D	D	D	E	D	C	E	D	C
Approach Vol, veh/h		597			475			2054			2268	
Approach Delay, s/veh		53.8			41.4			45.5			51.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	55.1	19.9	31.6	14.1	54.4	12.0	39.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	35.0	13.0	35.0	9.0	35.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.4	49.3	12.9	11.9	7.6	45.0	7.0	12.7
Green Ext Time (p_c), s	0.1	0.0	0.0	1.9	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	234	371	15	5	75
Future Vol, veh/h	50	234	371	15	5	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	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	263	395	16	6	88

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	411	0	-	0	778	403
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	375	-
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	1148	-	-	-	365	647
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1148	-	-	-	347	647
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1148	-	-	-	614
HCM Lane V/C Ratio	0.049	-	-	-	0.153
HCM Control Delay (s)	8.3	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	3	7	17	0	0	3	124	26	0	300	17
Future Vol, veh/h	12	3	7	17	0	0	3	124	26	0	300	17
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	53	53	53	80	80	80	89	89	89
Heavy Vehicles, %	5	5	5	0	0	0	6	6	6	2	2	2
Mvmt Flow	17	4	10	32	0	0	4	155	33	0	337	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	533	549	350	539	542	180	358	0	0	192	0	0
Stage 1	349	349	-	184	184	-	-	-	-	-	-	-
Stage 2	184	200	-	355	358	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	453	439	687	456	450	868	1179	-	-	1381	-	-
Stage 1	661	628	-	822	751	-	-	-	-	-	-	-
Stage 2	811	730	-	666	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	449	435	685	442	446	861	1177	-	-	1376	-	-
Mov Cap-2 Maneuver	449	435	-	442	446	-	-	-	-	-	-	-
Stage 1	657	627	-	815	745	-	-	-	-	-	-	-
Stage 2	805	724	-	651	630	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	13.8	0.2	0
HCM LOS	B	B		

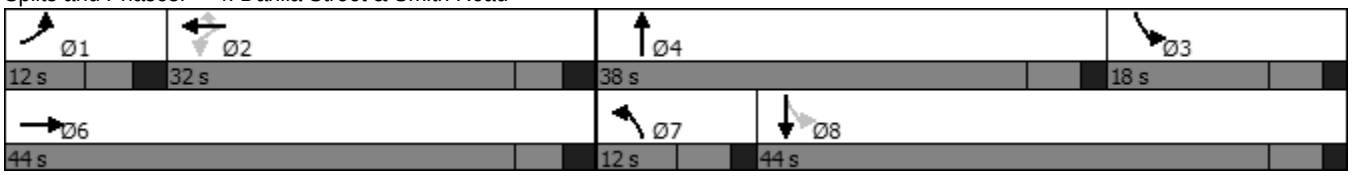
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1177	-	-	502	442	1376	-	-
HCM Lane V/C Ratio	0.003	-	-	0.064	0.073	-	-	-
HCM Control Delay (s)	8.1	0	-	12.7	13.8	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

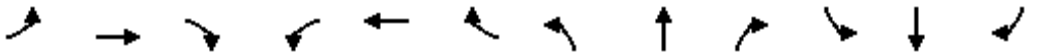
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	104	4	247	179	33	99	40	38
Future Volume (vph)	10	104	4	247	179	33	99	40	38
Lane Group Flow (vph)	12	143	4	271	197	36	112	48	107
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.12	0.22	0.01	0.57	0.35	0.36	0.16	0.10	0.17
Control Delay	47.5	20.5	27.8	37.4	4.3	55.5	23.2	20.9	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	20.5	27.8	37.4	4.3	55.5	23.2	20.9	10.7
Queue Length 50th (ft)	7	56	2	150	0	23	51	19	19
Queue Length 95th (ft)	24	94	11	234	36	55	93	40	47
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	101	664	317	479	565	102	699	515	640
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	0.12	0.22	0.01	0.57	0.35	0.35	0.16	0.09	0.17

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 99.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	104	18	4	247	179	33	99	3	40	38	51
Future Volume (veh/h)	10	104	18	4	247	179	33	99	3	40	38	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	1.00		1.00	1.00		0.98
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	1796	1796	1796	1841	1841	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	12	122	21	4	271	197	36	109	3	48	46	61
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	8	8	8
Cap, veh/h	86	570	98	405	502	422	87	567	16	494	263	348
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1711	1486	256	1218	1841	1548	1725	1754	48	1697	685	908
Grp Volume(v), veh/h	12	0	143	4	271	197	36	0	112	48	0	107
Grp Sat Flow(s),veh/h/ln	1711	0	1742	1218	1841	1548	1725	0	1802	1697	0	1592
Q Serve(g_s), s	0.7	0.0	5.5	0.2	12.4	7.1	2.0	0.0	4.4	0.0	0.0	4.4
Cycle Q Clear(g_c), s	0.7	0.0	5.5	0.2	12.4	7.1	2.0	0.0	4.4	0.0	0.0	4.4
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.03	1.00		0.57
Lane Grp Cap(c), veh/h	86	0	669	405	502	422	87	0	583	494	0	611
V/C Ratio(X)	0.14	0.00	0.21	0.01	0.54	0.47	0.41	0.00	0.19	0.10	0.00	0.18
Avail Cap(c_a), veh/h	104	0	669	405	502	422	105	0	583	511	0	611
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	20.5	26.3	30.7	13.9	45.6	0.0	24.2	25.0	0.0	20.1
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.0	4.1	3.7	3.1	0.0	0.7	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.3	0.1	6.0	2.8	0.9	0.0	2.0	0.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	21.2	26.3	34.8	17.6	48.7	0.0	24.9	25.1	0.0	20.8
LnGrp LOS	D	A	C	C	C	B	D	A	C	C	A	C
Approach Vol, veh/h		155			472			148			155	
Approach Delay, s/veh		23.1			27.5			30.7			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.7	14.4	2.0	6.4		7.5	4.0	6.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.6		0.8	0.0	0.6				

Intersection Summary			
HCM 6th Ctrl Delay		26.4	
HCM 6th LOS		C	

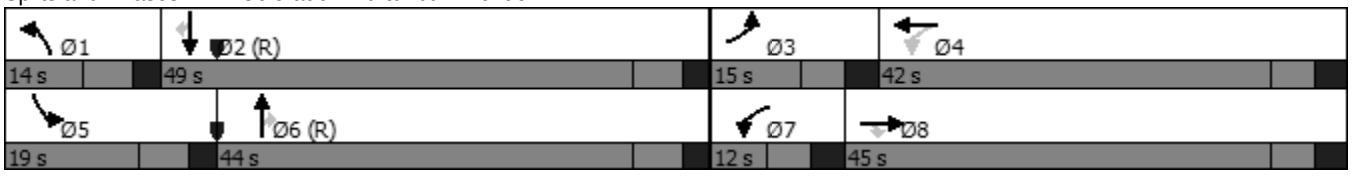
Intersection Capacity Worksheets: Existing With Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	139	105	88	106	104	130	1299	84	75	1750	196
Future Volume (vph)	139	105	88	106	104	130	1299	84	75	1750	196
Lane Group Flow (vph)	165	125	105	119	225	134	1339	87	90	2108	236
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	44.0	44.0	19.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	36.7%	36.7%	15.8%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.79	0.37	0.27	0.46	0.38	0.58	0.58	0.11	0.60	0.90	0.29
Control Delay	81.5	42.7	2.4	38.6	22.2	65.1	28.6	0.3	69.4	36.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.5	42.7	2.4	38.6	22.2	65.1	28.6	0.3	69.4	36.8	9.3
Queue Length 50th (ft)	65	94	0	79	45	52	241	0	68	473	27
Queue Length 95th (ft)	#109	112	1	97	65	#95	419	0	112	#725	84
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	261	1006	230	2291	787	171	2344	800
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.21	0.19	0.46	0.22	0.58	0.58	0.11	0.53	0.90	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	105	88	106	104	96	130	1299	84	75	1750	196
Future Volume (veh/h)	139	105	88	106	104	96	130	1299	84	75	1750	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	165	125	105	119	117	108	134	1339	87	90	2108	236
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	336	257	265	281	235	187	2434	750	113	2446	756
Arrive On Green	0.07	0.18	0.18	0.04	0.15	0.15	0.05	0.48	0.48	0.06	0.49	0.49
Sat Flow, veh/h	3182	1870	1433	1725	1818	1517	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	165	125	105	119	114	111	134	1339	87	90	2108	236
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1725	1777	1558	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.1	7.0	7.8	5.0	7.0	7.8	4.6	22.4	3.7	6.1	44.8	11.1
Cycle Q Clear(g_c), s	6.1	7.0	7.8	5.0	7.0	7.8	4.6	22.4	3.7	6.1	44.8	11.1
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	336	257	265	275	241	187	2434	750	113	2446	756
V/C Ratio(X)	0.78	0.37	0.41	0.45	0.41	0.46	0.72	0.55	0.12	0.80	0.86	0.31
Avail Cap(c_a), veh/h	212	592	454	265	518	455	200	2434	750	174	2446	756
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	1.00	1.00
Uniform Delay (d), s/veh	55.1	43.3	43.6	43.0	45.8	46.2	55.8	22.0	17.1	55.3	27.0	18.4
Incr Delay (d2), s/veh	16.6	0.7	1.0	1.2	1.0	1.4	10.8	0.9	0.3	13.5	4.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.3	2.8	0.9	3.2	3.1	2.2	8.7	1.4	3.1	17.6	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	44.0	44.6	44.2	46.8	47.5	66.6	22.9	17.5	68.8	31.3	19.5
LnGrp LOS	E	D	D	D	D	D	E	C	B	E	C	B
Approach Vol, veh/h		395			344			1560			2434	
Approach Delay, s/veh		55.7			46.1			26.4			31.5	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	65.9	15.0	25.6	14.8	64.7	12.0	28.6
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	12.0	37.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	6.6	46.8	8.1	9.8	8.1	24.4	7.0	9.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.1	7.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

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

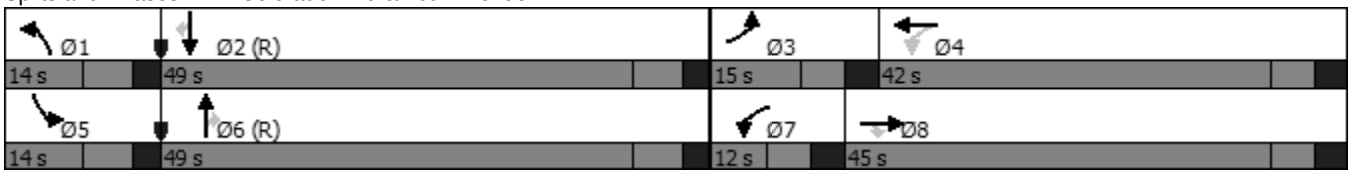
Intersection Capacity Worksheets: 2028 Background

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	140	105	90	110	105	135	1325	85	75	1785	200
Future Volume (vph)	140	105	90	110	105	135	1325	85	75	1785	200
Lane Group Flow (vph)	167	125	107	124	230	139	1366	88	90	2151	241
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	49.0	49.0	14.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	40.8%	40.8%	11.7%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.80	0.46	0.31	0.57	0.48	0.53	0.56	0.11	0.56	0.87	0.29
Control Delay	82.6	50.1	3.2	48.8	26.2	61.4	24.4	0.3	66.5	32.0	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	50.1	3.2	48.8	26.2	61.4	24.4	0.3	66.5	32.0	8.3
Queue Length 50th (ft)	67	94	0	82	46	53	256	0	66	492	29
Queue Length 95th (ft)	#111	112	2	100	66	#101	402	0	#153	#748	88
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	216	1007	260	2450	830	160	2486	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.21	0.19	0.57	0.23	0.53	0.56	0.11	0.56	0.87	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	105	90	110	105	100	135	1325	85	75	1785	200
Future Volume (veh/h)	140	105	90	110	105	100	135	1325	85	75	1785	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	167	125	107	124	118	112	139	1366	88	90	2151	241
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	338	259	266	280	240	192	2461	758	101	2433	752
Arrive On Green	0.07	0.18	0.18	0.04	0.16	0.16	0.06	0.49	0.49	0.06	0.49	0.49
Sat Flow, veh/h	3182	1870	1433	1725	1794	1537	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	167	125	107	124	117	113	139	1366	88	90	2151	241
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1725	1777	1554	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.2	7.0	7.9	5.0	7.1	8.0	4.8	22.8	3.7	6.2	46.6	11.4
Cycle Q Clear(g_c), s	6.2	7.0	7.9	5.0	7.1	8.0	4.8	22.8	3.7	6.2	46.6	11.4
Prop In Lane	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	338	259	266	277	242	192	2461	758	101	2433	752
V/C Ratio(X)	0.79	0.37	0.41	0.47	0.42	0.47	0.72	0.56	0.12	0.89	0.88	0.32
Avail Cap(c_a), veh/h	212	592	454	266	518	453	200	2461	758	101	2433	752
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	1.00	1.00
Uniform Delay (d), s/veh	55.2	43.1	43.5	43.1	45.8	46.1	55.7	21.7	16.8	56.1	27.7	18.6
Incr Delay (d2), s/veh	17.7	0.7	1.1	1.3	1.0	1.4	11.7	0.9	0.3	55.1	5.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.3	2.9	1.1	3.2	3.2	2.3	8.8	1.4	4.2	18.5	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	43.8	44.6	44.4	46.8	47.5	67.4	22.6	17.1	111.2	32.8	19.8
LnGrp LOS	E	D	D	D	D	D	E	C	B	F	C	B
Approach Vol, veh/h		399			354			1593			2482	
Approach Delay, s/veh		56.2			46.2			26.2			34.4	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	65.6	15.0	25.7	14.0	65.3	12.0	28.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	7.0	42.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	6.8	48.6	8.2	10.0	8.2	24.8	7.0	9.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	9.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	225	220	15	5	90
Future Vol, veh/h	45	225	220	15	5	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	268	247	17	6	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	264	0	-	0	632	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	376	-
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	1300	-	-	-	444	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1300	-	-	-	425	783
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1300	-	-	-	750
HCM Lane V/C Ratio	0.041	-	-	-	0.149
HCM Control Delay (s)	7.9	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	5	10	40	5	0	2	135	5	1	85	5
Future Vol, veh/h	15	5	10	40	5	0	2	135	5	1	85	5
Conflicting Peds, #/hr	0	0	1	1	0	0	4	0	5	5	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	58	58	58	91	91	91	80	80	80
Heavy Vehicles, %	13	2	13	0	0	0	4	4	4	2	17	17
Mvmt Flow	23	8	15	69	9	0	2	148	5	1	106	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	274	277	114	284	278	156	116	0	0	158	0	0
Stage 1	115	115	-	160	160	-	-	-	-	-	-	-
Stage 2	159	162	-	124	118	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.52	6.33	7.1	6.5	6.2	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.018	3.417	3.5	4	3.3	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	657	631	910	672	633	895	1460	-	-	1422	-	-
Stage 1	864	800	-	847	769	-	-	-	-	-	-	-
Stage 2	818	764	-	885	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	646	623	906	649	625	891	1454	-	-	1415	-	-
Mov Cap-2 Maneuver	646	623	-	649	625	-	-	-	-	-	-	-
Stage 1	859	796	-	841	764	-	-	-	-	-	-	-
Stage 2	807	759	-	860	798	-	-	-	-	-	-	-

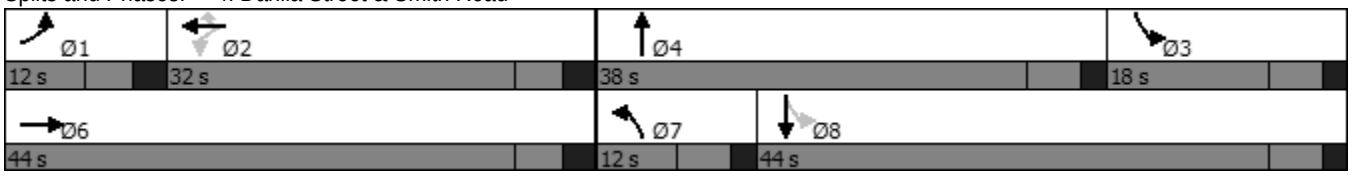
Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	11.3	0.1	0.1
HCM LOS	B	B		

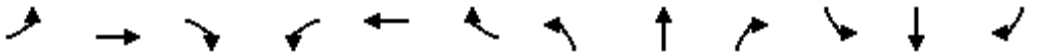
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1454	-	-	710	646	1415	-	-
HCM Lane V/C Ratio	0.002	-	-	0.065	0.12	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10.4	11.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	105	5	80	30	10	30	60	80
Future Volume (vph)	10	105	5	80	30	10	30	60	80
Lane Group Flow (vph)	11	155	6	91	34	12	37	71	107
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.11	0.23	0.02	0.21	0.06	0.14	0.07	0.14	0.17
Control Delay	47.1	19.1	28.0	30.6	0.2	48.2	23.2	21.4	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.1	19.1	28.0	30.6	0.2	48.2	23.2	21.4	20.0
Queue Length 50th (ft)	7	56	3	46	0	7	15	29	41
Queue Length 95th (ft)	25	103	13	86	0	25	37	55	73
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	103	668	282	429	525	91	568	520	639
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	0.11	0.23	0.02	0.21	0.06	0.13	0.07	0.14	0.17

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 99.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	105	40	5	80	30	10	30	2	60	80	10
Future Volume (veh/h)	10	105	40	5	80	30	10	30	2	60	80	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		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	1826	1826	1826	1663	1663	1663	1633	1633	1633	1722	1722	1722
Adj Flow Rate, veh/h	11	112	43	6	91	34	12	35	2	71	95	12
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	5	5	5	16	16	16	18	18	18	12	12	12
Cap, veh/h	88	478	184	370	454	382	79	494	28	497	575	73
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1739	1246	479	1090	1663	1401	1555	1528	87	1640	1499	189
Grp Volume(v), veh/h	11	0	155	6	91	34	12	0	37	71	0	107
Grp Sat Flow(s),veh/h/ln	1739	0	1725	1090	1663	1401	1555	0	1615	1640	0	1688
Q Serve(g_s), s	0.6	0.0	6.0	0.4	4.2	1.2	0.7	0.0	1.6	0.0	0.0	4.1
Cycle Q Clear(g_c), s	0.6	0.0	6.0	0.4	4.2	1.2	0.7	0.0	1.6	0.0	0.0	4.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.05	1.00		0.11
Lane Grp Cap(c), veh/h	88	0	662	370	454	382	79	0	522	497	0	648
V/C Ratio(X)	0.13	0.00	0.23	0.02	0.20	0.09	0.15	0.00	0.07	0.14	0.00	0.17
Avail Cap(c_a), veh/h	105	0	662	370	454	382	94	0	522	514	0	648
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	20.6	26.3	27.7	12.4	45.0	0.0	23.2	25.5	0.0	20.1
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.1	1.0	0.5	0.9	0.0	0.3	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.5	0.1	1.8	0.6	0.3	0.0	0.6	1.2	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	21.5	26.4	28.7	12.9	45.9	0.0	23.5	25.6	0.0	20.6
LnGrp LOS	D	A	C	C	C	B	D	A	C	C	A	C
Approach Vol, veh/h		166			131			49			178	
Approach Delay, s/veh		23.1			24.5			29.0			22.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.6	6.2	2.0	3.6		8.0	2.7	6.1				
Green Ext Time (p_c), s	0.0	0.5	0.1	0.1		0.9	0.0	0.6				

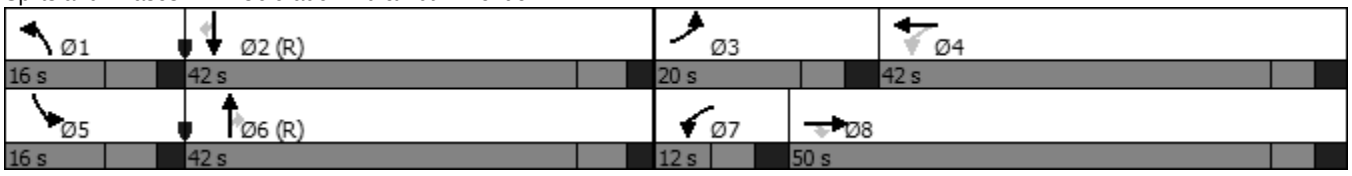
Intersection Summary												
HCM 6th Ctrl Delay			23.8									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	280	115	145	155	205	120	1820	100	75	1775	235
Future Volume (vph)	280	115	145	155	205	120	1820	100	75	1775	235
Lane Group Flow (vph)	315	129	163	165	319	124	1876	103	83	1972	261
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	50.0	50.0	12.0	42.0	16.0	42.0	42.0	16.0	42.0	42.0
Total Split (%)	16.7%	41.7%	41.7%	10.0%	35.0%	13.3%	35.0%	35.0%	13.3%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.89	0.32	0.36	0.65	0.58	0.50	0.91	0.14	0.58	0.95	0.35
Control Delay	79.8	39.8	6.9	48.1	40.7	60.1	40.6	0.4	69.5	44.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	39.8	6.9	48.1	40.7	60.1	40.6	0.4	69.5	44.4	6.9
Queue Length 50th (ft)	125	88	0	100	101	47	476	0	62	506	14
Queue Length 95th (ft)	#204	114	43	121	120	80	#782	0	#139	#846	90
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	667	637	255	1012	262	2072	759	147	2079	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.19	0.26	0.65	0.32	0.47	0.91	0.14	0.56	0.95	0.35

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	115	145	155	205	95	120	1820	100	75	1775	235
Future Volume (veh/h)	280	115	145	155	205	95	120	1820	100	75	1775	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	315	129	163	165	218	101	124	1876	103	83	1972	261
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	360	510	406	349	488	217	177	1935	579	104	1942	590
Arrive On Green	0.11	0.27	0.27	0.04	0.21	0.21	0.05	0.39	0.39	0.06	0.40	0.40
Sat Flow, veh/h	3319	1870	1487	1753	2367	1051	3346	4944	1480	1697	4863	1478
Grp Volume(v), veh/h	315	129	163	165	161	158	124	1876	103	83	1972	261
Grp Sat Flow(s),veh/h/ln	1659	1870	1487	1753	1777	1642	1673	1648	1480	1697	1621	1478
Q Serve(g_s), s	11.2	6.5	10.7	5.0	9.5	10.1	4.4	44.7	5.5	5.8	47.9	15.5
Cycle Q Clear(g_c), s	11.2	6.5	10.7	5.0	9.5	10.1	4.4	44.7	5.5	5.8	47.9	15.5
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	510	406	349	366	338	177	1935	579	104	1942	590
V/C Ratio(X)	0.88	0.25	0.40	0.47	0.44	0.47	0.70	0.97	0.18	0.80	1.02	0.44
Avail Cap(c_a), veh/h	360	670	533	349	518	479	251	1935	579	127	1942	590
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	1.00	1.00
Uniform Delay (d), s/veh	52.7	34.1	35.6	38.1	41.6	41.8	55.9	35.8	23.9	55.6	36.0	26.3
Incr Delay (d2), s/veh	20.8	0.3	0.6	1.0	0.8	1.0	5.0	14.5	0.7	25.0	24.3	2.4
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	5.7	3.0	3.9	1.8	4.3	4.2	1.9	19.7	2.0	3.2	22.4	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	34.3	36.3	39.1	42.4	42.8	60.9	50.3	24.6	80.6	60.3	28.7
LnGrp LOS	E	C	D	D	D	D	E	D	C	F	F	C
Approach Vol, veh/h		607			484			2103			2316	
Approach Delay, s/veh		55.2			41.4			49.6			57.5	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	54.9	20.0	31.7	14.3	54.0	12.0	39.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	35.0	13.0	35.0	9.0	35.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.4	49.9	13.2	12.1	7.8	46.7	7.0	12.7
Green Ext Time (p_c), s	0.1	0.0	0.0	1.9	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	240	380	15	5	75
Future Vol, veh/h	50	240	380	15	5	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	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	270	404	16	6	88

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	420	0	-	0	794	412
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	382	-
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	1139	-	-	-	357	640
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	690	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1139	-	-	-	340	640
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	690	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1139	-	-	-	607
HCM Lane V/C Ratio	0.049	-	-	-	0.155
HCM Control Delay (s)	8.3	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	5	15	0	0	5	125	25	0	305	15
Future Vol, veh/h	10	5	5	15	0	0	5	125	25	0	305	15
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	53	53	53	80	80	80	89	89	89
Heavy Vehicles, %	5	5	5	0	0	0	6	6	6	2	2	2
Mvmt Flow	14	7	7	28	0	0	6	156	31	0	343	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	542	557	355	548	550	180	362	0	0	191	0	0
Stage 1	354	354	-	188	188	-	-	-	-	-	-	-
Stage 2	188	203	-	360	362	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	447	435	682	450	446	868	1175	-	-	1383	-	-
Stage 1	657	625	-	818	748	-	-	-	-	-	-	-
Stage 2	807	728	-	662	629	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	443	430	680	436	441	861	1173	-	-	1378	-	-
Mov Cap-2 Maneuver	443	430	-	436	441	-	-	-	-	-	-	-
Stage 1	652	624	-	810	741	-	-	-	-	-	-	-
Stage 2	799	721	-	647	628	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	13.8	0.3	0
HCM LOS	B	B		

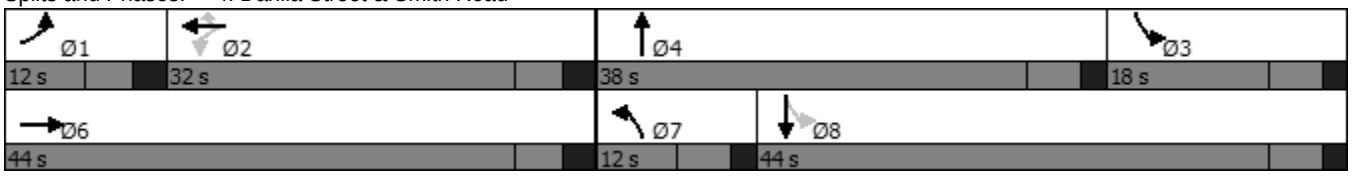
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1173	-	-	481	436	1378	-	-
HCM Lane V/C Ratio	0.005	-	-	0.06	0.065	-	-	-
HCM Control Delay (s)	8.1	0	-	13	13.8	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

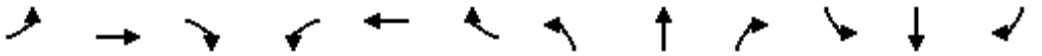
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	105	5	250	185	35	100	40	40
Future Volume (vph)	10	105	5	250	185	35	100	40	40
Lane Group Flow (vph)	12	148	5	275	203	38	115	48	108
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.12	0.22	0.02	0.57	0.36	0.38	0.16	0.10	0.17
Control Delay	47.5	20.5	27.8	37.7	4.7	56.3	23.1	20.9	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	20.5	27.8	37.7	4.7	56.3	23.1	20.9	10.9
Queue Length 50th (ft)	7	58	2	153	0	24	52	19	19
Queue Length 95th (ft)	24	97	12	238	40	57	95	40	48
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	101	663	316	479	565	102	697	515	642
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	0.12	0.22	0.02	0.57	0.36	0.37	0.16	0.09	0.17

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 99.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	105	20	5	250	185	35	100	5	40	40	50
Future Volume (veh/h)	10	105	20	5	250	185	35	100	5	40	40	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	1.00		1.00	1.00		0.98
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	1796	1796	1796	1841	1841	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	12	124	24	5	275	203	38	110	5	48	48	60
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	8	8	8
Cap, veh/h	86	559	108	403	502	422	87	556	25	494	272	340
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1711	1455	282	1213	1841	1548	1725	1719	78	1697	710	887
Grp Volume(v), veh/h	12	0	148	5	275	203	38	0	115	48	0	108
Grp Sat Flow(s),veh/h/ln	1711	0	1737	1213	1841	1548	1725	0	1797	1697	0	1597
Q Serve(g_s), s	0.7	0.0	5.7	0.3	12.6	7.4	2.1	0.0	4.6	0.0	0.0	4.4
Cycle Q Clear(g_c), s	0.7	0.0	5.7	0.3	12.6	7.4	2.1	0.0	4.6	0.0	0.0	4.4
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.04	1.00		0.56
Lane Grp Cap(c), veh/h	86	0	667	403	502	422	87	0	581	494	0	613
V/C Ratio(X)	0.14	0.00	0.22	0.01	0.55	0.48	0.44	0.00	0.20	0.10	0.00	0.18
Avail Cap(c_a), veh/h	104	0	667	403	502	422	105	0	581	511	0	613
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	20.5	26.3	30.8	14.0	45.6	0.0	24.2	25.0	0.0	20.2
Incr Delay (d2), s/veh	0.7	0.0	0.8	0.1	4.3	3.9	3.4	0.0	0.8	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.4	0.1	6.1	3.0	1.0	0.0	2.1	0.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	21.3	26.3	35.0	17.8	49.0	0.0	25.0	25.1	0.0	20.8
LnGrp LOS	D	A	C	C	D	B	D	A	C	C	A	C
Approach Vol, veh/h		160			483			153			156	
Approach Delay, s/veh		23.1			27.7			31.0			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.7	14.6	2.0	6.6		7.7	4.1	6.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.6		0.8	0.0	0.6				

Intersection Summary			
HCM 6th Ctrl Delay		26.6	
HCM 6th LOS		C	

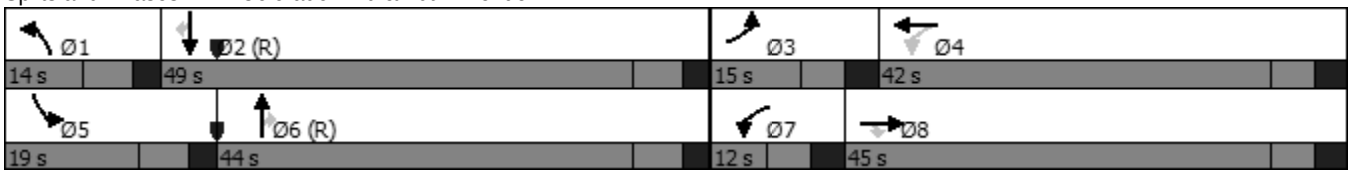
Intersection Capacity Worksheets: 2028 Background With Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	140	105	90	110	105	135	1325	85	75	1785	200
Future Volume (vph)	140	105	90	110	105	135	1325	85	75	1785	200
Lane Group Flow (vph)	167	125	107	124	230	139	1366	88	90	2151	241
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	44.0	44.0	19.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	36.7%	36.7%	15.8%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.80	0.46	0.31	0.57	0.48	0.53	0.55	0.11	0.59	0.87	0.29
Control Delay	82.6	50.1	3.2	48.8	26.2	61.4	24.7	0.3	67.7	32.0	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	50.1	3.2	48.8	26.2	61.4	24.7	0.3	67.7	32.0	8.3
Queue Length 50th (ft)	67	94	0	82	46	53	247	0	68	492	29
Queue Length 95th (ft)	#111	112	2	100	66	#101	430	0	112	#748	88
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	216	1007	260	2469	835	175	2486	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.21	0.19	0.57	0.23	0.53	0.55	0.11	0.51	0.87	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	105	90	110	105	100	135	1325	85	75	1785	200
Future Volume (veh/h)	140	105	90	110	105	100	135	1325	85	75	1785	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	167	125	107	124	118	112	139	1366	88	90	2151	241
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	338	259	266	280	240	192	2428	748	113	2433	752
Arrive On Green	0.07	0.18	0.18	0.04	0.16	0.16	0.06	0.48	0.48	0.06	0.49	0.49
Sat Flow, veh/h	3182	1870	1433	1725	1794	1537	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	167	125	107	124	117	113	139	1366	88	90	2151	241
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1725	1777	1554	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.2	7.0	7.9	5.0	7.1	8.0	4.8	23.1	3.7	6.1	46.6	11.4
Cycle Q Clear(g_c), s	6.2	7.0	7.9	5.0	7.1	8.0	4.8	23.1	3.7	6.1	46.6	11.4
Prop In Lane	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	338	259	266	277	242	192	2428	748	113	2433	752
V/C Ratio(X)	0.79	0.37	0.41	0.47	0.42	0.47	0.72	0.56	0.12	0.80	0.88	0.32
Avail Cap(c_a), veh/h	212	592	454	266	518	453	200	2428	748	174	2433	752
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	1.00	1.00
Uniform Delay (d), s/veh	55.2	43.1	43.5	43.1	45.8	46.1	55.7	22.3	17.2	55.3	27.7	18.6
Incr Delay (d2), s/veh	17.7	0.7	1.1	1.3	1.0	1.4	11.7	0.9	0.3	13.5	5.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.3	2.9	1.1	3.2	3.2	2.3	9.0	1.4	3.1	18.5	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	43.8	44.6	44.4	46.8	47.5	67.4	23.2	17.6	68.8	32.8	19.8
LnGrp LOS	E	D	D	D	D	D	E	C	B	E	C	B
Approach Vol, veh/h		399			354			1593			2482	
Approach Delay, s/veh		56.2			46.2			26.8			32.9	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	65.6	15.0	25.7	14.8	64.5	12.0	28.7
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	12.0	37.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	6.8	48.6	8.2	10.0	8.1	25.1	7.0	9.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.1	7.1	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

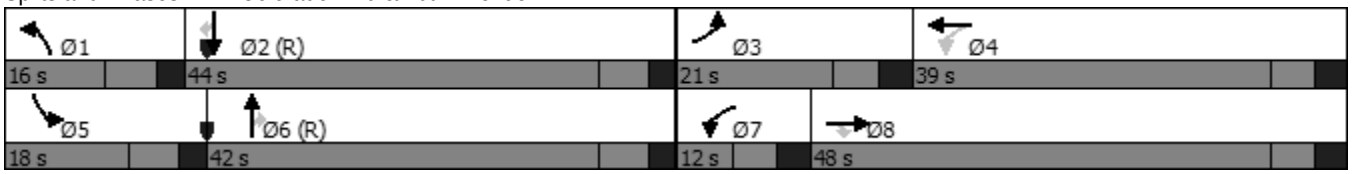
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	280	115	145	155	205	120	1820	100	75	1775	235
Future Volume (vph)	280	115	145	155	205	120	1820	100	75	1775	235
Lane Group Flow (vph)	315	129	163	165	319	124	1876	103	83	1972	261
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	21.0	48.0	48.0	12.0	39.0	16.0	42.0	42.0	18.0	44.0	44.0
Total Split (%)	17.5%	40.0%	40.0%	10.0%	32.5%	13.3%	35.0%	35.0%	15.0%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.84	0.32	0.36	0.66	0.60	0.50	0.86	0.13	0.58	0.95	0.35
Control Delay	72.2	39.7	7.0	49.6	42.2	60.1	37.1	0.3	68.7	45.0	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	39.7	7.0	49.6	42.2	60.1	37.1	0.3	68.7	45.0	6.8
Queue Length 50th (ft)	124	87	0	99	101	47	480	0	62	515	15
Queue Length 95th (ft)	#192	118	45	126	125	80	#782	0	117	#823	88
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	381	636	615	249	930	262	2175	785	160	2073	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.20	0.27	0.66	0.34	0.47	0.86	0.13	0.52	0.95	0.35

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	115	145	155	205	95	120	1820	100	75	1775	235
Future Volume (veh/h)	280	115	145	155	205	95	120	1820	100	75	1775	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.97	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	315	129	163	165	218	101	124	1876	103	83	1972	261
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	368	491	390	336	458	203	177	1983	594	104	1991	605
Arrive On Green	0.11	0.26	0.26	0.04	0.19	0.19	0.05	0.40	0.40	0.06	0.41	0.41
Sat Flow, veh/h	3319	1870	1486	1753	2366	1050	3346	4944	1481	1697	4863	1479
Grp Volume(v), veh/h	315	129	163	165	161	158	124	1876	103	83	1972	261
Grp Sat Flow(s),veh/h/ln	1659	1870	1486	1753	1777	1640	1673	1648	1481	1697	1621	1479
Q Serve(g_s), s	11.2	6.6	10.9	5.0	9.7	10.3	4.4	43.9	5.4	5.8	48.3	15.2
Cycle Q Clear(g_c), s	11.2	6.6	10.9	5.0	9.7	10.3	4.4	43.9	5.4	5.8	48.3	15.2
Prop In Lane	1.00		1.00	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	491	390	336	344	317	177	1983	594	104	1991	605
V/C Ratio(X)	0.86	0.26	0.42	0.49	0.47	0.50	0.70	0.95	0.17	0.80	0.99	0.43
Avail Cap(c_a), veh/h	387	639	508	336	474	437	251	1983	594	156	1991	605
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	1.00	1.00
Uniform Delay (d), s/veh	52.4	35.0	36.6	39.4	42.9	43.2	55.9	34.7	23.1	55.6	35.2	25.4
Incr Delay (d2), s/veh	16.5	0.3	0.7	1.1	1.0	1.2	5.0	11.0	0.6	15.8	18.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	3.0	4.0	1.9	4.4	4.3	1.9	18.8	2.0	2.9	21.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	35.3	37.3	40.5	43.9	44.4	60.9	45.6	23.8	71.4	53.2	27.6
LnGrp LOS	E	D	D	D	D	D	E	D	C	E	D	C
Approach Vol, veh/h		607			484			2103			2316	
Approach Delay, s/veh		53.3			42.9			45.5			51.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	56.1	20.3	30.2	14.3	55.1	12.0	38.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	37.0	14.0	32.0	11.0	35.0	5.0	41.0
Max Q Clear Time (g_c+I1), s	6.4	50.3	13.2	12.3	7.8	45.9	7.0	12.9
Green Ext Time (p_c), s	0.1	0.0	0.1	1.8	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Notes

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

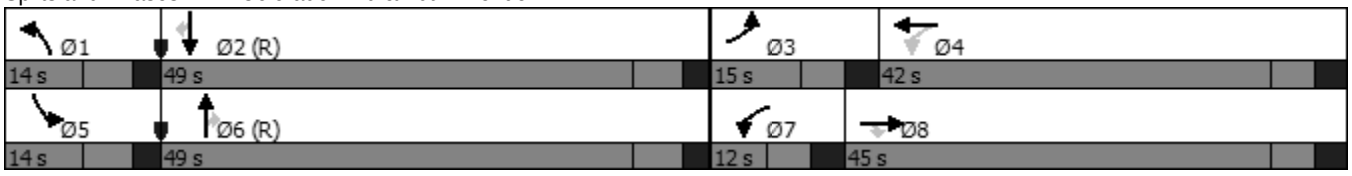
Intersection Capacity Worksheets: 2045 Background

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	155	115	100	120	115	145	1440	95	85	1945	220
Future Volume (vph)	155	115	100	120	115	145	1440	95	85	1945	220
Lane Group Flow (vph)	185	137	119	135	247	149	1485	98	102	2343	265
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	49.0	49.0	14.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	40.8%	40.8%	11.7%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.89	0.49	0.34	0.61	0.49	0.55	0.63	0.12	0.55	0.96	0.32
Control Delay	94.9	50.6	4.1	50.8	26.6	61.5	27.0	0.5	63.4	40.4	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.9	50.6	4.1	50.8	26.6	61.5	27.0	0.5	63.4	40.4	9.6
Queue Length 50th (ft)	74	102	0	89	50	57	300	0	75	591	39
Queue Length 95th (ft)	#128	120	10	109	71	#111	449	2	#177	#851	107
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	220	1013	269	2355	804	185	2450	829
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.23	0.21	0.61	0.24	0.55	0.63	0.12	0.55	0.96	0.32

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	115	100	120	115	105	145	1440	95	85	1945	220
Future Volume (veh/h)	155	115	100	120	115	105	145	1440	95	85	1945	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	185	137	119	135	129	118	149	1485	98	102	2343	265
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	345	265	261	291	242	200	2441	752	101	2402	743
Arrive On Green	0.07	0.18	0.18	0.04	0.16	0.16	0.06	0.48	0.48	0.06	0.48	0.48
Sat Flow, veh/h	3182	1870	1433	1725	1821	1516	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	185	137	119	135	126	121	149	1485	98	102	2343	265
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1725	1777	1560	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.9	7.7	8.9	5.0	7.7	8.5	5.1	25.8	4.2	7.0	55.1	12.9
Cycle Q Clear(g_c), s	6.9	7.7	8.9	5.0	7.7	8.5	5.1	25.8	4.2	7.0	55.1	12.9
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	345	265	261	284	249	200	2441	752	101	2402	743
V/C Ratio(X)	0.87	0.40	0.45	0.52	0.44	0.49	0.75	0.61	0.13	1.01	0.98	0.36
Avail Cap(c_a), veh/h	212	592	454	261	518	455	200	2441	752	101	2402	743
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	1.00	1.00
Uniform Delay (d), s/veh	55.5	43.0	43.5	43.6	45.6	45.9	55.6	22.8	17.2	56.5	30.4	19.4
Incr Delay (d2), s/veh	30.3	0.7	1.2	1.8	1.1	1.5	14.1	1.1	0.4	90.9	13.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.6	3.2	1.5	3.5	3.4	2.6	10.0	1.6	5.6	23.5	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.8	43.8	44.7	45.4	46.7	47.4	69.7	23.9	17.5	147.4	43.8	20.8
LnGrp LOS	F	D	D	D	D	D	E	C	B	F	D	C
Approach Vol, veh/h		441			382			1732			2710	
Approach Delay, s/veh		61.7			46.5			27.5			45.4	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.8	15.0	26.2	14.0	64.8	12.0	29.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	7.0	42.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	7.1	57.1	8.9	10.5	9.0	27.8	7.0	10.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	8.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	245	240	15	5	90
Future Vol, veh/h	45	245	240	15	5	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	292	270	17	6	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	287	0	-	0	679	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	400	-
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	1275	-	-	-	417	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1275	-	-	-	399	760
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1275	-	-	-	725
HCM Lane V/C Ratio	0.042	-	-	-	0.154
HCM Control Delay (s)	7.9	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	5	10	40	5	0	2	145	5	1	95	5
Future Vol, veh/h	15	5	10	40	5	0	2	145	5	1	95	5
Conflicting Peds, #/hr	0	0	1	1	0	0	4	0	5	5	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	58	58	58	91	91	91	80	80	80
Heavy Vehicles, %	13	2	13	0	0	0	4	4	4	2	17	17
Mvmt Flow	23	8	15	69	9	0	2	159	5	1	119	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	298	301	127	308	302	167	129	0	0	169	0	0
Stage 1	128	128	-	171	171	-	-	-	-	-	-	-
Stage 2	170	173	-	137	131	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.52	6.33	7.1	6.5	6.2	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.018	3.417	3.5	4	3.3	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	633	612	895	648	614	882	1444	-	-	1409	-	-
Stage 1	850	790	-	836	761	-	-	-	-	-	-	-
Stage 2	807	756	-	871	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	622	605	891	625	607	878	1438	-	-	1402	-	-
Mov Cap-2 Maneuver	622	605	-	625	607	-	-	-	-	-	-	-
Stage 1	845	786	-	830	756	-	-	-	-	-	-	-
Stage 2	796	751	-	846	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.6	0.1	0.1
HCM LOS	B	B		

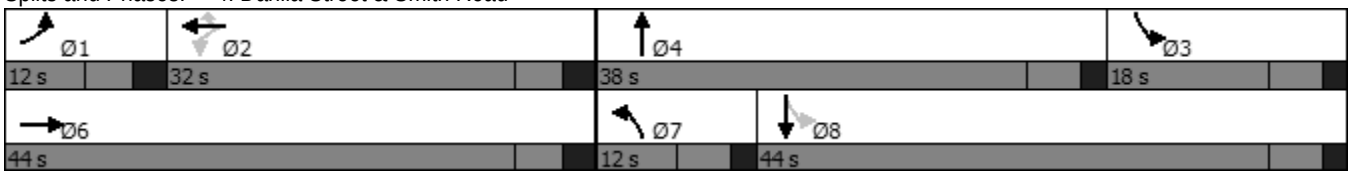
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	688	623	1402	-	-
HCM Lane V/C Ratio	0.002	-	-	0.067	0.125	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10.6	11.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

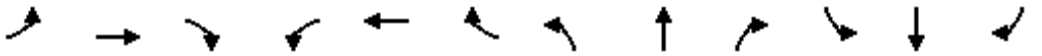
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	15	115	5	90	35	10	30	70	85
Future Volume (vph)	15	115	5	90	35	10	30	70	85
Lane Group Flow (vph)	16	170	6	102	40	12	37	83	113
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.16	0.25	0.02	0.24	0.08	0.14	0.07	0.16	0.18
Control Delay	48.5	19.5	28.0	30.9	0.3	48.2	23.2	21.8	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	19.5	28.0	30.9	0.3	48.2	23.2	21.8	20.2
Queue Length 50th (ft)	10	63	3	51	0	7	15	34	44
Queue Length 95th (ft)	32	112	13	94	0	25	37	62	77
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	103	669	278	429	525	91	568	520	639
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	0.16	0.25	0.02	0.24	0.08	0.13	0.07	0.16	0.18

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 99.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	115	45	5	90	35	10	30	2	70	85	10
Future Volume (veh/h)	15	115	45	5	90	35	10	30	2	70	85	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		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	1826	1826	1826	1663	1663	1663	1633	1633	1633	1722	1722	1722
Adj Flow Rate, veh/h	16	122	48	6	102	40	12	35	2	83	101	12
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	5	5	5	16	16	16	18	18	18	12	12	12
Cap, veh/h	88	475	187	366	454	382	79	494	28	497	580	69
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1739	1237	487	1076	1663	1401	1555	1528	87	1640	1510	179
Grp Volume(v), veh/h	16	0	170	6	102	40	12	0	37	83	0	113
Grp Sat Flow(s),veh/h/ln	1739	0	1723	1076	1663	1401	1555	0	1615	1640	0	1690
Q Serve(g_s), s	0.9	0.0	6.7	0.4	4.7	1.4	0.7	0.0	1.6	0.0	0.0	4.4
Cycle Q Clear(g_c), s	0.9	0.0	6.7	0.4	4.7	1.4	0.7	0.0	1.6	0.0	0.0	4.4
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.05	1.00		0.11
Lane Grp Cap(c), veh/h	88	0	661	366	454	382	79	0	522	497	0	649
V/C Ratio(X)	0.18	0.00	0.26	0.02	0.22	0.10	0.15	0.00	0.07	0.17	0.00	0.17
Avail Cap(c_a), veh/h	105	0	661	366	454	382	94	0	522	514	0	649
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.0	0.0	20.8	26.3	27.9	12.5	45.0	0.0	23.2	25.7	0.0	20.1
Incr Delay (d2), s/veh	1.0	0.0	0.9	0.1	1.1	0.5	0.9	0.0	0.3	0.2	0.0	0.6
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	0.4	0.0	2.8	0.1	2.0	0.8	0.3	0.0	0.6	1.5	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	21.8	26.4	29.0	13.0	45.9	0.0	23.5	25.9	0.0	20.7
LnGrp LOS	D	A	C	C	C	B	D	A	C	C	A	C
Approach Vol, veh/h		186			148			49			196	
Approach Delay, s/veh		23.9			24.6			29.0			22.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.9	6.7	2.0	3.6		8.7	2.7	6.4				
Green Ext Time (p_c), s	0.0	0.6	0.1	0.1		1.0	0.0	0.6				

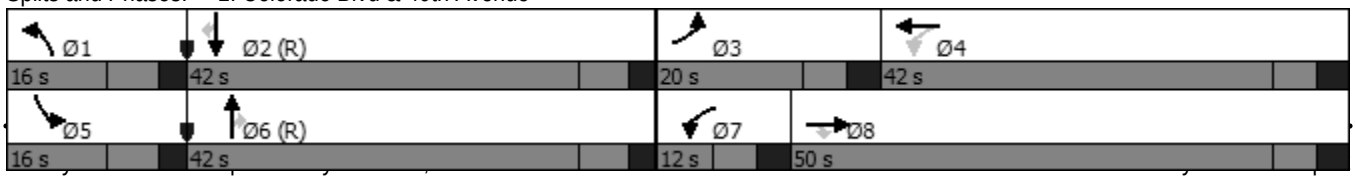
Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	305	125	160	170	225	135	1980	110	80	1930	255
Future Volume (vph)	305	125	160	170	225	135	1980	110	80	1930	255
Lane Group Flow (vph)	343	140	180	181	351	139	2041	113	89	2144	283
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	50.0	50.0	12.0	42.0	16.0	42.0	42.0	16.0	42.0	42.0
Total Split (%)	16.7%	41.7%	41.7%	10.0%	35.0%	13.3%	35.0%	35.0%	13.3%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.97	0.34	0.38	0.69	0.61	0.53	1.01	0.15	0.60	1.06	0.39
Control Delay	94.2	39.6	6.8	50.5	41.8	60.7	57.9	0.4	69.8	70.9	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	39.6	6.8	50.5	41.8	60.7	57.9	0.4	69.8	70.9	8.4
Queue Length 50th (ft)	138	95	0	110	113	53	562	0	67	~621	25
Queue Length 95th (ft)	#229	123	46	132	133	89	#879	0	#152	#947	112
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	667	647	262	1012	270	2022	746	152	2030	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.21	0.28	0.69	0.35	0.51	1.01	0.15	0.59	1.06	0.39

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Colorado Blvd & 40th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	125	160	170	225	105	135	1980	110	80	1930	255
Future Volume (veh/h)	305	125	160	170	225	105	135	1980	110	80	1930	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	343	140	180	181	239	112	139	2041	113	89	2144	283
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	360	519	413	349	497	224	193	1890	565	110	1895	576
Arrive On Green	0.11	0.28	0.28	0.04	0.21	0.21	0.06	0.38	0.38	0.07	0.39	0.39
Sat Flow, veh/h	3319	1870	1488	1753	2355	1062	3346	4944	1479	1697	4863	1477
Grp Volume(v), veh/h	343	140	180	181	178	173	139	2041	113	89	2144	283
Grp Sat Flow(s),veh/h/ln	1659	1870	1488	1753	1777	1641	1673	1648	1479	1697	1621	1477
Q Serve(g_s), s	12.3	7.0	11.9	5.0	10.5	11.2	4.9	45.9	6.1	6.2	46.8	17.4
Cycle Q Clear(g_c), s	12.3	7.0	11.9	5.0	10.5	11.2	4.9	45.9	6.1	6.2	46.8	17.4
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	519	413	349	375	346	193	1890	565	110	1895	576
V/C Ratio(X)	0.95	0.27	0.44	0.52	0.47	0.50	0.72	1.08	0.20	0.81	1.13	0.49
Avail Cap(c_a), veh/h	360	670	533	349	518	479	251	1890	565	127	1895	576
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	1.00	1.00
Uniform Delay (d), s/veh	53.2	33.8	35.6	38.3	41.5	41.8	55.6	37.1	24.8	55.4	36.6	27.6
Incr Delay (d2), s/veh	35.5	0.3	0.7	1.4	0.9	1.1	6.9	46.0	0.8	27.4	66.3	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.2	4.4	2.3	4.7	4.6	2.2	25.6	2.3	3.5	29.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	34.1	36.3	39.6	42.4	42.9	62.5	83.0	25.6	82.8	102.9	30.6
LnGrp LOS	F	C	D	D	D	D	E	F	C	F	F	C
Approach Vol, veh/h		663			532			2293			2516	
Approach Delay, s/veh		63.0			41.6			79.0			94.1	
Approach LOS		E			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	53.8	20.0	32.3	14.8	52.9	12.0	40.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	35.0	13.0	35.0	9.0	35.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.9	48.8	14.3	13.2	8.2	47.9	7.0	13.9
Green Ext Time (p_c), s	0.1	0.0	0.0	2.1	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	80.2
HCM 6th LOS	F

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	260	410	15	5	75
Future Vol, veh/h	50	260	410	15	5	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	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	292	436	16	6	88

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	452	0	-	0	848	444
Stage 1	-	-	-	-	444	-
Stage 2	-	-	-	-	404	-
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	1109	-	-	-	332	614
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	674	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1109	-	-	-	315	614
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	580
HCM Lane V/C Ratio	0.051	-	-	-	0.162
HCM Control Delay (s)	8.4	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	5	15	0	0	5	140	25	0	335	15
Future Vol, veh/h	10	5	5	15	0	0	5	140	25	0	335	15
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	53	53	53	80	80	80	89	89	89
Heavy Vehicles, %	5	5	5	0	0	0	6	6	6	2	2	2
Mvmt Flow	14	7	7	28	0	0	6	175	31	0	376	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	594	609	388	600	602	199	395	0	0	210	0	0
Stage 1	387	387	-	207	207	-	-	-	-	-	-	-
Stage 2	207	222	-	393	395	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	412	406	654	416	416	847	1142	-	-	1361	-	-
Stage 1	631	604	-	800	734	-	-	-	-	-	-	-
Stage 2	788	714	-	636	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	408	401	652	402	411	841	1140	-	-	1356	-	-
Mov Cap-2 Maneuver	408	401	-	402	411	-	-	-	-	-	-	-
Stage 1	626	603	-	792	727	-	-	-	-	-	-	-
Stage 2	780	707	-	621	607	-	-	-	-	-	-	-

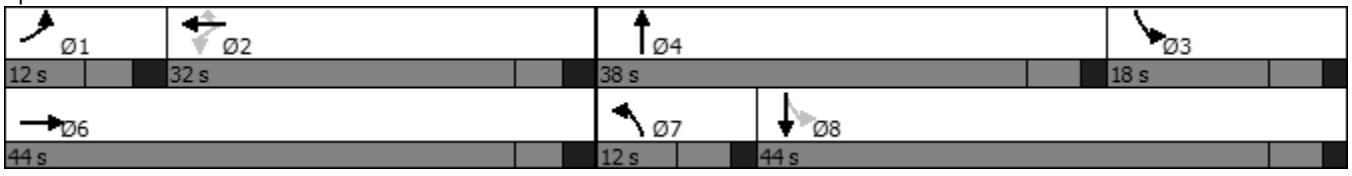
Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	14.6	0.2	0
HCM LOS	B	B		

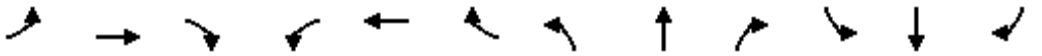
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1140	-	-	448	402	1356	-	-
HCM Lane V/C Ratio	0.005	-	-	0.065	0.07	-	-	-
HCM Control Delay (s)	8.2	0	-	13.6	14.6	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	115	5	275	200	35	110	45	40
Future Volume (vph)	10	115	5	275	200	35	110	45	40
Lane Group Flow (vph)	12	159	5	302	220	38	126	54	114
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Max	Max	Max	Max	Min	Max	None	Max
v/c Ratio	0.12	0.24	0.02	0.63	0.39	0.38	0.20	0.11	0.18
Control Delay	47.5	21.0	27.8	39.5	5.8	56.3	24.9	21.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	21.0	27.8	39.5	5.8	56.3	24.9	21.0	10.5
Queue Length 50th (ft)	7	63	2	171	0	24	57	22	19
Queue Length 95th (ft)	24	104	12	263	51	57	103	44	49
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	101	663	313	479	565	102	634	511	642
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	0.12	0.24	0.02	0.63	0.39	0.37	0.20	0.11	0.18

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 99.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Dahlia Street & Smith Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	115	20	5	275	200	35	110	5	45	40	55
Future Volume (veh/h)	10	115	20	5	275	200	35	110	5	45	40	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	1.00		1.00	1.00		0.98
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	1796	1796	1796	1841	1841	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	12	135	24	5	302	220	38	121	5	54	48	66
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	8	8	8
Cap, veh/h	86	567	101	400	502	422	87	558	23	491	257	353
Arrive On Green	0.05	0.38	0.38	0.27	0.27	0.27	0.05	0.32	0.32	0.11	0.38	0.38
Sat Flow, veh/h	1711	1478	263	1201	1841	1548	1725	1727	71	1697	669	920
Grp Volume(v), veh/h	12	0	159	5	302	220	38	0	126	54	0	114
Grp Sat Flow(s),veh/h/ln	1711	0	1741	1201	1841	1548	1725	0	1798	1697	0	1590
Q Serve(g_s), s	0.7	0.0	6.1	0.3	14.1	8.1	2.1	0.0	5.0	0.0	0.0	4.7
Cycle Q Clear(g_c), s	0.7	0.0	6.1	0.3	14.1	8.1	2.1	0.0	5.0	0.0	0.0	4.7
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.04	1.00		0.58
Lane Grp Cap(c), veh/h	86	0	668	400	502	422	87	0	581	491	0	610
V/C Ratio(X)	0.14	0.00	0.24	0.01	0.60	0.52	0.44	0.00	0.22	0.11	0.00	0.19
Avail Cap(c_a), veh/h	104	0	668	400	502	422	105	0	581	509	0	610
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	20.7	26.3	31.3	14.1	45.6	0.0	24.4	25.2	0.0	20.2
Incr Delay (d2), s/veh	0.7	0.0	0.8	0.1	5.3	4.5	3.4	0.0	0.9	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.6	0.1	6.9	3.3	1.0	0.0	2.3	0.9	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	21.5	26.3	36.6	18.7	49.0	0.0	25.2	25.3	0.0	20.9
LnGrp LOS	D	A	C	C	D	B	D	A	C	C	A	C
Approach Vol, veh/h		171			527			164			168	
Approach Delay, s/veh		23.2			29.0			30.8			22.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.0	33.0	17.0	38.0		44.0	11.0	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.7	16.1	2.0	7.0		8.1	4.1	6.7				
Green Ext Time (p_c), s	0.0	1.9	0.1	0.6		0.9	0.0	0.7				

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

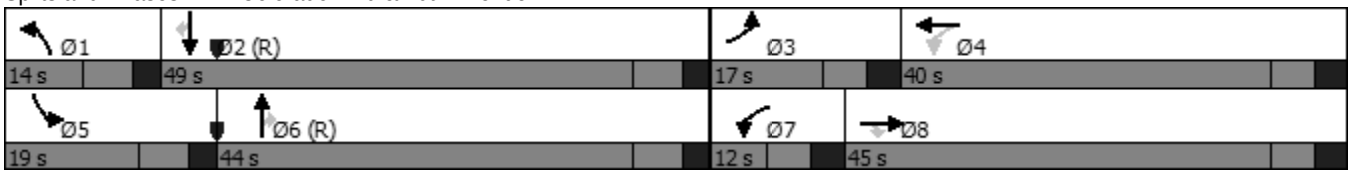
Intersection Capacity Worksheets: 2045 Background With Improvements

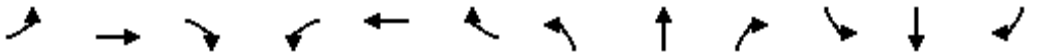
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	155	115	100	120	115	145	1440	95	85	1945	220
Future Volume (vph)	155	115	100	120	115	145	1440	95	85	1945	220
Lane Group Flow (vph)	185	137	119	135	247	149	1485	98	102	2343	265
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	17.0	45.0	45.0	12.0	40.0	14.0	44.0	44.0	19.0	49.0	49.0
Total Split (%)	14.2%	37.5%	37.5%	10.0%	33.3%	11.7%	36.7%	36.7%	15.8%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.73	0.47	0.33	0.64	0.52	0.55	0.62	0.12	0.63	0.97	0.32
Control Delay	70.6	49.0	4.0	52.6	27.7	61.5	27.2	0.5	69.2	43.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.6	49.0	4.0	52.6	27.7	61.5	27.2	0.5	69.2	43.5	9.7
Queue Length 50th (ft)	73	101	0	88	51	57	293	0	77	604	40
Queue Length 95th (ft)	105	120	10	109	72	#111	#515	2	125	#851	107
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	260	589	562	211	962	269	2380	811	179	2411	819
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.23	0.21	0.64	0.26	0.55	0.62	0.12	0.57	0.97	0.32

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Colorado Blvd & 40th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	115	100	120	115	105	145	1440	95	85	1945	220
Future Volume (veh/h)	155	115	100	120	115	105	145	1440	95	85	1945	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	185	137	119	135	129	118	149	1485	98	102	2343	265
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	236	350	268	264	281	234	200	2358	726	126	2390	739
Arrive On Green	0.07	0.19	0.19	0.04	0.15	0.15	0.06	0.47	0.47	0.07	0.48	0.48
Sat Flow, veh/h	3182	1870	1434	1725	1821	1515	3428	5066	1561	1739	4985	1541
Grp Volume(v), veh/h	185	137	119	135	126	121	149	1485	98	102	2343	265
Grp Sat Flow(s),veh/h/ln	1591	1870	1434	1725	1777	1559	1714	1689	1561	1739	1662	1541
Q Serve(g_s), s	6.9	7.7	8.8	5.0	7.7	8.6	5.1	26.6	4.3	6.9	55.4	13.0
Cycle Q Clear(g_c), s	6.9	7.7	8.8	5.0	7.7	8.6	5.1	26.6	4.3	6.9	55.4	13.0
Prop In Lane	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	350	268	264	275	241	200	2358	726	126	2390	739
V/C Ratio(X)	0.78	0.39	0.44	0.51	0.46	0.50	0.75	0.63	0.13	0.81	0.98	0.36
Avail Cap(c_a), veh/h	265	592	454	264	489	429	200	2358	726	174	2390	739
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	1.00	1.00
Uniform Delay (d), s/veh	54.6	42.8	43.2	43.8	46.1	46.5	55.6	24.3	18.3	54.8	30.7	19.6
Incr Delay (d2), s/veh	12.8	0.7	1.1	1.7	1.2	1.6	14.1	1.3	0.4	17.7	14.3	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	3.1	3.6	3.2	1.5	3.5	3.4	2.6	10.4	1.6	3.6	23.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	43.5	44.4	45.5	47.3	48.1	69.7	25.5	18.7	72.6	45.0	21.0
LnGrp LOS	E	D	D	D	D	D	E	C	B	E	D	C
Approach Vol, veh/h		441			382			1732			2710	
Approach Delay, s/veh		53.8			46.9			29.0			43.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.5	15.9	25.6	15.7	62.9	12.0	29.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	10.0	33.0	12.0	37.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	7.1	57.4	8.9	10.6	8.9	28.6	7.0	10.8
Green Ext Time (p_c), s	0.0	0.0	0.1	1.4	0.1	5.8	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	305	125	160	170	225	135	1980	110	80	1930	255
Future Volume (vph)	305	125	160	170	225	135	1980	110	80	1930	255
Lane Group Flow (vph)	343	140	180	181	351	139	2041	113	89	2144	283
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	21.0	40.0	40.0	12.0	31.0	16.0	50.0	50.0	18.0	52.0	52.0
Total Split (%)	17.5%	33.3%	33.3%	10.0%	25.8%	13.3%	41.7%	41.7%	15.0%	43.3%	43.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
v/c Ratio	0.90	0.35	0.39	0.75	0.69	0.53	0.99	0.15	0.60	1.03	0.38
Control Delay	79.4	41.6	7.7	58.2	47.5	60.7	52.4	0.4	69.5	63.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.4	41.6	7.7	58.2	47.5	60.7	52.4	0.4	69.5	63.5	7.5
Queue Length 50th (ft)	137	94	0	108	115	53	568	0	67	~657	25
Queue Length 95th (ft)	#218	140	53	155	155	89	#783	0	#130	#829	96
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	381	512	538	241	709	270	2065	757	162	2072	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.27	0.33	0.75	0.50	0.51	0.99	0.15	0.55	1.03	0.38

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ 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.

Splits and Phases: 1: Colorado Blvd & 40th Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	125	160	170	225	105	135	1980	110	80	1930	255
Future Volume (veh/h)	305	125	160	170	225	105	135	1980	110	80	1930	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.98		0.96	1.00		0.97	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	343	140	180	181	239	112	139	2041	113	89	2144	283
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	387	448	355	301	387	174	193	2077	623	111	2080	633
Arrive On Green	0.12	0.24	0.24	0.04	0.16	0.16	0.06	0.42	0.42	0.07	0.43	0.43
Sat Flow, veh/h	3319	1870	1482	1753	2350	1057	3346	4944	1484	1697	4863	1480
Grp Volume(v), veh/h	343	140	180	181	178	173	139	2041	113	89	2144	283
Grp Sat Flow(s),veh/h/ln	1659	1870	1482	1753	1777	1630	1673	1648	1484	1697	1621	1480
Q Serve(g_s), s	12.2	7.4	12.6	5.0	11.2	11.9	4.9	48.9	5.7	6.2	51.3	16.2
Cycle Q Clear(g_c), s	12.2	7.4	12.6	5.0	11.2	11.9	4.9	48.9	5.7	6.2	51.3	16.2
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	448	355	301	293	268	193	2077	623	111	2080	633
V/C Ratio(X)	0.89	0.31	0.51	0.60	0.61	0.64	0.72	0.98	0.18	0.80	1.03	0.45
Avail Cap(c_a), veh/h	387	514	408	301	355	326	251	2077	623	156	2080	633
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	1.00	1.00
Uniform Delay (d), s/veh	52.2	37.5	39.5	43.3	46.5	46.8	55.6	34.4	21.8	55.3	34.3	24.3
Incr Delay (d2), s/veh	21.0	0.4	1.1	3.3	2.1	3.1	6.9	16.1	0.6	18.2	28.1	2.3
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	6.2	3.4	4.7	2.8	5.1	5.1	2.2	21.6	2.1	3.2	24.5	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.2	37.9	40.6	46.6	48.6	49.9	62.5	50.4	22.5	73.6	62.4	26.6
LnGrp LOS	E	D	D	D	D	D	E	D	C	E	F	C
Approach Vol, veh/h		663			532			2293			2516	
Approach Delay, s/veh		56.9			48.4			49.8			58.8	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	58.3	21.0	26.8	14.8	57.4	12.0	35.8
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	45.0	14.0	24.0	11.0	43.0	5.0	33.0
Max Q Clear Time (g_c+I1), s	6.9	53.3	14.2	13.9	8.2	50.9	7.0	14.6
Green Ext Time (p_c), s	0.1	0.0	0.0	1.5	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

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

Intersection Capacity Worksheets: 2028 Background + Project

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	140	111	90	167	119	135	1325	110	100	1785	200
Future Volume (vph)	140	111	90	167	119	135	1325	110	100	1785	200
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	49.0	49.0	14.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	40.8%	40.8%	11.7%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.0	18.5	18.5	20.5	15.5	9.2	52.9	52.9	15.6	59.3	59.3
Actuated g/C Ratio	0.07	0.15	0.15	0.17	0.13	0.08	0.44	0.44	0.13	0.49	0.49
v/c Ratio	0.80	0.46	0.30	0.83	0.58	0.53	0.62	0.15	0.54	0.88	0.29
Control Delay	82.6	49.1	3.0	70.3	28.0	61.4	28.2	1.5	59.8	33.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	49.1	3.0	70.3	28.0	61.4	28.2	1.5	59.8	33.5	8.5
LOS	F	D	A	E	C	E	C	A	E	C	A
Approach Delay		50.7			43.9		29.2			32.4	
Approach LOS		D			D		C			C	

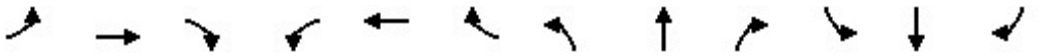
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Colorado Blvd & 40th Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	132	107	188	310	139	1366	113	120	2151	241
v/c Ratio	0.80	0.46	0.30	0.83	0.58	0.53	0.62	0.15	0.54	0.88	0.29
Control Delay	82.6	49.1	3.0	70.3	28.0	61.4	28.2	1.5	59.8	33.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	49.1	3.0	70.3	28.0	61.4	28.2	1.5	59.8	33.5	8.5
Queue Length 50th (ft)	67	98	0	128	63	53	280	0	87	506	30
Queue Length 95th (ft)	#111	117	2	148	85	#101	402	12	#213	#748	88
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	226	1017	260	2220	767	223	2442	827
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.22	0.19	0.83	0.30	0.53	0.62	0.15	0.54	0.88	0.29

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)	140	111	90	167	119	157	135	1325	110	100	1785	200
Future Volume (veh/h)	140	111	90	167	119	157	135	1325	110	100	1785	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	167	132	107	188	134	176	139	1366	113	120	2151	241
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	392	301	295	328	287	192	2316	713	101	2290	708
Arrive On Green	0.07	0.21	0.21	0.04	0.18	0.18	0.06	0.46	0.46	0.06	0.46	0.46
Sat Flow, veh/h	3182	1870	1436	1725	1777	1557	3428	5066	1560	1739	4985	1540
Grp Volume(v), veh/h	167	132	107	188	134	176	139	1366	113	120	2151	241
Grp Sat Flow(s),veh/h/ln	1591	1870	1436	1725	1777	1557	1714	1689	1560	1739	1662	1540
Q Serve(g_s), s	6.2	7.2	7.6	5.0	8.0	12.5	4.8	24.0	5.1	7.0	49.2	12.0
Cycle Q Clear(g_c), s	6.2	7.2	7.6	5.0	8.0	12.5	4.8	24.0	5.1	7.0	49.2	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	392	301	295	328	287	192	2316	713	101	2290	708
V/C Ratio(X)	0.79	0.34	0.36	0.64	0.41	0.61	0.72	0.59	0.16	1.18	0.94	0.34
Avail Cap(c_a), veh/h	212	592	455	295	518	454	200	2316	713	101	2290	708
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	1.00	1.00
Uniform Delay (d), s/veh	55.2	40.3	40.5	43.6	43.2	45.0	55.7	24.2	19.1	56.5	30.8	20.8
Incr Delay (d2), s/veh	17.7	0.5	0.7	4.5	0.8	2.1	11.7	1.1	0.5	146.7	9.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.4	2.7	3.3	3.6	5.0	2.3	9.4	1.9	7.2	20.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	40.8	41.2	48.1	44.0	47.1	67.4	25.3	19.5	203.2	39.9	22.1
LnGrp LOS	E	D	D	D	D	D	E	C	B	F	D	C
Approach Vol, veh/h		406			498			1618			2512	
Approach Delay, s/veh		54.1			46.6			28.5			46.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	62.1	15.0	29.1	14.0	61.9	12.0	32.1
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	7.0	42.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	6.8	51.2	8.2	14.5	9.0	26.0	7.0	9.6
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	8.7	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	266	312	15	5	126
Future Vol, veh/h	61	266	312	15	5	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	317	351	17	6	148

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	368	0	-	0	823	360
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	463	-
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	1191	-	-	-	343	684
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1191	-	-	-	322	684
Mov Cap-2 Maneuver	-	-	-	-	322	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	634	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1191	-	-	-	656
HCM Lane V/C Ratio	0.061	-	-	-	0.235
HCM Control Delay (s)	8.2	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	22	5	17	40	5	0	3	173	5	1	170	8
Future Vol, veh/h	22	5	17	40	5	0	3	173	5	1	170	8
Conflicting Peds, #/hr	0	0	1	1	0	0	4	0	5	5	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	58	58	58	91	91	91	80	80	80
Heavy Vehicles, %	13	2	13	0	0	0	4	4	4	2	17	17
Mvmt Flow	34	8	26	69	9	0	3	190	5	1	213	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	427	430	223	442	433	198	227	0	0	200	0	0
Stage 1	224	224	-	204	204	-	-	-	-	-	-	-
Stage 2	203	206	-	238	229	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.52	6.33	7.1	6.5	6.2	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.018	3.417	3.5	4	3.3	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	519	518	790	529	519	848	1330	-	-	1372	-	-
Stage 1	754	718	-	803	737	-	-	-	-	-	-	-
Stage 2	774	731	-	770	718	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	509	511	786	501	512	844	1325	-	-	1365	-	-
Mov Cap-2 Maneuver	509	511	-	501	512	-	-	-	-	-	-	-
Stage 1	749	714	-	797	731	-	-	-	-	-	-	-
Stage 2	763	725	-	735	714	-	-	-	-	-	-	-

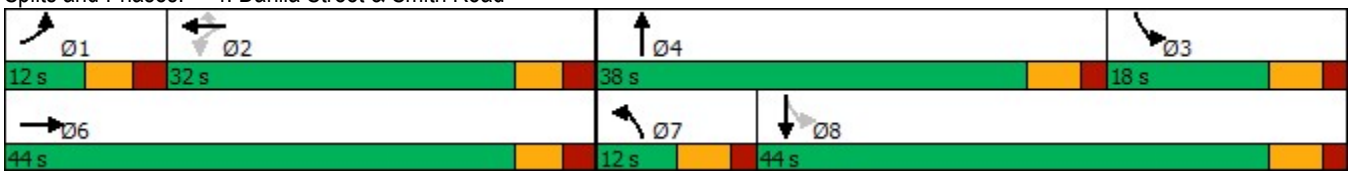
Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	13.5	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1325	-	-	590	502	1365	-	-
HCM Lane V/C Ratio	0.002	-	-	0.115	0.155	0.001	-	-
HCM Control Delay (s)	7.7	0	-	11.9	13.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	16	112	5	83	30	11	30	60	80
Future Volume (vph)	16	112	5	83	30	11	30	60	80
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	Max	Max	None	Max	None	Max
Act Effct Green (s)	5.8	38.1	33.4	33.4	33.4	5.8	33.3	42.5	41.4
Actuated g/C Ratio	0.06	0.41	0.36	0.36	0.36	0.06	0.36	0.45	0.44
v/c Ratio	0.16	0.23	0.02	0.16	0.05	0.14	0.07	0.12	0.15
Control Delay	46.6	17.6	25.4	25.0	0.2	46.5	21.6	17.5	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	17.6	25.4	25.0	0.2	46.5	21.6	17.5	16.0
LOS	D	B	C	C	A	D	C	B	B
Approach Delay		20.3		18.8			28.1		16.6
Approach LOS		C		B			C		B

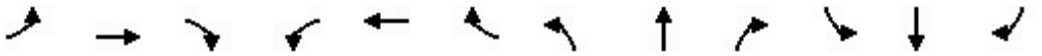
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 93.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.23	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 44.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Dahlia Street & Smith Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	163	6	94	34	13	37	71	110
v/c Ratio	0.16	0.23	0.02	0.16	0.05	0.14	0.07	0.12	0.15
Control Delay	46.6	17.6	25.4	25.0	0.2	46.5	21.6	17.5	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	17.6	25.4	25.0	0.2	46.5	21.6	17.5	16.0
Queue Length 50th (ft)	10	53	2	34	0	7	14	23	33
Queue Length 95th (ft)	33	109	13	88	0	26	37	55	74
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	110	713	380	583	631	98	568	682	739
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	0.15	0.23	0.02	0.16	0.05	0.13	0.07	0.10	0.15

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	112	41	5	83	30	11	30	2	60	80	13
Future Volume (veh/h)	16	112	41	5	83	30	11	30	2	60	80	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.98	1.00		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	1826	1826	1826	1663	1663	1663	1633	1633	1633	1722	1722	1722
Adj Flow Rate, veh/h	17	119	44	6	94	34	13	35	2	71	95	15
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	5	5	5	16	16	16	18	18	18	12	12	12
Cap, veh/h	33	502	186	418	526	444	24	512	29	502	578	91
Arrive On Green	0.02	0.40	0.40	0.32	0.32	0.32	0.02	0.34	0.34	0.08	0.40	0.40
Sat Flow, veh/h	1739	1261	466	1083	1663	1403	1555	1528	87	1640	1452	229
Grp Volume(v), veh/h	17	0	163	6	94	34	13	0	37	71	0	110
Grp Sat Flow(s),veh/h/ln	1739	0	1728	1083	1663	1403	1555	0	1615	1640	0	1681
Q Serve(g_s), s	0.9	0.0	6.0	0.4	3.9	1.1	0.8	0.0	1.5	0.0	0.0	4.0
Cycle Q Clear(g_c), s	0.9	0.0	6.0	0.4	3.9	1.1	0.8	0.0	1.5	0.0	0.0	4.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.05	1.00		0.14
Lane Grp Cap(c), veh/h	33	0	688	418	526	444	24	0	541	502	0	669
V/C Ratio(X)	0.51	0.00	0.24	0.01	0.18	0.08	0.55	0.00	0.07	0.14	0.00	0.16
Avail Cap(c_a), veh/h	109	0	688	418	526	444	98	0	541	580	0	669
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	19.1	22.4	23.7	11.3	46.7	0.0	21.6	23.8	0.0	18.5
Incr Delay (d2), s/veh	11.8	0.0	0.8	0.1	0.7	0.3	18.2	0.0	0.2	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.5	0.1	1.6	0.6	0.4	0.0	0.6	1.2	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.0	19.9	22.5	24.4	11.6	64.8	0.0	21.8	23.9	0.0	19.0
LnGrp LOS	E	A	B	C	C	B	E	A	C	C	A	B
Approach Vol, veh/h		180			134			50			181	
Approach Delay, s/veh		23.5			21.1			33.0			20.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	7.8	36.2	13.5	38.0		44.0	7.5	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.9	5.9	2.0	3.5		8.0	2.8	6.0				
Green Ext Time (p_c), s	0.0	0.5	0.1	0.1		1.0	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	85	38	157	93	3
Future Vol, veh/h	7	85	38	157	93	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	91	91	80	80
Heavy Vehicles, %	1	1	1	4	17	1
Mvmt Flow	8	100	42	173	116	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	375	118	120	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	257	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	628	937	1474	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	608	937	1474	-	-	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	788	-	-	-	-	-

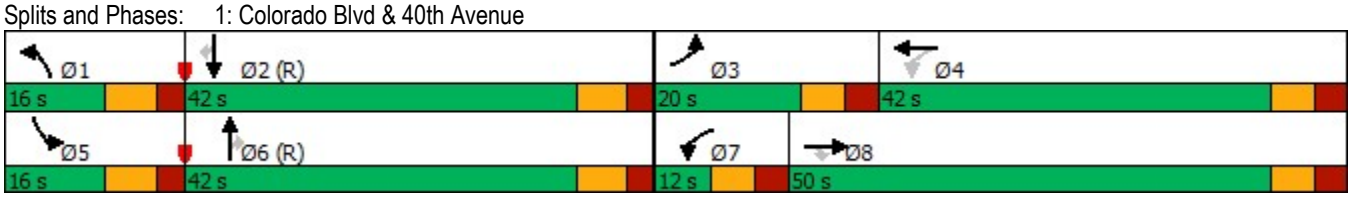
Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1474	-	900	-	-
HCM Lane V/C Ratio	0.028	-	0.12	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	280	127	145	187	213	120	1820	147	122	1775	235
Future Volume (vph)	280	127	145	187	213	120	1820	147	122	1775	235
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	50.0	50.0	12.0	42.0	16.0	42.0	42.0	16.0	42.0	42.0
Total Split (%)	16.7%	41.7%	41.7%	10.0%	35.0%	13.3%	35.0%	35.0%	13.3%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.0	26.1	26.1	23.1	18.1	9.1	44.4	44.4	16.5	51.7	51.7
Actuated g/C Ratio	0.11	0.22	0.22	0.19	0.15	0.08	0.37	0.37	0.14	0.43	0.43
v/c Ratio	0.89	0.35	0.36	0.78	0.62	0.50	1.04	0.22	0.59	0.95	0.35
Control Delay	79.8	40.3	6.8	59.0	37.5	60.1	68.6	1.2	61.0	45.1	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	40.3	6.8	59.0	37.5	60.1	68.6	1.2	61.0	45.1	7.0
LOS	E	D	A	E	D	E	E	A	E	D	A
Approach Delay		51.5			45.1		63.4			41.8	
Approach LOS		D			D		E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 51.3	Intersection LOS: D
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Colorado Blvd & 40th Avenue

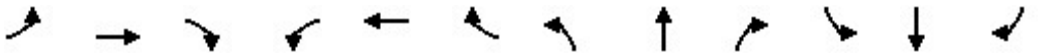


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	143	163	199	362	124	1876	152	136	1972	261
v/c Ratio	0.89	0.35	0.36	0.78	0.62	0.50	1.04	0.22	0.59	0.95	0.35
Control Delay	79.8	40.3	6.8	59.0	37.5	60.1	68.6	1.2	61.0	45.1	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	40.3	6.8	59.0	37.5	60.1	68.6	1.2	61.0	45.1	7.0
Queue Length 50th (ft)	125	98	0	123	103	47	~537	0	99	510	15
Queue Length 95th (ft)	#204	125	43	144	125	80	#782	6	#249	#846	90
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	667	637	255	1027	262	1810	691	229	2070	742
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.21	0.26	0.78	0.35	0.47	1.04	0.22	0.59	0.95	0.35

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)	280	127	145	187	213	127	120	1820	147	122	1775	235
Future Volume (veh/h)	280	127	145	187	213	127	120	1820	147	122	1775	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	315	143	163	199	227	135	124	1876	152	136	1972	261
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	360	524	417	354	461	261	177	1828	546	127	1906	579
Arrive On Green	0.11	0.28	0.28	0.04	0.21	0.21	0.05	0.37	0.37	0.08	0.39	0.39
Sat Flow, veh/h	3319	1870	1488	1753	2158	1225	3346	4944	1477	1697	4863	1477
Grp Volume(v), veh/h	315	143	163	199	185	177	124	1876	152	136	1972	261
Grp Sat Flow(s),veh/h/ln	1659	1870	1488	1753	1777	1606	1673	1648	1477	1697	1621	1477
Q Serve(g_s), s	11.2	7.2	10.6	5.0	11.0	11.7	4.4	44.4	8.7	9.0	47.0	15.7
Cycle Q Clear(g_c), s	11.2	7.2	10.6	5.0	11.0	11.7	4.4	44.4	8.7	9.0	47.0	15.7
Prop In Lane	1.00		1.00	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	524	417	354	379	343	177	1828	546	127	1906	579
V/C Ratio(X)	0.88	0.27	0.39	0.56	0.49	0.52	0.70	1.03	0.28	1.07	1.03	0.45
Avail Cap(c_a), veh/h	360	670	533	354	518	468	251	1828	546	127	1906	579
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	1.00	1.00
Uniform Delay (d), s/veh	52.7	33.7	34.9	38.7	41.4	41.7	55.9	37.8	26.6	55.5	36.5	26.9
Incr Delay (d2), s/veh	20.8	0.3	0.6	2.0	1.0	1.2	5.0	28.0	1.3	99.4	30.2	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	3.3	3.9	2.9	4.9	4.8	1.9	21.8	3.2	7.3	23.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	33.9	35.5	40.7	42.4	42.9	60.9	65.8	27.8	154.9	66.6	29.5
LnGrp LOS	E	C	D	D	D	D	E	F	C	F	F	C
Approach Vol, veh/h		621			561			2152			2369	
Approach Delay, s/veh		54.4			42.0			62.8			67.6	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	54.0	20.0	32.6	16.0	51.4	12.0	40.6
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	35.0	13.0	35.0	9.0	35.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.4	49.0	13.2	13.7	11.0	46.4	7.0	12.6
Green Ext Time (p_c), s	0.1	0.0	0.0	2.2	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	61.8
HCM 6th LOS	E

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	316	432	15	5	95
Future Vol, veh/h	79	316	432	15	5	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	355	460	16	6	112

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	476	0	-	0	1001	468
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	533	-
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	1086	-	-	-	269	595
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1086	-	-	-	247	595
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1086	-	-	-	556
HCM Lane V/C Ratio	0.082	-	-	-	0.212
HCM Control Delay (s)	8.6	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	5	9	15	0	0	11	195	25	0	353	21
Future Vol, veh/h	14	5	9	15	0	0	11	195	25	0	353	21
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	53	53	53	80	80	80	89	89	89
Heavy Vehicles, %	5	5	5	0	0	0	6	6	6	2	2	2
Mvmt Flow	20	7	13	28	0	0	14	244	31	0	397	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	703	718	412	712	715	268	423	0	0	279	0	0
Stage 1	411	411	-	292	292	-	-	-	-	-	-	-
Stage 2	292	307	-	420	423	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	348	351	633	350	359	776	1115	-	-	1284	-	-
Stage 1	612	590	-	720	675	-	-	-	-	-	-	-
Stage 2	710	656	-	615	591	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	342	344	631	332	351	770	1113	-	-	1279	-	-
Mov Cap-2 Maneuver	342	344	-	332	351	-	-	-	-	-	-	-
Stage 1	602	589	-	706	662	-	-	-	-	-	-	-
Stage 2	697	644	-	594	590	-	-	-	-	-	-	-

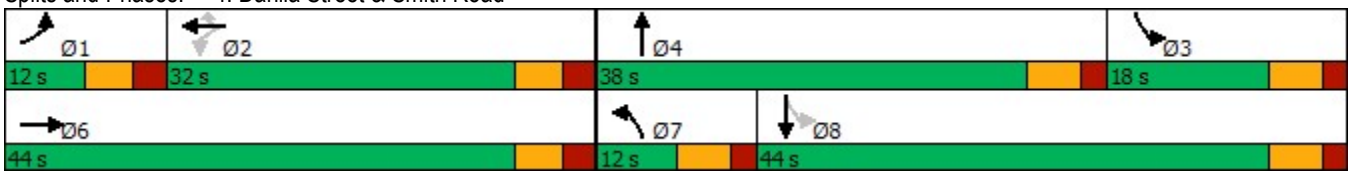
Approach	EB	WB	NB	SB
HCM Control Delay, s	15	16.9	0.4	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1113	-	-	402	332	1279	-	-
HCM Lane V/C Ratio	0.012	-	-	0.101	0.085	-	-	-
HCM Control Delay (s)	8.3	0	-	15	16.9	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	13	109	5	256	185	36	100	40	40
Future Volume (vph)	13	109	5	256	185	36	100	40	40
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	Max	Max	None	Max	None	Max
Act Effct Green (s)	5.8	38.1	33.6	33.6	33.6	5.9	34.7	40.5	38.1
Actuated g/C Ratio	0.06	0.40	0.35	0.35	0.35	0.06	0.36	0.43	0.40
v/c Ratio	0.15	0.22	0.01	0.44	0.30	0.38	0.18	0.09	0.17
Control Delay	47.8	19.6	26.8	29.3	4.1	55.4	23.6	19.9	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	19.6	26.8	29.3	4.1	55.4	23.6	19.9	10.4
LOS	D	B	C	C	A	E	C	B	B
Approach Delay		22.1		18.8			31.8		13.2
Approach LOS		C		B			C		B

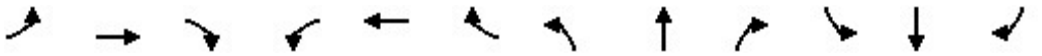
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 95.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 47.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Dahlia Street & Smith Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	153	5	281	203	40	115	48	114
v/c Ratio	0.15	0.22	0.01	0.44	0.30	0.38	0.18	0.09	0.17
Control Delay	47.8	19.6	26.8	29.3	4.1	55.4	23.6	19.9	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	19.6	26.8	29.3	4.1	55.4	23.6	19.9	10.4
Queue Length 50th (ft)	9	60	2	129	0	25	52	19	19
Queue Length 95th (ft)	28	100	12	243	40	59	95	40	49
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	107	697	423	644	681	108	649	606	674
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	0.14	0.22	0.01	0.44	0.30	0.37	0.18	0.08	0.17

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	109	21	5	256	185	36	100	5	40	40	55
Future Volume (veh/h)	13	109	21	5	256	185	36	100	5	40	40	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	1.00		0.98	1.00		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	1796	1796	1796	1841	1841	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	15	128	25	5	281	203	40	110	5	48	48	66
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	8	8	8
Cap, veh/h	29	567	111	451	574	483	59	565	26	494	265	364
Arrive On Green	0.02	0.39	0.39	0.31	0.31	0.31	0.03	0.33	0.33	0.10	0.39	0.39
Sat Flow, veh/h	1711	1452	284	1208	1841	1550	1725	1717	78	1697	678	933
Grp Volume(v), veh/h	15	0	153	5	281	203	40	0	115	48	0	114
Grp Sat Flow(s),veh/h/ln	1711	0	1736	1208	1841	1550	1725	0	1795	1697	0	1611
Q Serve(g_s), s	0.8	0.0	5.7	0.3	12.1	6.9	2.2	0.0	4.5	0.0	0.0	4.5
Cycle Q Clear(g_c), s	0.8	0.0	5.7	0.3	12.1	6.9	2.2	0.0	4.5	0.0	0.0	4.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.04	1.00		0.58
Lane Grp Cap(c), veh/h	29	0	678	451	574	483	59	0	590	494	0	629
V/C Ratio(X)	0.51	0.00	0.23	0.01	0.49	0.42	0.68	0.00	0.19	0.10	0.00	0.18
Avail Cap(c_a), veh/h	105	0	678	451	574	483	106	0	590	541	0	629
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	19.8	23.1	27.2	12.3	46.5	0.0	23.4	24.2	0.0	19.4
Incr Delay (d2), s/veh	13.1	0.0	0.8	0.0	3.0	2.7	13.1	0.0	0.7	0.1	0.0	0.6
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	0.5	0.0	2.4	0.1	5.7	2.6	1.2	0.0	2.0	0.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	0.0	20.6	23.2	30.2	15.0	59.6	0.0	24.2	24.3	0.0	20.1
LnGrp LOS	E	A	C	C	C	B	E	A	C	C	A	C
Approach Vol, veh/h		168			489			155			162	
Approach Delay, s/veh		24.2			23.8			33.3			21.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	7.7	36.3	15.3	38.0		44.0	9.3	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.8	14.1	2.0	6.5		7.7	4.2	6.5				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.6		0.9	0.0	0.7				

Intersection Summary												
HCM 6th Ctrl Delay			25.0									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	48	70	139	326	6
Future Vol, veh/h	4	48	70	139	326	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	80	80	89	89
Heavy Vehicles, %	1	1	1	6	2	1
Mvmt Flow	5	56	88	174	366	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	720	370	373	0	-	0
Stage 1	370	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	396	678	1191	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	364	678	1191	-	-	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	2.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1191	-	636	-	-
HCM Lane V/C Ratio	0.073	-	0.096	-	-
HCM Control Delay (s)	8.3	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection Capacity Worksheets: 2028 Background + Project with Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	140	111	90	167	119	135	1325	110	100	1785	200
Future Volume (vph)	140	111	90	167	119	135	1325	110	100	1785	200
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8					6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	42.0	42.0	15.0	42.0	14.0	42.0	42.0	21.0	49.0	49.0
Total Split (%)	12.5%	35.0%	35.0%	12.5%	35.0%	11.7%	35.0%	35.0%	17.5%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.0	17.1	17.1	8.0	17.1	9.2	54.3	54.3	12.6	57.8	57.8
Actuated g/C Ratio	0.07	0.14	0.14	0.07	0.14	0.08	0.45	0.45	0.10	0.48	0.48
v/c Ratio	0.80	0.50	0.31	0.85	0.53	0.53	0.60	0.14	0.67	0.90	0.30
Control Delay	82.6	51.8	3.3	87.9	24.5	61.4	28.1	1.7	69.2	36.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	51.8	3.3	87.9	24.5	61.4	28.1	1.7	69.2	36.1	8.8
LOS	F	D	A	F	C	E	C	A	E	D	A
Approach Delay		51.7			48.4		29.1			35.1	
Approach LOS		D			D		C			D	

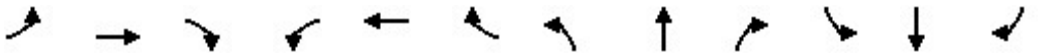
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 72 (60%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 35.8	Intersection LOS: D
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Colorado Blvd & 40th Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	132	107	188	310	139	1366	113	120	2151	241
v/c Ratio	0.80	0.50	0.31	0.85	0.53	0.53	0.60	0.14	0.67	0.90	0.30
Control Delay	82.6	51.8	3.3	87.9	24.5	61.4	28.1	1.7	69.2	36.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	51.8	3.3	87.9	24.5	61.4	28.1	1.7	69.2	36.1	8.8
Queue Length 50th (ft)	67	99	0	75	57	53	274	0	90	526	31
Queue Length 95th (ft)	#111	122	2	#139	81	#101	#469	13	141	#748	88
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	543	530	220	1025	260	2278	783	205	2377	809
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.24	0.20	0.85	0.30	0.53	0.60	0.14	0.59	0.90	0.30

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)	140	111	90	167	119	157	135	1325	110	100	1785	200
Future Volume (veh/h)	140	111	90	167	119	157	135	1325	110	100	1785	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	167	132	107	188	134	176	139	1366	113	120	2151	241
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	345	264	223	328	287	192	2187	673	146	2290	708
Arrive On Green	0.07	0.18	0.18	0.07	0.18	0.18	0.06	0.43	0.43	0.08	0.46	0.46
Sat Flow, veh/h	3182	1870	1433	3346	1777	1557	3428	5066	1560	1739	4985	1540
Grp Volume(v), veh/h	167	132	107	188	134	176	139	1366	113	120	2151	241
Grp Sat Flow(s),veh/h/ln	1591	1870	1433	1673	1777	1557	1714	1689	1560	1739	1662	1540
Q Serve(g_s), s	6.2	7.4	7.9	6.7	8.0	12.5	4.8	25.2	5.3	8.1	49.2	12.0
Cycle Q Clear(g_c), s	6.2	7.4	7.9	6.7	8.0	12.5	4.8	25.2	5.3	8.1	49.2	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	345	264	223	328	287	192	2187	673	146	2290	708
V/C Ratio(X)	0.79	0.38	0.40	0.84	0.41	0.61	0.72	0.62	0.17	0.82	0.94	0.34
Avail Cap(c_a), veh/h	212	546	418	223	518	454	200	2187	673	203	2290	708
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	1.00	1.00
Uniform Delay (d), s/veh	55.2	42.9	43.1	55.4	43.2	45.0	55.7	26.5	20.9	54.1	30.8	20.8
Incr Delay (d2), s/veh	17.7	0.7	1.0	24.3	0.8	2.1	11.7	1.4	0.5	17.1	9.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	3.5	2.9	3.6	3.6	5.0	2.3	10.0	2.0	4.2	20.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.8	43.6	44.1	79.6	44.0	47.1	67.4	27.9	21.4	71.2	39.9	22.1
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	D	C
Approach Vol, veh/h		406			498			1618			2512	
Approach Delay, s/veh		55.8			58.5			30.8			39.7	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	62.1	15.0	29.1	17.0	58.8	15.0	29.1
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	14.0	35.0	8.0	35.0
Max Q Clear Time (g_c+I1), s	6.8	51.2	8.2	14.5	10.1	27.2	8.7	9.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.1	5.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	280	127	145	187	213	120	1820	147	122	1775	235
Future Volume (vph)	280	127	145	187	213	120	1820	147	122	1775	235
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8					6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	21.0	38.0	38.0	15.0	32.0	16.0	45.0	45.0	22.0	51.0	51.0
Total Split (%)	17.5%	31.7%	31.7%	12.5%	26.7%	13.3%	37.5%	37.5%	18.3%	42.5%	42.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.8	22.2	22.2	8.0	16.4	9.1	47.9	47.9	14.0	52.7	52.7
Actuated g/C Ratio	0.12	0.18	0.18	0.07	0.14	0.08	0.40	0.40	0.12	0.44	0.44
v/c Ratio	0.84	0.42	0.40	0.89	0.69	0.50	0.96	0.22	0.70	0.93	0.36
Control Delay	72.2	45.7	8.5	92.7	43.1	60.1	49.3	4.4	69.9	42.3	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	45.7	8.5	92.7	43.1	60.1	49.3	4.4	69.9	42.3	10.9
LOS	E	D	A	F	D	E	D	A	E	D	B
Approach Delay		49.4			60.7		46.7			40.4	
Approach LOS		D			E		D			D	

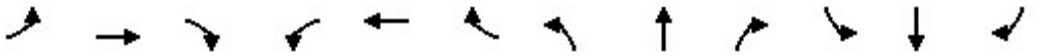
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 75 (63%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 45.8	Intersection LOS: D
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Colorado Blvd & 40th Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	143	163	199	362	124	1876	152	136	1972	261
v/c Ratio	0.84	0.42	0.40	0.89	0.69	0.50	0.96	0.22	0.70	0.93	0.36
Control Delay	72.2	45.7	8.5	92.7	43.1	60.1	49.3	4.4	69.9	42.3	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	45.7	8.5	92.7	43.1	60.1	49.3	4.4	69.9	42.3	10.9
Queue Length 50th (ft)	124	99	0	80	107	47	516	0	102	521	44
Queue Length 95th (ft)	#192	146	51	#150	146	80	#746	41	#181	#740	123
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	381	481	505	224	754	262	1951	689	216	2110	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.30	0.32	0.89	0.48	0.47	0.96	0.22	0.63	0.93	0.36

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)	280	127	145	187	213	127	120	1820	147	122	1775	235
Future Volume (veh/h)	280	127	145	187	213	127	120	1820	147	122	1775	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	315	143	163	199	227	135	124	1876	152	136	1972	261
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	368	403	319	227	369	209	177	1924	576	162	2099	639
Arrive On Green	0.11	0.22	0.22	0.07	0.17	0.17	0.05	0.39	0.39	0.10	0.43	0.43
Sat Flow, veh/h	3319	1870	1478	3401	2153	1219	3346	4944	1480	1697	4863	1480
Grp Volume(v), veh/h	315	143	163	199	185	177	124	1876	152	136	1972	261
Grp Sat Flow(s),veh/h/ln	1659	1870	1478	1700	1777	1596	1673	1648	1480	1697	1621	1480
Q Serve(g_s), s	11.2	7.8	11.7	7.0	11.6	12.4	4.4	44.8	8.4	9.5	46.5	14.6
Cycle Q Clear(g_c), s	11.2	7.8	11.7	7.0	11.6	12.4	4.4	44.8	8.4	9.5	46.5	14.6
Prop In Lane	1.00		1.00	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	368	403	319	227	305	274	177	1924	576	162	2099	639
V/C Ratio(X)	0.86	0.35	0.51	0.88	0.61	0.65	0.70	0.97	0.26	0.84	0.94	0.41
Avail Cap(c_a), veh/h	387	483	382	227	370	332	251	1924	576	212	2099	639
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	1.00	1.00
Uniform Delay (d), s/veh	52.4	40.0	41.5	55.5	46.0	46.3	55.9	36.1	24.9	53.4	32.6	23.5
Incr Delay (d2), s/veh	16.5	0.5	1.3	29.9	2.0	3.1	5.0	15.4	1.1	20.1	9.8	1.9
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	5.5	3.6	4.3	3.9	5.3	5.1	1.9	19.9	3.1	4.9	19.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	40.5	42.8	85.4	48.0	49.4	60.9	51.5	26.1	73.5	42.4	25.5
LnGrp LOS	E	D	D	F	D	D	E	D	C	E	D	C
Approach Vol, veh/h		621			561			2152			2369	
Approach Delay, s/veh		55.5			61.7			50.2			42.3	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	58.8	20.3	27.6	18.4	53.7	15.0	32.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	44.0	14.0	25.0	15.0	38.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	6.4	48.5	13.2	14.4	11.5	46.8	9.0	13.7
Green Ext Time (p_c), s	0.1	0.0	0.1	1.6	0.1	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

Notes

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

Intersection Capacity Worksheets: 2045 Background + Project

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	155	121	100	177	129	145	1440	120	110	1945	220
Future Volume (vph)	155	121	100	177	129	145	1440	120	110	1945	220
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	15.0	45.0	45.0	12.0	42.0	14.0	49.0	49.0	14.0	49.0	49.0
Total Split (%)	12.5%	37.5%	37.5%	10.0%	35.0%	11.7%	40.8%	40.8%	11.7%	40.8%	40.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.0	19.1	19.1	21.1	16.1	9.5	50.4	50.4	17.5	58.4	58.4
Actuated g/C Ratio	0.07	0.16	0.16	0.18	0.13	0.08	0.42	0.42	0.15	0.49	0.49
v/c Ratio	0.89	0.49	0.33	0.87	0.60	0.55	0.70	0.17	0.53	0.98	0.32
Control Delay	94.9	49.4	3.9	74.6	29.8	61.5	31.5	2.1	57.6	44.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.9	49.4	3.9	74.6	29.8	61.5	31.5	2.1	57.6	44.2	9.8
LOS	F	D	A	E	C	E	C	A	E	D	A
Approach Delay		56.1			46.7		32.0			41.6	
Approach LOS		E			D		C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

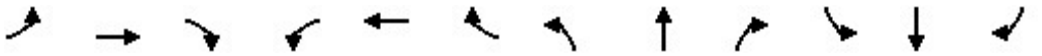
Splits and Phases: 1: Colorado Blvd & 40th Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	144	119	199	327	149	1485	124	133	2343	265
v/c Ratio	0.89	0.49	0.33	0.87	0.60	0.55	0.70	0.17	0.53	0.98	0.32
Control Delay	94.9	49.4	3.9	74.6	29.8	61.5	31.5	2.1	57.6	44.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.9	49.4	3.9	74.6	29.8	61.5	31.5	2.1	57.6	44.2	9.8
Queue Length 50th (ft)	74	107	0	~138	71	57	328	0	96	606	40
Queue Length 95th (ft)	#128	126	10	155	93	#111	449	20	#237	#851	107
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	208	589	562	230	1017	269	2114	738	250	2403	816
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.24	0.21	0.87	0.32	0.55	0.70	0.17	0.53	0.98	0.32

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)	155	121	100	177	129	162	145	1440	120	110	1945	220
Future Volume (veh/h)	155	121	100	177	129	162	145	1440	120	110	1945	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	185	144	119	199	145	182	149	1485	124	133	2343	265
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	212	397	305	289	333	292	200	2301	709	101	2264	700
Arrive On Green	0.07	0.21	0.21	0.04	0.19	0.19	0.06	0.45	0.45	0.06	0.45	0.45
Sat Flow, veh/h	3182	1870	1437	1725	1777	1557	3428	5066	1560	1739	4985	1540
Grp Volume(v), veh/h	185	144	119	199	145	182	149	1485	124	133	2343	265
Grp Sat Flow(s),veh/h/ln	1591	1870	1437	1725	1777	1557	1714	1689	1560	1739	1662	1540
Q Serve(g_s), s	6.9	7.9	8.5	5.0	8.7	12.9	5.1	27.2	5.7	7.0	54.5	13.6
Cycle Q Clear(g_c), s	6.9	7.9	8.5	5.0	8.7	12.9	5.1	27.2	5.7	7.0	54.5	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	397	305	289	333	292	200	2301	709	101	2264	700
V/C Ratio(X)	0.87	0.36	0.39	0.69	0.44	0.62	0.75	0.65	0.17	1.31	1.03	0.38
Avail Cap(c_a), veh/h	212	592	455	289	518	454	200	2301	709	101	2264	700
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	1.00	1.00
Uniform Delay (d), s/veh	55.5	40.3	40.6	44.3	43.1	44.9	55.6	25.3	19.4	56.5	32.7	21.6
Incr Delay (d2), s/veh	30.3	0.6	0.8	6.7	0.9	2.2	14.1	1.4	0.5	194.0	28.6	1.6
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	3.6	3.7	3.1	3.8	3.9	5.2	2.6	10.7	2.1	8.5	26.5	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.8	40.9	41.4	51.1	44.0	47.0	69.7	26.7	20.0	250.5	61.4	23.2
LnGrp LOS	F	D	D	D	D	D	E	C	B	F	F	C
Approach Vol, veh/h		448			526			1758			2741	
Approach Delay, s/veh		59.6			47.7			29.9			66.9	
Approach LOS		E			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	61.5	15.0	29.5	14.0	61.5	12.0	32.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	42.0	8.0	35.0	7.0	42.0	5.0	38.0
Max Q Clear Time (g_c+I1), s	7.1	56.5	8.9	14.9	9.0	29.2	7.0	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	0.0	8.1	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	52.5
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	286	332	15	5	126
Future Vol, veh/h	61	286	332	15	5	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	340	373	17	6	148

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	390	0	-	0	868	382
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	486	-
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	1169	-	-	-	323	665
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1169	-	-	-	303	665
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	618	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1169	-	-	-	636
HCM Lane V/C Ratio	0.062	-	-	-	0.242
HCM Control Delay (s)	8.3	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	5	17	40	5	0	3	183	5	0	180	8
Future Vol, veh/h	22	5	17	40	5	0	3	183	5	0	180	8
Conflicting Peds, #/hr	0	0	1	1	0	0	4	0	5	5	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	65	65	65	58	58	58	91	91	91	80	80	80
Heavy Vehicles, %	13	2	13	0	0	0	4	4	4	2	17	17
Mvmt Flow	34	8	26	69	9	0	3	201	5	0	225	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	448	451	235	463	454	209	239	0	0	211	0	0
Stage 1	234	234	-	215	215	-	-	-	-	-	-	-
Stage 2	214	217	-	248	239	-	-	-	-	-	-	-
Critical Hdwy	7.23	6.52	6.33	7.1	6.5	6.2	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.23	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.617	4.018	3.417	3.5	4	3.3	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	504	778	513	505	836	1316	-	-	1360	-	-
Stage 1	745	711	-	792	729	-	-	-	-	-	-	-
Stage 2	764	723	-	760	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	493	498	774	486	499	832	1311	-	-	1354	-	-
Mov Cap-2 Maneuver	493	498	-	486	499	-	-	-	-	-	-	-
Stage 1	740	708	-	786	723	-	-	-	-	-	-	-
Stage 2	753	717	-	726	708	-	-	-	-	-	-	-

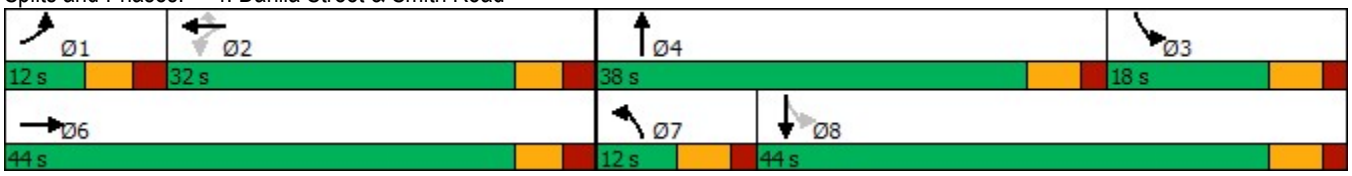
Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	13.8	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1311	-	-	574	487	1354	-	-
HCM Lane V/C Ratio	0.003	-	-	0.118	0.159	-	-	-
HCM Control Delay (s)	7.8	0	-	12.1	13.8	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.6	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	21	122	5	93	35	11	30	70	85
Future Volume (vph)	21	122	5	93	35	11	30	70	85
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	Max	Max	None	Max	None	Max
Act Effct Green (s)	5.9	38.1	33.4	33.4	33.4	5.8	33.3	42.5	41.4
Actuated g/C Ratio	0.06	0.41	0.36	0.36	0.36	0.06	0.36	0.45	0.44
v/c Ratio	0.21	0.25	0.02	0.18	0.06	0.14	0.07	0.14	0.16
Control Delay	47.8	17.9	25.6	25.2	0.2	46.5	21.6	17.6	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	17.9	25.6	25.2	0.2	46.5	21.6	17.6	16.1
LOS	D	B	C	C	A	D	C	B	B
Approach Delay		21.2		18.6			28.1		16.8
Approach LOS		C		B			C		B

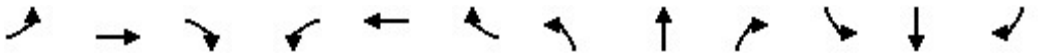
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 93.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.25	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 44.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Dahlia Street & Smith Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	179	6	106	40	13	37	83	116
v/c Ratio	0.21	0.25	0.02	0.18	0.06	0.14	0.07	0.14	0.16
Control Delay	47.8	17.9	25.6	25.2	0.2	46.5	21.6	17.6	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	17.9	25.6	25.2	0.2	46.5	21.6	17.6	16.1
Queue Length 50th (ft)	13	59	2	39	0	7	14	27	35
Queue Length 95th (ft)	39	119	13	97	0	26	37	62	77
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	110	713	375	583	631	98	568	682	739
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	0.20	0.25	0.02	0.18	0.06	0.13	0.07	0.12	0.16

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	122	46	5	93	35	11	30	2	70	85	13
Future Volume (veh/h)	21	122	46	5	93	35	11	30	2	70	85	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.98	1.00		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	1826	1826	1826	1663	1663	1663	1633	1633	1633	1722	1722	1722
Adj Flow Rate, veh/h	22	130	49	6	106	40	13	35	2	83	101	15
Peak Hour Factor	0.94	0.94	0.94	0.88	0.88	0.88	0.86	0.86	0.86	0.84	0.84	0.84
Percent Heavy Veh, %	5	5	5	16	16	16	18	18	18	12	12	12
Cap, veh/h	40	499	188	409	519	438	24	512	29	502	583	87
Arrive On Green	0.02	0.40	0.40	0.31	0.31	0.31	0.02	0.34	0.34	0.08	0.40	0.40
Sat Flow, veh/h	1739	1254	473	1068	1663	1402	1555	1528	87	1640	1465	218
Grp Volume(v), veh/h	22	0	179	6	106	40	13	0	37	83	0	116
Grp Sat Flow(s),veh/h/ln	1739	0	1726	1068	1663	1402	1555	0	1615	1640	0	1683
Q Serve(g_s), s	1.2	0.0	6.6	0.4	4.5	1.4	0.8	0.0	1.5	0.0	0.0	4.3
Cycle Q Clear(g_c), s	1.2	0.0	6.6	0.4	4.5	1.4	0.8	0.0	1.5	0.0	0.0	4.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.05	1.00		0.13
Lane Grp Cap(c), veh/h	40	0	687	409	519	438	24	0	541	502	0	670
V/C Ratio(X)	0.55	0.00	0.26	0.01	0.20	0.09	0.55	0.00	0.07	0.17	0.00	0.17
Avail Cap(c_a), veh/h	109	0	687	409	519	438	98	0	541	580	0	670
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	19.3	22.7	24.1	11.5	46.7	0.0	21.6	24.0	0.0	18.6
Incr Delay (d2), s/veh	11.0	0.0	0.9	0.1	0.9	0.4	18.2	0.0	0.2	0.2	0.0	0.6
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	0.0	2.8	0.1	1.9	0.7	0.4	0.0	0.6	1.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	0.0	20.2	22.8	25.0	11.9	64.8	0.0	21.8	24.2	0.0	19.1
LnGrp LOS	E	A	C	C	C	B	E	A	C	C	A	B
Approach Vol, veh/h		201			152			50			199	
Approach Delay, s/veh		24.3			21.5			33.0			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	8.2	35.8	13.5	38.0		44.0	7.5	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	3.2	6.5	2.0	3.5		8.6	2.8	6.3				
Green Ext Time (p_c), s	0.0	0.6	0.1	0.1		1.1	0.0	0.6				

Intersection Summary			
HCM 6th Ctrl Delay		23.3	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	85	38	167	103	3
Future Vol, veh/h	7	85	38	167	103	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	91	91	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	100	42	184	129	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	399	131	133	0	-	0
Stage 1	131	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	607	919	1452	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	588	919	1452	-	-	-
Mov Cap-2 Maneuver	588	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	777	-	-	-	-	-

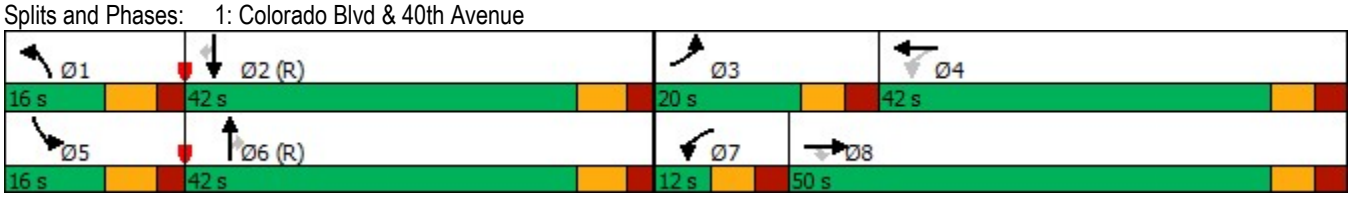
Approach	EB	NB	SB
HCM Control Delay, s	9.7	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1452	-	881	-	-
HCM Lane V/C Ratio	0.029	-	0.123	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	305	137	160	202	233	135	1980	157	127	1930	255
Future Volume (vph)	305	137	160	202	233	135	1980	157	127	1930	255
Turn Type	Prot	NA	Perm	pm+pt	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8	4				6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	50.0	50.0	12.0	42.0	16.0	42.0	42.0	16.0	42.0	42.0
Total Split (%)	16.7%	41.7%	41.7%	10.0%	35.0%	13.3%	35.0%	35.0%	13.3%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.0	27.1	27.1	24.1	19.1	9.5	42.7	42.7	17.2	50.4	50.4
Actuated g/C Ratio	0.11	0.23	0.23	0.20	0.16	0.08	0.36	0.36	0.14	0.42	0.42
v/c Ratio	0.97	0.37	0.38	0.82	0.65	0.53	1.17	0.24	0.59	1.06	0.39
Control Delay	94.2	39.9	6.7	62.3	38.9	60.7	120.0	1.8	60.0	73.8	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	39.9	6.7	62.3	38.9	60.7	120.0	1.8	60.0	73.8	8.5
LOS	F	D	A	E	D	E	F	A	E	E	A
Approach Delay		58.6			47.2		108.3			65.8	
Approach LOS		E			D		F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 37 (31%), Referenced to phase 2:SBT and 6:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 79.2	Intersection LOS: E
Intersection Capacity Utilization 97.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Colorado Blvd & 40th Avenue

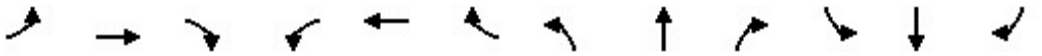


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	343	154	180	215	394	139	2041	162	141	2144	283
v/c Ratio	0.97	0.37	0.38	0.82	0.65	0.53	1.17	0.24	0.59	1.06	0.39
Control Delay	94.2	39.9	6.7	62.3	38.9	60.7	120.0	1.8	60.0	73.8	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	39.9	6.7	62.3	38.9	60.7	120.0	1.8	60.0	73.8	8.5
Queue Length 50th (ft)	138	104	0	132	116	53	~679	0	102	~650	25
Queue Length 95th (ft)	#229	134	46	156	139	89	#879	12	#258	#947	112
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	667	647	263	1027	270	1740	673	239	2015	728
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.23	0.28	0.82	0.38	0.51	1.17	0.24	0.59	1.06	0.39

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)	305	137	160	202	233	137	135	1980	157	127	1930	255
Future Volume (veh/h)	305	137	160	202	233	137	135	1980	157	127	1930	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.98		0.97	1.00		0.96	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	343	154	180	215	248	146	139	2041	162	141	2144	283
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	360	533	425	354	473	267	193	1804	538	127	1859	564
Arrive On Green	0.11	0.29	0.29	0.04	0.22	0.22	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	3319	1870	1489	1753	2163	1221	3346	4944	1476	1697	4863	1477
Grp Volume(v), veh/h	343	154	180	215	202	192	139	2041	162	141	2144	283
Grp Sat Flow(s),veh/h/ln	1659	1870	1489	1753	1777	1608	1673	1648	1476	1697	1621	1477
Q Serve(g_s), s	12.3	7.7	11.8	5.0	12.0	12.7	4.9	43.8	9.4	9.0	45.9	17.6
Cycle Q Clear(g_c), s	12.3	7.7	11.8	5.0	12.0	12.7	4.9	43.8	9.4	9.0	45.9	17.6
Prop In Lane	1.00		1.00	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	533	425	354	388	351	193	1804	538	127	1859	564
V/C Ratio(X)	0.95	0.29	0.42	0.61	0.52	0.55	0.72	1.13	0.30	1.11	1.15	0.50
Avail Cap(c_a), veh/h	360	670	533	354	518	469	251	1804	538	127	1859	564
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	1.00	1.00
Uniform Delay (d), s/veh	53.2	33.4	34.9	39.0	41.3	41.6	55.6	38.1	27.2	55.5	37.1	28.3
Incr Delay (d2), s/veh	35.5	0.3	0.7	3.0	1.1	1.3	6.9	66.8	1.4	111.8	75.6	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.5	4.3	3.5	5.4	5.2	2.2	28.0	3.5	7.7	30.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	33.7	35.5	41.9	42.4	42.9	62.5	104.9	28.6	167.3	112.7	31.5
LnGrp LOS	F	C	D	D	D	D	E	F	C	F	F	C
Approach Vol, veh/h		677			609			2342			2568	
Approach Delay, s/veh		62.1			42.4			97.1			106.7	
Approach LOS		E			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	52.9	20.0	33.2	16.0	50.8	12.0	41.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	35.0	13.0	35.0	9.0	35.0	5.0	43.0
Max Q Clear Time (g_c+I1), s	6.9	47.9	14.3	14.7	11.0	45.8	7.0	13.8
Green Ext Time (p_c), s	0.1	0.0	0.0	2.3	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	91.9
HCM 6th LOS	F

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	336	462	15	5	95
Future Vol, veh/h	79	336	462	15	5	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	378	491	16	6	112

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	507	0	-	0	1055	499
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	556	-
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	1058	-	-	-	250	572
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1058	-	-	-	229	572
Mov Cap-2 Maneuver	-	-	-	-	229	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1058	-	-	-	532
HCM Lane V/C Ratio	0.084	-	-	-	0.221
HCM Control Delay (s)	8.7	-	-	-	13.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	5	9	15	0	0	11	210	25	0	383	21
Future Vol, veh/h	14	5	9	15	0	0	11	210	25	0	383	21
Conflicting Peds, #/hr	4	0	1	1	0	4	2	0	4	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	53	53	53	80	80	80	89	89	89
Heavy Vehicles, %	5	5	5	0	0	0	6	6	6	2	2	2
Mvmt Flow	20	7	13	28	0	0	14	263	31	0	430	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	755	770	445	764	767	287	456	0	0	298	0	0
Stage 1	444	444	-	311	311	-	-	-	-	-	-	-
Stage 2	311	326	-	453	456	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	321	328	607	323	335	757	1084	-	-	1263	-	-
Stage 1	587	570	-	704	662	-	-	-	-	-	-	-
Stage 2	693	643	-	590	572	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	315	321	605	305	328	751	1082	-	-	1258	-	-
Mov Cap-2 Maneuver	315	321	-	305	328	-	-	-	-	-	-	-
Stage 1	576	569	-	690	649	-	-	-	-	-	-	-
Stage 2	679	630	-	569	571	-	-	-	-	-	-	-

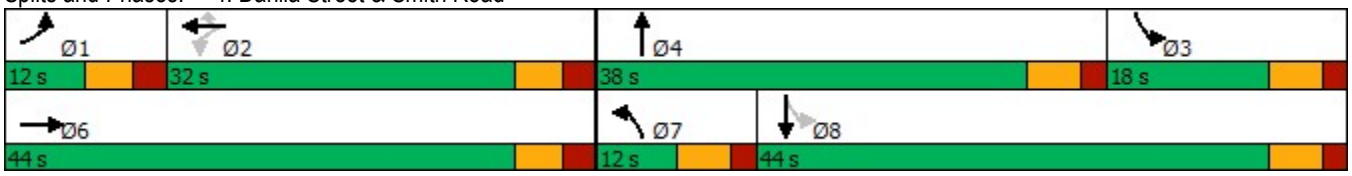
Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	18	0.4	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	374	305	1258	-	-
HCM Lane V/C Ratio	0.013	-	-	0.109	0.093	-	-	-
HCM Control Delay (s)	8.4	0	-	15.8	18	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	13	119	5	281	200	36	110	45	40
Future Volume (vph)	13	119	5	281	200	36	110	45	40
Turn Type	Prot	NA	Perm	NA	Perm	Prot	NA	pm+pt	NA
Protected Phases	1	6		2		7	4	3	8
Permitted Phases			2		2			8	
Detector Phase	1	6	2	2	2	7	4	3	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	5.0	5.0	2.0	5.0
Minimum Split (s)	11.0	31.0	31.0	31.0	31.0	11.0	26.0	11.0	26.0
Total Split (s)	12.0	44.0	32.0	32.0	32.0	12.0	38.0	18.0	44.0
Total Split (%)	12.0%	44.0%	32.0%	32.0%	32.0%	12.0%	38.0%	18.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	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	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	Max	Max	None	Max	None	Max
Act Effct Green (s)	5.8	38.1	33.5	33.5	33.5	5.9	33.4	40.4	39.2
Actuated g/C Ratio	0.06	0.40	0.35	0.35	0.35	0.06	0.35	0.42	0.41
v/c Ratio	0.15	0.24	0.01	0.49	0.33	0.38	0.20	0.10	0.18
Control Delay	48.0	20.3	26.8	30.7	5.1	56.0	24.7	20.3	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	20.3	26.8	30.7	5.1	56.0	24.7	20.3	10.0
LOS	D	C	C	C	A	E	C	C	A
Approach Delay		22.6		20.1			32.3		13.2
Approach LOS		C		C			C		B

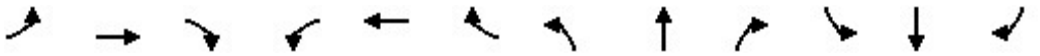
Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 96.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 47.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Dahlia Street & Smith Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	165	5	309	220	40	126	54	120
v/c Ratio	0.15	0.24	0.01	0.49	0.33	0.38	0.20	0.10	0.18
Control Delay	48.0	20.3	26.8	30.7	5.1	56.0	24.7	20.3	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	20.3	26.8	30.7	5.1	56.0	24.7	20.3	10.0
Queue Length 50th (ft)	9	66	2	145	0	25	57	22	19
Queue Length 95th (ft)	28	108	12	269	51	59	103	44	49
Internal Link Dist (ft)		1173		378			396		448
Turn Bay Length (ft)	425		290		290	150		360	
Base Capacity (vph)	105	689	412	635	674	106	618	593	684
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	0.14	0.24	0.01	0.49	0.33	0.38	0.20	0.09	0.18

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	119	21	5	281	200	36	110	5	45	40	60
Future Volume (veh/h)	13	119	21	5	281	200	36	110	5	45	40	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	1.00		0.98	1.00		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	1796	1796	1796	1841	1841	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	15	140	25	5	309	220	40	121	5	54	48	72
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	4	4	4	6	6	6	8	8	8
Cap, veh/h	29	577	103	447	574	483	59	567	23	491	251	376
Arrive On Green	0.02	0.39	0.39	0.31	0.31	0.31	0.03	0.33	0.33	0.10	0.39	0.39
Sat Flow, veh/h	1711	1477	264	1195	1841	1550	1725	1725	71	1697	642	963
Grp Volume(v), veh/h	15	0	165	5	309	220	40	0	126	54	0	120
Grp Sat Flow(s),veh/h/ln	1711	0	1740	1195	1841	1550	1725	0	1796	1697	0	1605
Q Serve(g_s), s	0.8	0.0	6.2	0.3	13.5	7.6	2.2	0.0	4.9	0.0	0.0	4.8
Cycle Q Clear(g_c), s	0.8	0.0	6.2	0.3	13.5	7.6	2.2	0.0	4.9	0.0	0.0	4.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.04	1.00		0.60
Lane Grp Cap(c), veh/h	29	0	680	447	574	483	59	0	591	491	0	627
V/C Ratio(X)	0.51	0.00	0.24	0.01	0.54	0.46	0.68	0.00	0.21	0.11	0.00	0.19
Avail Cap(c_a), veh/h	105	0	680	447	574	483	106	0	591	538	0	627
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	20.0	23.1	27.7	12.5	46.5	0.0	23.6	24.4	0.0	19.5
Incr Delay (d2), s/veh	13.1	0.0	0.8	0.0	3.6	3.1	13.1	0.0	0.8	0.1	0.0	0.7
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	0.5	0.0	2.6	0.1	6.4	2.9	1.2	0.0	2.2	0.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	0.0	20.8	23.2	31.3	15.6	59.6	0.0	24.4	24.5	0.0	20.2
LnGrp LOS	E	A	C	C	C	B	E	A	C	C	A	C
Approach Vol, veh/h		180			534			166			174	
Approach Delay, s/veh		24.1			24.7			32.9			21.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	7.7	36.3	15.3	38.0		44.0	9.3	44.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	26.0	12.0	32.0		38.0	6.0	38.0				
Max Q Clear Time (g_c+I1), s	2.8	15.5	2.0	6.9		8.2	4.2	6.8				
Green Ext Time (p_c), s	0.0	2.0	0.1	0.6		1.0	0.0	0.7				

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	48	70	154	356	6
Future Vol, veh/h	4	48	70	154	356	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	80	80	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	56	88	193	400	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	773	404	407	0	-	0
Stage 1	404	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	367	647	1152	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	647	1152	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	616	-	-	-	-	-
Stage 2	699	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	2.6	0
HCM LOS	B		

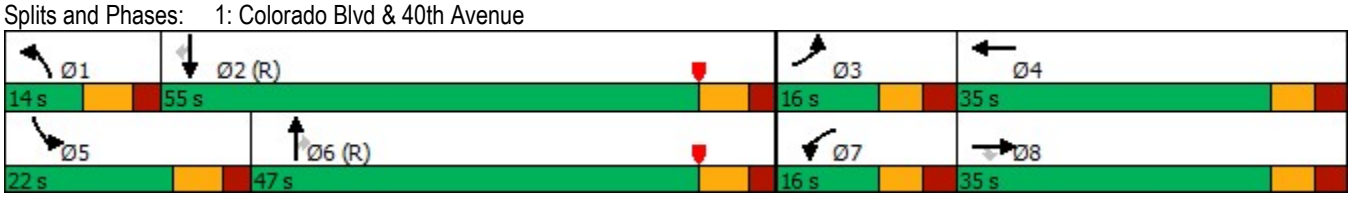
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1152	-	604	-	-
HCM Lane V/C Ratio	0.076	-	0.101	-	-
HCM Control Delay (s)	8.4	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection Capacity Worksheets: 2045 Background + Project with Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	155	121	100	177	129	145	1440	120	110	1945	220
Future Volume (vph)	155	121	100	177	129	145	1440	120	110	1945	220
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8					6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	16.0	35.0	35.0	16.0	35.0	14.0	47.0	47.0	22.0	55.0	55.0
Total Split (%)	13.3%	29.2%	29.2%	13.3%	29.2%	11.7%	39.2%	39.2%	18.3%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	9.0	16.2	16.2	9.0	16.2	9.5	53.3	53.3	13.5	57.3	57.3
Actuated g/C Ratio	0.08	0.14	0.14	0.08	0.14	0.08	0.44	0.44	0.11	0.48	0.48
v/c Ratio	0.79	0.57	0.31	0.81	0.58	0.55	0.66	0.15	0.69	0.99	0.33
Control Delay	78.2	56.3	2.0	78.7	27.5	61.5	29.7	0.4	69.4	49.0	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	56.3	2.0	78.7	27.5	61.5	29.7	0.4	69.4	49.0	9.5
LOS	E	E	A	E	C	E	C	A	E	D	A
Approach Delay		51.0			46.9		30.3			46.2	
Approach LOS		D			D		C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 77 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 41.5	Intersection LOS: D
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

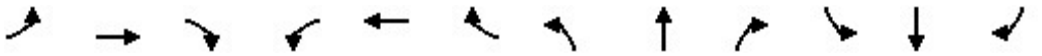
Splits and Phases: 1: Colorado Blvd & 40th Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	185	144	119	199	327	149	1485	124	133	2343	265
v/c Ratio	0.79	0.57	0.31	0.81	0.58	0.55	0.66	0.15	0.69	0.99	0.33
Control Delay	78.2	56.3	2.0	78.7	27.5	61.5	29.7	0.4	69.4	49.0	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	56.3	2.0	78.7	27.5	61.5	29.7	0.4	69.4	49.0	9.5
Queue Length 50th (ft)	73	108	0	79	63	57	321	0	100	641	42
Queue Length 95th (ft)	#118	143	0	#138	96	#111	461	0	153	#778	97
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	234	434	505	247	854	269	2236	807	219	2358	804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.33	0.24	0.81	0.38	0.55	0.66	0.15	0.61	0.99	0.33

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)	155	121	100	177	129	162	145	1440	120	110	1945	220
Future Volume (veh/h)	155	121	100	177	129	162	145	1440	120	110	1945	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		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	1722	1870	1722	1811	1870	1811	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	185	144	119	199	145	182	149	1485	124	133	2343	265
Peak Hour Factor	0.84	0.84	0.84	0.89	0.89	0.89	0.97	0.97	0.97	0.83	0.83	0.83
Percent Heavy Veh, %	12	2	12	6	2	6	3	3	3	5	5	5
Cap, veh/h	235	314	240	251	301	263	200	2189	674	159	2320	717
Arrive On Green	0.07	0.17	0.17	0.08	0.17	0.17	0.06	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	3182	1870	1431	3346	1777	1554	3428	5066	1560	1739	4985	1540
Grp Volume(v), veh/h	185	144	119	199	145	182	149	1485	124	133	2343	265
Grp Sat Flow(s),veh/h/ln	1591	1870	1431	1673	1777	1554	1714	1689	1560	1739	1662	1540
Q Serve(g_s), s	6.9	8.3	9.1	7.0	8.9	13.2	5.1	28.3	5.9	9.0	55.9	13.3
Cycle Q Clear(g_c), s	6.9	8.3	9.1	7.0	8.9	13.2	5.1	28.3	5.9	9.0	55.9	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	314	240	251	301	263	200	2189	674	159	2320	717
V/C Ratio(X)	0.79	0.46	0.50	0.79	0.48	0.69	0.75	0.68	0.18	0.83	1.01	0.37
Avail Cap(c_a), veh/h	239	436	334	251	415	363	200	2189	674	217	2320	717
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	1.00	1.00
Uniform Delay (d), s/veh	54.7	45.0	45.3	54.6	45.1	46.9	55.6	27.4	21.0	53.6	32.1	20.7
Incr Delay (d2), s/veh	15.9	1.0	1.6	15.9	1.2	3.3	14.1	1.7	0.6	18.0	21.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.9	3.3	3.5	4.0	5.4	2.6	11.3	2.2	4.7	25.5	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	46.1	46.9	70.4	46.3	50.2	69.7	29.1	21.6	71.6	53.2	22.2
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	F	C
Approach Vol, veh/h		448			526			1758			2741	
Approach Delay, s/veh		56.4			56.8			32.0			51.1	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	62.9	15.9	27.3	18.0	58.9	16.0	27.1
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	7.0	48.0	9.0	28.0	15.0	40.0	9.0	28.0
Max Q Clear Time (g_c+I1), s	7.1	57.9	8.9	15.2	11.0	30.3	9.0	11.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.1	6.6	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	305	137	160	202	233	135	1980	157	127	1930	255
Future Volume (vph)	305	137	160	202	233	135	1980	157	127	1930	255
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	6		5	2	
Permitted Phases			8					6			2
Detector Phase	3	8	8	7	4	1	6	6	5	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	12.0	34.0	34.0	12.0	34.0	34.0
Total Split (s)	20.0	32.0	32.0	16.0	28.0	16.0	52.0	52.0	20.0	56.0	56.0
Total Split (%)	16.7%	26.7%	26.7%	13.3%	23.3%	13.3%	43.3%	43.3%	16.7%	46.7%	46.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.0	20.6	20.6	9.0	16.6	9.4	48.7	48.7	13.7	53.0	53.0
Actuated g/C Ratio	0.11	0.17	0.17	0.08	0.14	0.08	0.41	0.41	0.11	0.44	0.44
v/c Ratio	0.97	0.48	0.46	0.85	0.75	0.54	1.03	0.23	0.74	1.01	0.39
Control Delay	94.2	49.5	12.2	84.0	47.3	61.1	63.5	4.5	74.4	56.3	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	49.5	12.2	84.0	47.3	61.1	63.5	4.5	74.4	56.3	11.5
LOS	F	D	B	F	D	E	E	A	E	E	B
Approach Delay		62.2			60.3		59.3			52.3	
Approach LOS		E			E		E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 82 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 56.8	Intersection LOS: E
Intersection Capacity Utilization 97.8%	ICU Level of Service F
Analysis Period (min) 15	

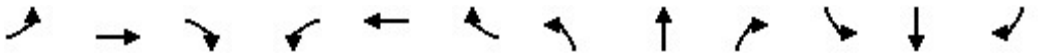
Splits and Phases: 1: Colorado Blvd & 40th Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	343	154	180	215	394	139	2041	162	141	2144	283
v/c Ratio	0.97	0.48	0.46	0.85	0.75	0.54	1.03	0.23	0.74	1.01	0.39
Control Delay	94.2	49.5	12.2	84.0	47.3	61.1	63.5	4.5	74.4	56.3	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	49.5	12.2	84.0	47.3	61.1	63.5	4.5	74.4	56.3	11.5
Queue Length 50th (ft)	138	109	11	86	121	53	~651	0	105	~653	56
Queue Length 95th (ft)	#229	168	70	#154	171	89	#758	43	#214	#782	132
Internal Link Dist (ft)		864			286		826			1049	
Turn Bay Length (ft)	530		215	150		380		185	140		200
Base Capacity (vph)	354	388	439	252	645	268	1985	699	198	2120	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.40	0.41	0.85	0.61	0.52	1.03	0.23	0.71	1.01	0.39

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)	305	137	160	202	233	137	135	1980	157	127	1930	255
Future Volume (veh/h)	305	137	160	202	233	137	135	1980	157	127	1930	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.98
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	1796	1870	1796	1841	1870	1841	1811	1811	1811	1781	1781	1781
Adj Flow Rate, veh/h	343	154	180	215	248	146	139	2041	162	141	2144	283
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.97	0.97	0.97	0.90	0.90	0.90
Percent Heavy Veh, %	7	2	7	4	2	4	6	6	6	8	8	8
Cap, veh/h	360	358	282	255	341	192	193	1989	596	166	2152	655
Arrive On Green	0.11	0.19	0.19	0.08	0.16	0.16	0.06	0.40	0.40	0.10	0.44	0.44
Sat Flow, veh/h	3319	1870	1472	3401	2155	1214	3346	4944	1481	1697	4863	1481
Grp Volume(v), veh/h	343	154	180	215	202	192	139	2041	162	141	2144	283
Grp Sat Flow(s),veh/h/ln	1659	1870	1472	1700	1777	1592	1673	1648	1481	1697	1621	1481
Q Serve(g_s), s	12.3	8.7	13.5	7.5	13.0	13.8	4.9	48.3	8.8	9.8	52.7	15.8
Cycle Q Clear(g_c), s	12.3	8.7	13.5	7.5	13.0	13.8	4.9	48.3	8.8	9.8	52.7	15.8
Prop In Lane	1.00		1.00	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	358	282	255	281	252	193	1989	596	166	2152	655
V/C Ratio(X)	0.95	0.43	0.64	0.84	0.72	0.76	0.72	1.03	0.27	0.85	1.00	0.43
Avail Cap(c_a), veh/h	360	390	307	255	311	279	251	1989	596	184	2152	655
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	1.00	1.00
Uniform Delay (d), s/veh	53.2	42.7	44.7	54.8	48.0	48.3	55.6	35.9	24.1	53.3	33.3	23.0
Incr Delay (d2), s/veh	35.5	0.8	3.9	21.8	7.1	10.5	6.9	27.2	1.1	27.6	18.5	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	4.1	5.2	4.0	6.3	6.2	2.2	23.4	3.2	5.4	23.1	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	43.6	48.6	76.6	55.1	58.9	62.5	63.0	25.2	80.8	51.8	25.1
LnGrp LOS	F	D	D	E	E	E	E	F	C	F	D	C
Approach Vol, veh/h		677			609			2342			2568	
Approach Delay, s/veh		67.8			63.9			60.4			50.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	60.1	20.0	26.0	18.7	55.3	16.0	30.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	9.0	49.0	13.0	21.0	13.0	45.0	9.0	25.0
Max Q Clear Time (g_c+I1), s	6.9	54.7	14.3	15.8	11.8	50.3	9.5	15.5
Green Ext Time (p_c), s	0.1	0.0	0.0	1.1	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

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