

**Transportation Impact Study**  
for  
**Uptown240 in Dillon, Colorado**



**March 1, 2018**  
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*Project Number: M1318*

## **Statement of Engineering Qualifications**

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# Traffic Impact Study for Uptown240

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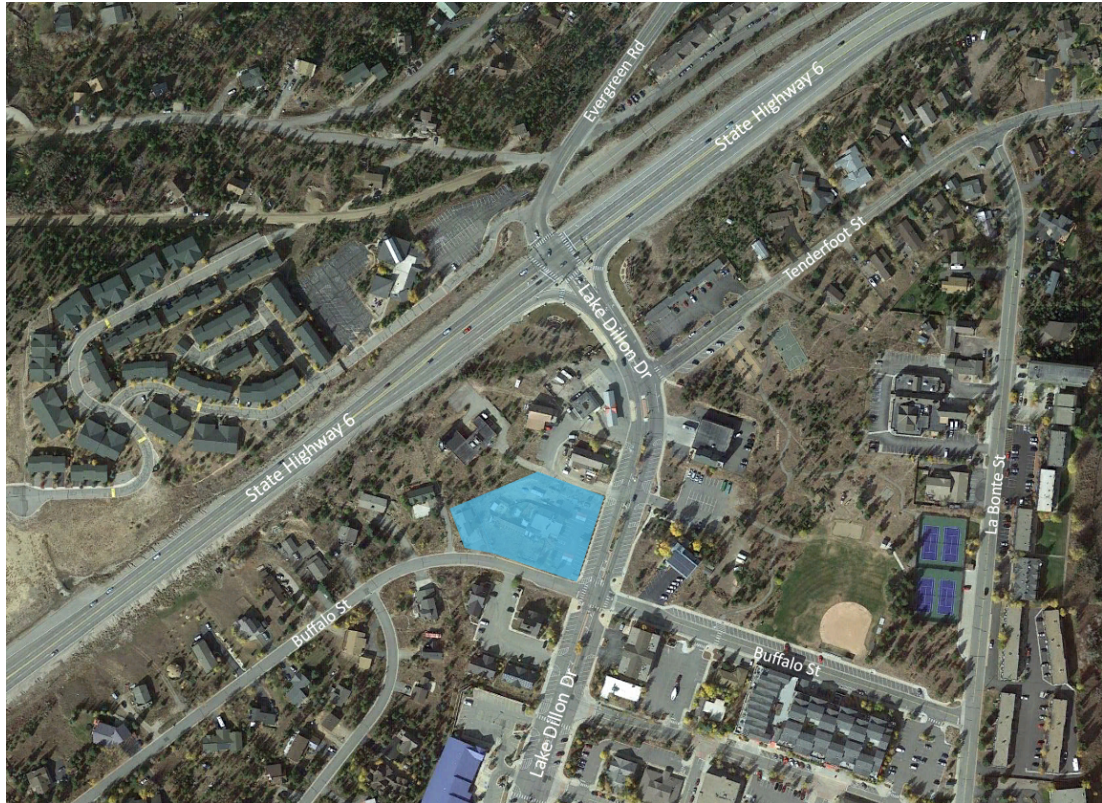
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## 1.0 Project Description

The Uptown240 project is a proposed retail and residential development located on the northwest corner of Lake Dillon Drive and Buffalo Street in Dillon, Colorado. The project comprises 186 West Buffalo Street and 240 Lake Dillon Drive. The project location is depicted in **Figure 1**.

*Figure 1: Vicinity Map*



The proposed project will include the construction of a 5,605 square-foot restaurant and 80 condominium dwelling units.

This study is intended to analyze the anticipated transportation impacts associated with this development. Traffic analysis has been performed for existing conditions, as well as both background and total conditions for the anticipated buildout Year 2020 and long-range planning Year 2040.

The current access to this property is via an existing drive to Buffalo Street on the south side of the property. This site access will remain. A new right-in, right-out access will be constructed to Lake Dillon Drive. A new parking lot to serve this site will be constructed on the 186 West Buffalo Street parcel. The current site plan and proposed access locations can be seen in **Figure 2**.



## 2.0 Existing Conditions

### 2.1 Description of Existing Transportation System

US 6: US 6 is a four-lane, federal highway that connects Interstate 70 at Silverthorne to Interstate 70 at the Loveland Ski Area by way of the Town of Dillon, Keystone, and Loveland Pass. CDOT classifies the roadway as a non-rural principal highway (NR-A) from mile marker (MM) 209 to MM 211. It has a posted speed limit of 40 MPH at Lake Dillon Drive.

Lake Dillon Drive: Lake Dillon Drive is a two-lane, north-south commercial collector roadway that serves area businesses and neighborhoods. It has a posted speed limit of 25 MPH within the vicinity of the site. Lake Dillon Drive has a raised median adjacent to the site.

Buffalo Street: Buffalo Street is a two-lane, residential street serving local residential driveways. It has a posted speed limit of 25 MPH within the vicinity of the site.

Pedestrian and Bicycle Facilities: There are sidewalk segments on both sides of Lake Dillon Drive. Within the vicinity of the site, there is the Silverthorne multiuse path along the north side of Lake Dillon that connects Dillon to Silverthorne.

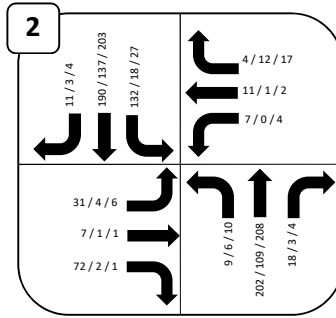
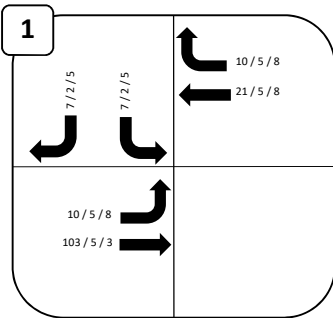
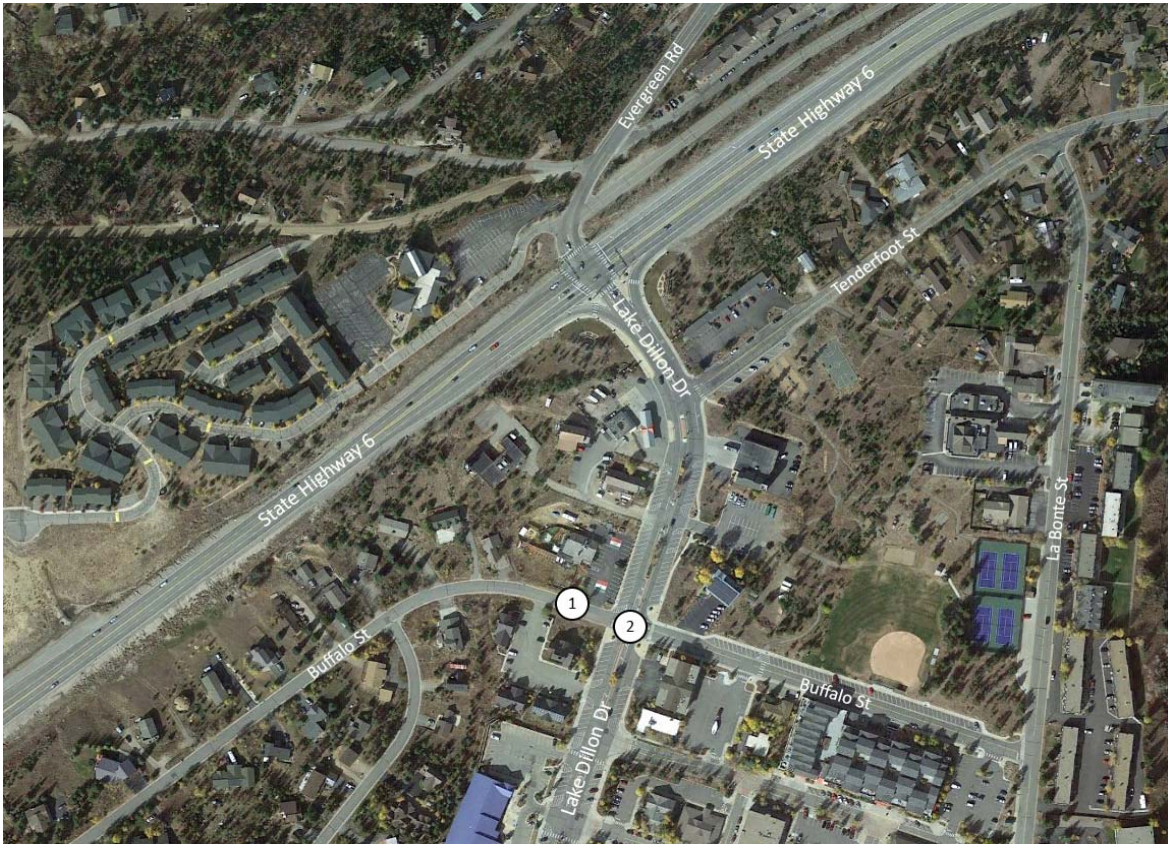
### 2.2 Traffic Data Collection

Existing Traffic Volumes: Existing weekday morning and evening peak hour and Saturday evening peak hour turning movement counts were collected by McDowell Engineering at the intersection of Lake Dillon Drive and Buffalo Street. Traffic data was collected on Wednesday, January 31<sup>st</sup>, Saturday, February 3<sup>rd</sup> and Thursday, February 8<sup>th</sup>, 2018. Turning movement counts were collected from 7:00 – 9:00 AM and 4:00 – 6:00 PM for the weekday counts and 5:00 – 7:00 PM on Saturday. The counts were collected on separate days in order to collect data during clear weather conditions. Snow on the evening of January 31<sup>st</sup>, 2018 necessitated the additional counts on February 8<sup>th</sup>, 2018.

Existing traffic volumes at the site access were estimated based upon existing traffic counts at the intersection of Lake Dillon Drive and Buffalo Street, as well as anticipated existing volumes.

The resulting Year 2018 peak hour vehicular volumes at these intersections can be seen in the **Figure 3**.

Figure 3: Year 2018 Existing Traffic



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 Date: 3/20/2018  
 Gateway  
 Dillon, CO

Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



### 3.0 Future Background Traffic Projections

#### 3.1 Existing & Committed Capital Improvement Projects

There are no existing or committed capital improvement projects in the vicinity of the site.

#### 3.2 Planned or Existing Land Development Projects

There are no planned or existing land development projects in the vicinity of the site.

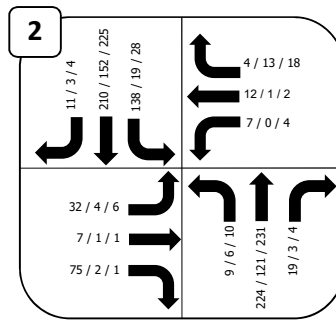
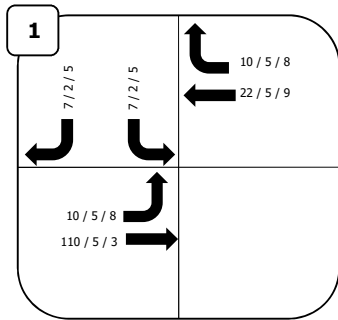
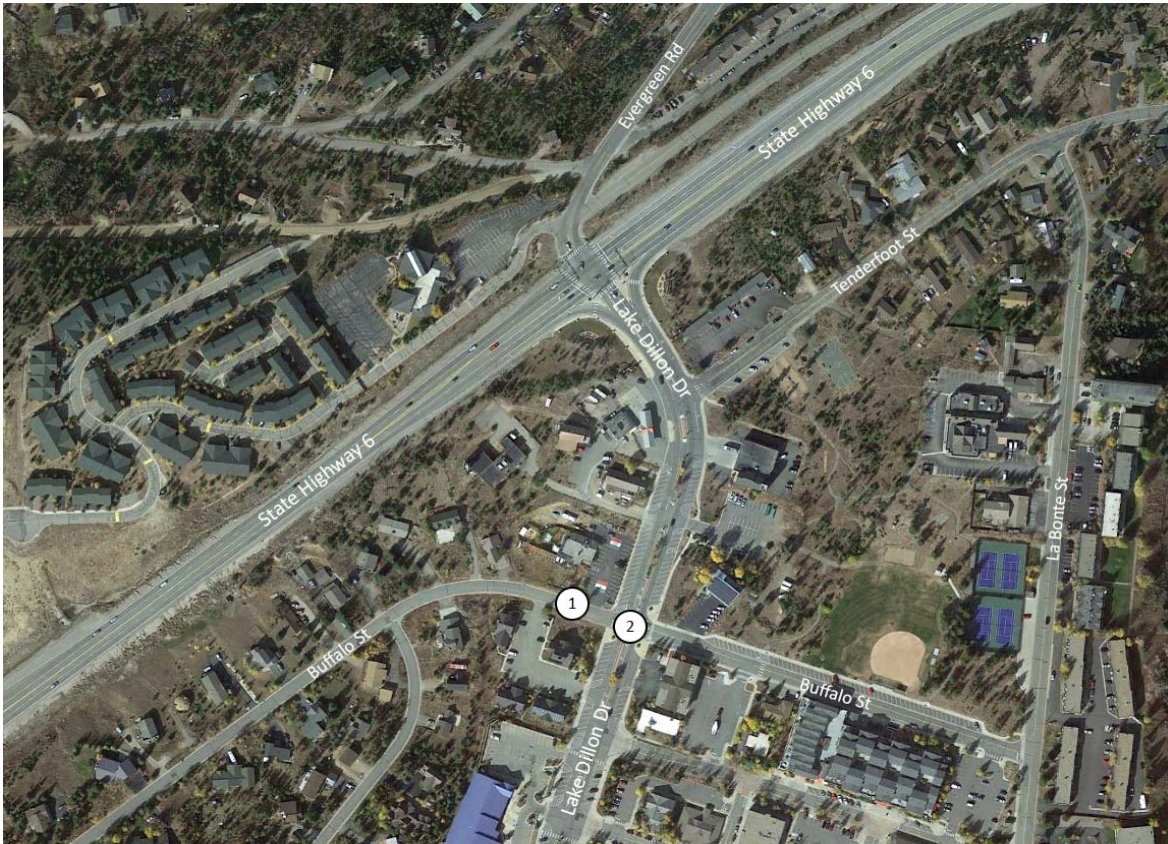
#### 3.3 Background Traffic Growth

The peak traffic on US 6 in Dillon occurs in March. January and February traffic volumes are within five percent of the peak March volumes. Therefore, a seasonal adjustment factor was determined for the January and February traffic data. Data from a CDOT Automated Traffic Recorder (ATR) provided count data at Swan Mountain in Dillon.

Long-term background growth on Lake Dillon Drive and Buffalo Street was based upon a conservative (high) estimate of potential growth. The growth rate for Lake Dillon Drive was determined to be 3.0% and the growth rate for Buffalo Street was determined to be 1.0%.

The resulting projected Year 2020 background traffic volumes can be seen in **Figure 4**. Similarly, the resulting projected Year 2040 background traffic volumes can be seen in **Figure 5**.

Figure 4: Year 2020 Background Traffic



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 Gateway  
 Dillon, CO

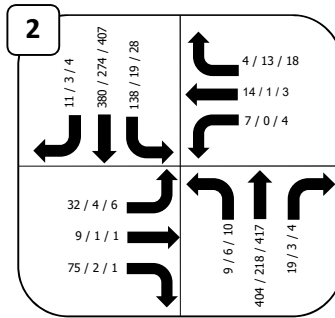
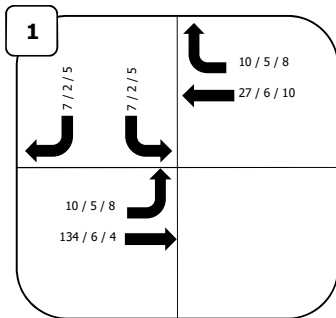
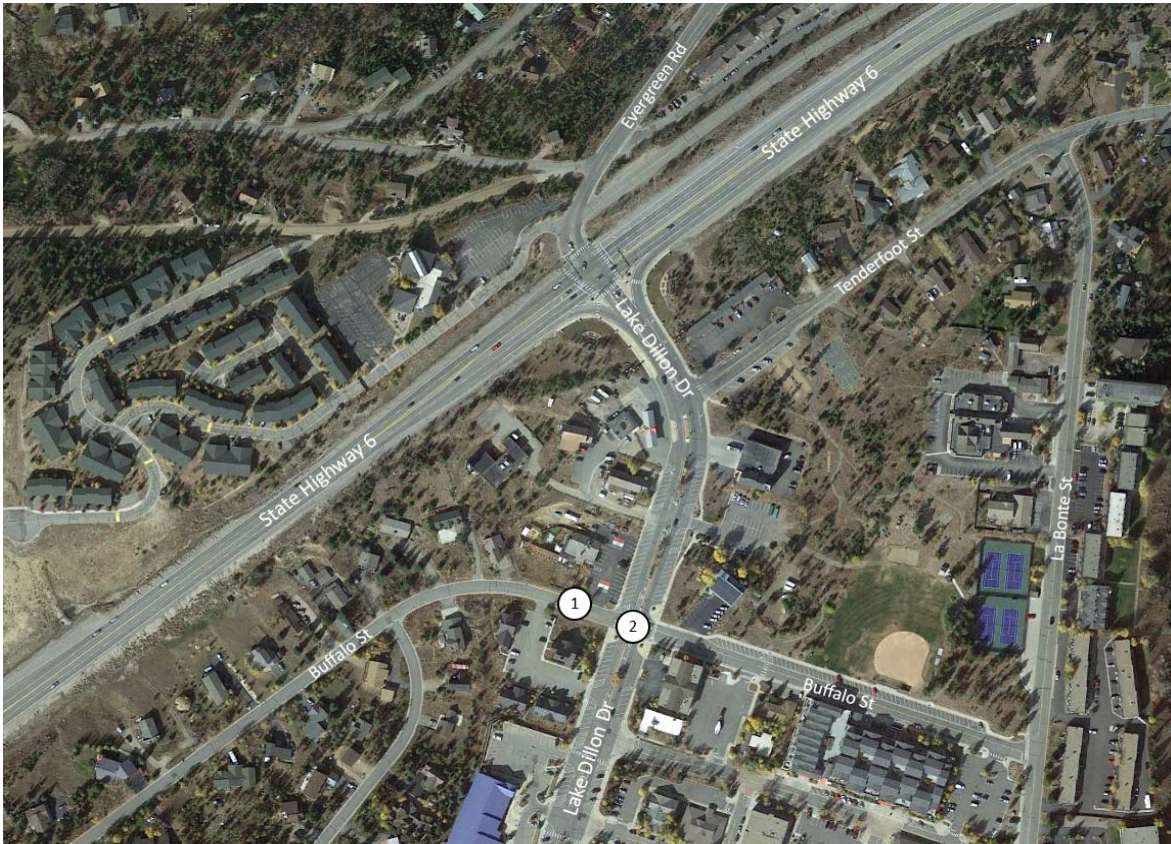
Legend:

SAT / AM / PM Volumes: XX / XX / XX (VPH)

Turning Movements



Figure 5: Year 2040 Background Traffic



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 Gateway  
 Dillon, CO



Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



### 3.1 Peak Hour LOS Background Traffic Conditions

Using *Highway Capacity Manual 2010* (HCM) methodology was used to determine the existing Level of Service (LOS) at the studied intersections. Synchro 8 HCM software was used to analyze the un-signalized and signalized intersections. HCM LOS is defined by the following criteria:

Table 1: HCM 2010 Level-of-Service Criteria

LOS	Expected Delay to Minor Street Traffic	Average Signal Delay (Seconds/Vehicle)	Average Stop-Controlled Delay (Seconds/Vehicle)
A	Little or no delay.	0-10	0-10
B	Short traffic delays.	>10-20	>10-15
C	Average traffic delays.	>20-35	>15-25
D	Long traffic delays.	>35-55	>25-35
E	Very long traffic delays.	>55-80	>35-50
F	When volume exceeds the capacity of the lane extreme delays will be encountered with queuing that may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improving the intersection.	>80	>50

Background Traffic Assumptions: A conservative growth rate was used for Lake Dillon Drive. Therefore, predicted Levels of Service are based upon high traffic growth conditions. A lower growth rate would yield better Levels of Service.

The results of this analysis can be seen in **Table 2**.

Table 2: Background Level of Service

Intersection		Traffic Control	Approach	Background*					
				Level of Service (Delay in Seconds)					
#	Name			Year 2020			Year 2040		
				AM	PM	SAT	AM	PM	SAT
1	Site Access & Buffalo St	SB Stop	EB	A (3.6)	A (5.3)	A (0.7)	A (3.3)	A (4.9)	A (0.6)
			WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SB	A (8.5)	A (8.6)	A (9.0)	A (8.5)	A (8.6)	A (9.1)
2	Lake Dillon Dr & Buffalo St	EB/WB Stop	EB	B (10.8)	B (13.8)	C (15.3)	B (13.0)	B (21.3)	D (27.7)
			WB	A (9.2)	B (10.9)	C (19.1)	A (9.9)	B (14.3)	D (32.7)
			NB	A (0.4)	A (0.4)	A (0.3)	A (0.3)	A (0.3)	A (0.3)
			SB	A (0.8)	A (0.9)	A (3.1)	A (0.5)	A (0.5)	A (2.3)

\* A conservative three percent (3.0%) growth rate was used for Lake Dillon Drive. Therefore, predicted Levels of Service are based upon high traffic growth conditions. A lower growth rate would yield better Levels of Service.

As can be seen in **Table 2**, the current site access to Buffalo Street is anticipated to operate at acceptable overall intersection Levels of Service through the long-term planning horizon Year 2040. The intersection of Lake Dillon Drive and Buffalo Street is anticipated to see deteriorating Levels of Services as traffic on Lake Dillon Drive increases. The study assumed a conservatively high growth rate on Lake Dillon Drive.

## 4.0 Project Traffic

### 4.1 Trip Generation

The Institute of Transportation Engineers' *Trip Generation Manual* was used to determine the anticipated trip generation for the proposed development. ITE's average rates were used for the analysis, as the standard regression or fitted curve equations are typically inflated for a smaller number of multifamily dwelling units. The data cluster at 80 dwelling units is closer to the average rate line. Therefore, it was determined that with the lower number of units, using the average rate will be more appropriate.

Existing Land Use: The proposed site currently has two multifamily units and a 3,700 square-foot restaurant. Based upon ITE's *Trip Generation Manual* land use codes #220 Multifamily Housing (Low-Rise) and #931 Quality Restaurant, the existing land uses are estimated to generate 324 vehicle trips on the average weekday, 348 vehicle trips on the average Saturday, 17 morning peak hour trips, 33 evening peak hour trips, and 41 Saturday peak hour trips.

Proposed Land Use: The proposed Uptown240 development is anticipated to contain 80 condominiums and a 5,605 square-foot restaurant. Per the *Trip Generation Manual* for land use codes #221 Multifamily Housing (Mid-Rise) and #931 Quality Restaurant, the project is expected to generate 883 vehicle trips on the average weekday, 878 vehicle trips on the average Saturday, 50 morning peak hour trips, 77 evening peak hour trips and 93 Saturday peak hour trips.

A five percent multimodal trip reduction was taken from the residential uses to account for the pedestrian and bicycle trips that commonly occur in an urban area with many services and good transit services.

Total New Trips: The proposed Uptown240 development is expected to add 559 new vehicle trips on the average weekday, 530 vehicle trips on the average Saturday, 33 vehicle trips during the morning peak hour, 44 vehicle trips during the evening peak hour and 52 vehicle trips during the Saturday peak hour to the existing roadway network.

Refer to **Table 3** for trip generation calculations and further breakdown of these trips.

**Table 3: Trip Generation**

**Table 3 - Project Trip Generation**

Uptown240  
Dillon, Colorado

Estimated Project-Generated Traffic<sup>1</sup>



ITE Code	Units	Avg. Weekday	Avg. Saturday	AM Peak Hour	PM Peak Hour	SAT Peak Hour	Average Weekday		Morning Peak Hour		Evening Peak Hour		Saturday Peak Hour						
							Trips (VPD)	Trips (VPD)	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound					
<b>Existing Land Use</b>																			
#220 Multifamily Housing (Low-Rise)	2 DU	7.32	8.14	0.56	0.67	0.7	15	16	28%	0	72%	1	59%	1	41%	1	50%	1	50%
#931 Quality Restaurant	3.7 KSF	83.84	90.04	4.47	8.28	10.68	310	333	80%	13	20%	3	61%	19	39%	12	59%	23	41%
Multimodal Reduction -5%																			
Existing Land Use Total																			
							324	348		13	4	20	13	0	24	0	0	0	17
<b>Proposed Land Use</b>																			
#221 Multifamily Housing (Mid-Rise)	80 DU	5.44	4.91	0.32	0.41	0.44	435	393	27%	7	73%	19	60%	20	40%	13	49%	17	51%
#931 Quality Restaurant	5.605 KSF	83.84	90.04	4.47	8.28	10.68	470	505	80%	20	20%	5	61%	28	39%	18	59%	35	41%
Multimodal Reduction -5%																			
Proposed Land Use Total																			
							-22	-20		0	-1	-1	-1	47	-1	30	-1	51	-1
							883	878		27	23	47	30	51	42	27	25	27	25
<b>Total New Trips</b>							<b>559</b>	<b>530</b>		<b>14</b>	<b>19</b>	<b>27</b>	<b>17</b>	<b>27</b>	<b>17</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>

<sup>1</sup> Values obtained from Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

DU = Dwelling Units  
KSF = 1,000 Square-Feet

## 4.2 Trip Distribution

The distribution of project-generated vehicular traffic on adjacent roadways is influenced by several factors including the following:

- The location of the site relative to other community facilities
- The configuration of the existing and proposed adjacent roadway network
- Relative location of neighboring population centers

Directional Distribution: Based upon the factors described above, it is assumed that the site's directional distribution is approximately:

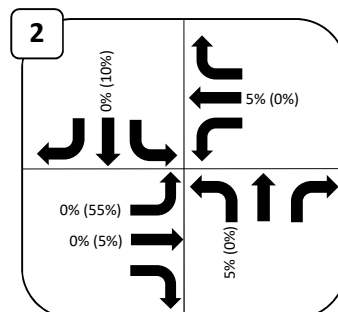
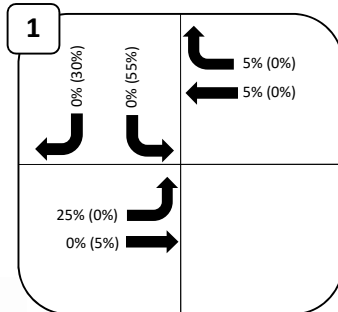
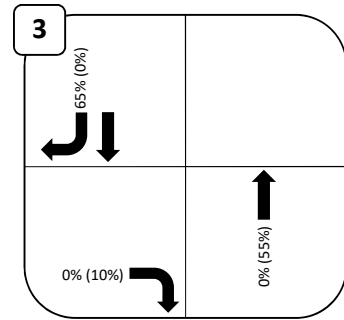
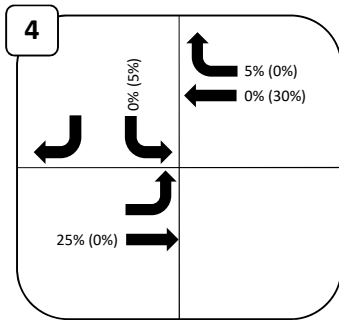
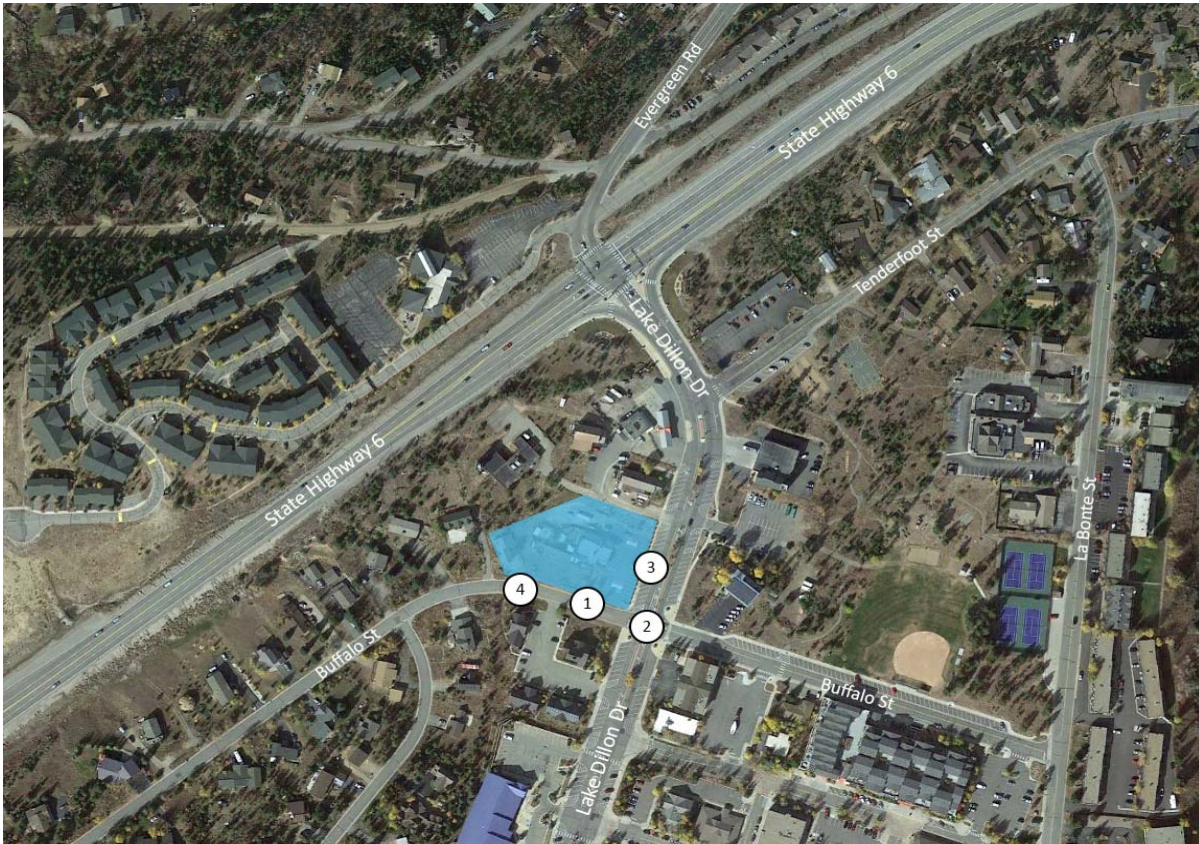
- a. Forty-five percent (45%) of site-generated traffic will travel to/from the east on US 6 or Buffalo Street.
- b. Forty-five percent (45%) of site-generated traffic will travel to/from the west on US 6, Tenderfoot Street or Buffalo Street.
- c. Five percent (5%) of site-generated traffic will travel to/from the south on Lake Dillon Drive.
- d. Five percent (5%) of site-generated traffic will travel to/from the north on Evergreen Road.

**Figure 6** depicts the anticipated directional distribution of the site-generated traffic.

## 4.3 Site-Generated Traffic Assignment

When the trip generation expected for this site is applied to the estimated site-generated directional distribution, the result is the anticipated assignment of total site-generated trips on the roadway system. Existing site traffic was subtracted from the network. Refer to the Existing Traffic Subtraction figure in the **Appendix. Figure 7** depicts the new vehicle trips that are anticipated from project in Year 2020.

Figure 6: Site-Generated Traffic Directional Distribution



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Legend:  
 Inbound (Outbound)  
 Turning Movements

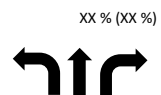
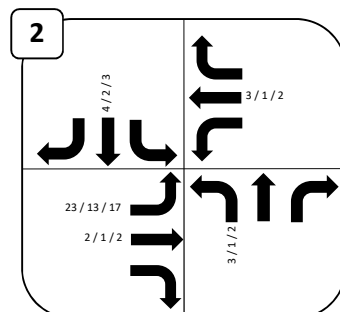
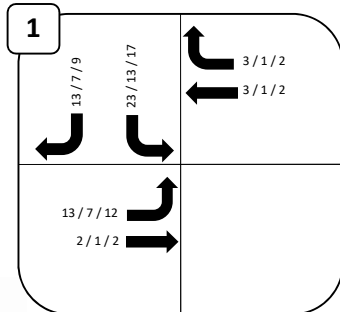
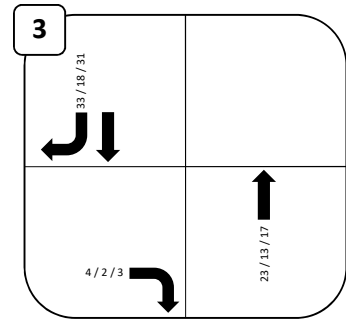
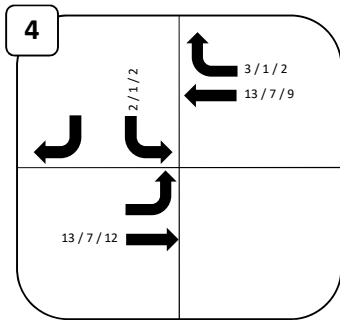
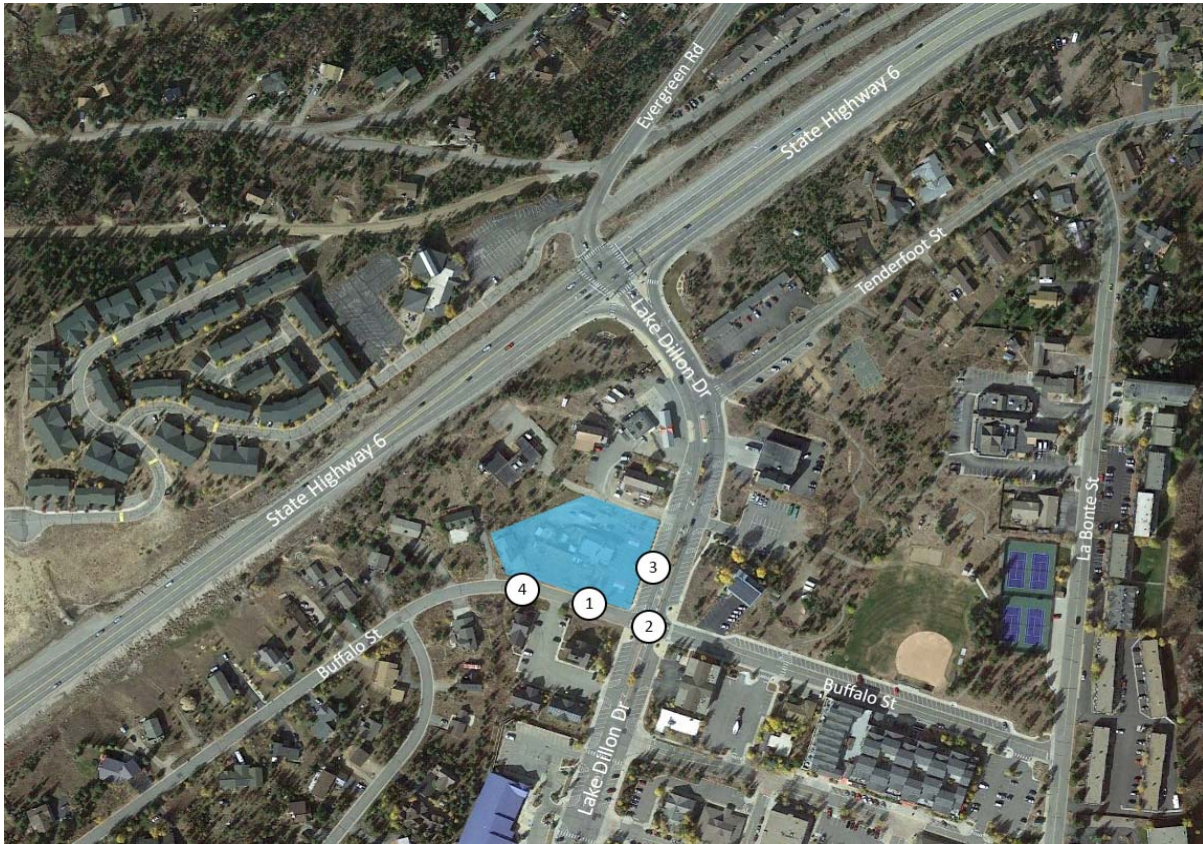


Figure 7: Site-Generated Traffic



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Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



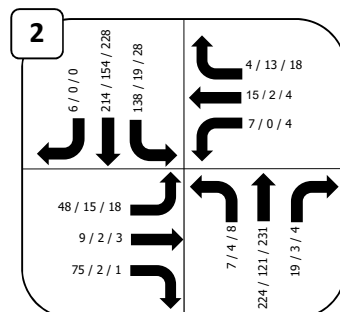
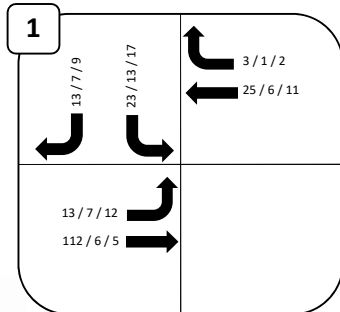
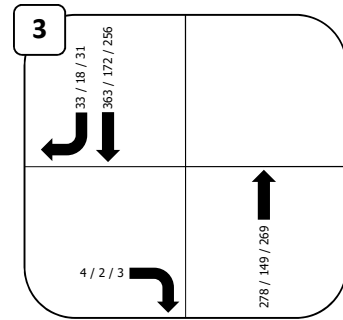
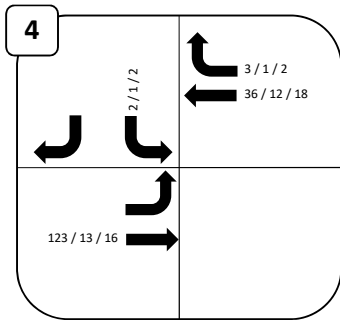
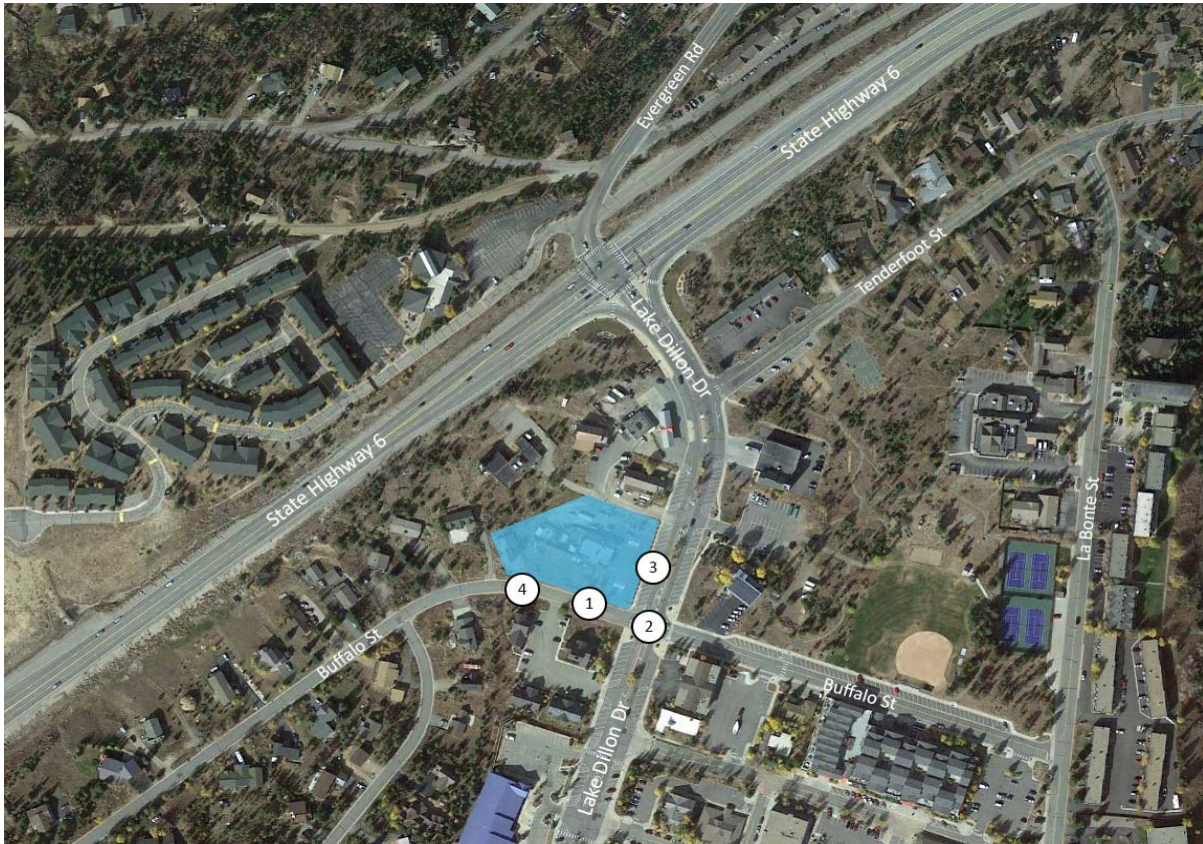
#### 4.4 Total Traffic

The total traffic anticipated at each intersection is the sum of background traffic with the site-generated traffic.

For Year 2020, the background traffic (**Figure 4**) added to the site-generated traffic (**Figure 7**) yields the total Year 2020 traffic in **Figure 8**.

Similarly, for Year 2040, the background traffic (**Figure 5**) added to the site-generated traffic (**Figure 7**) yields the total Year 2040 traffic in **Figure 9**.

Figure 8: Year 2020 Total Traffic



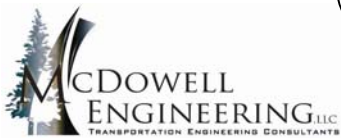
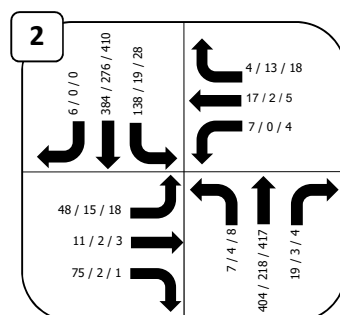
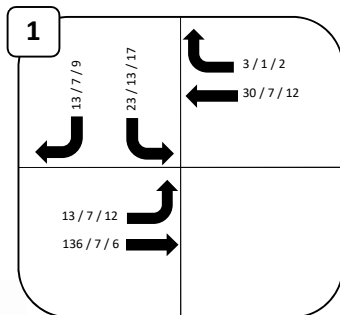
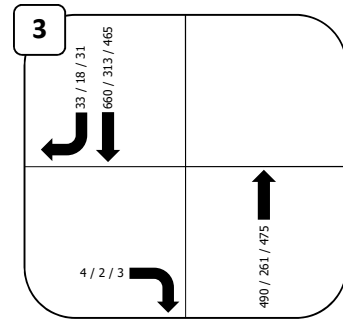
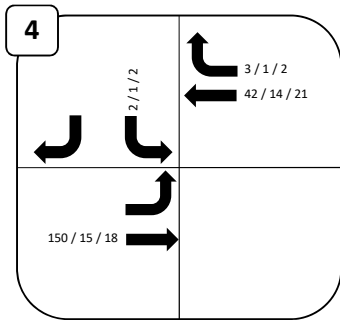
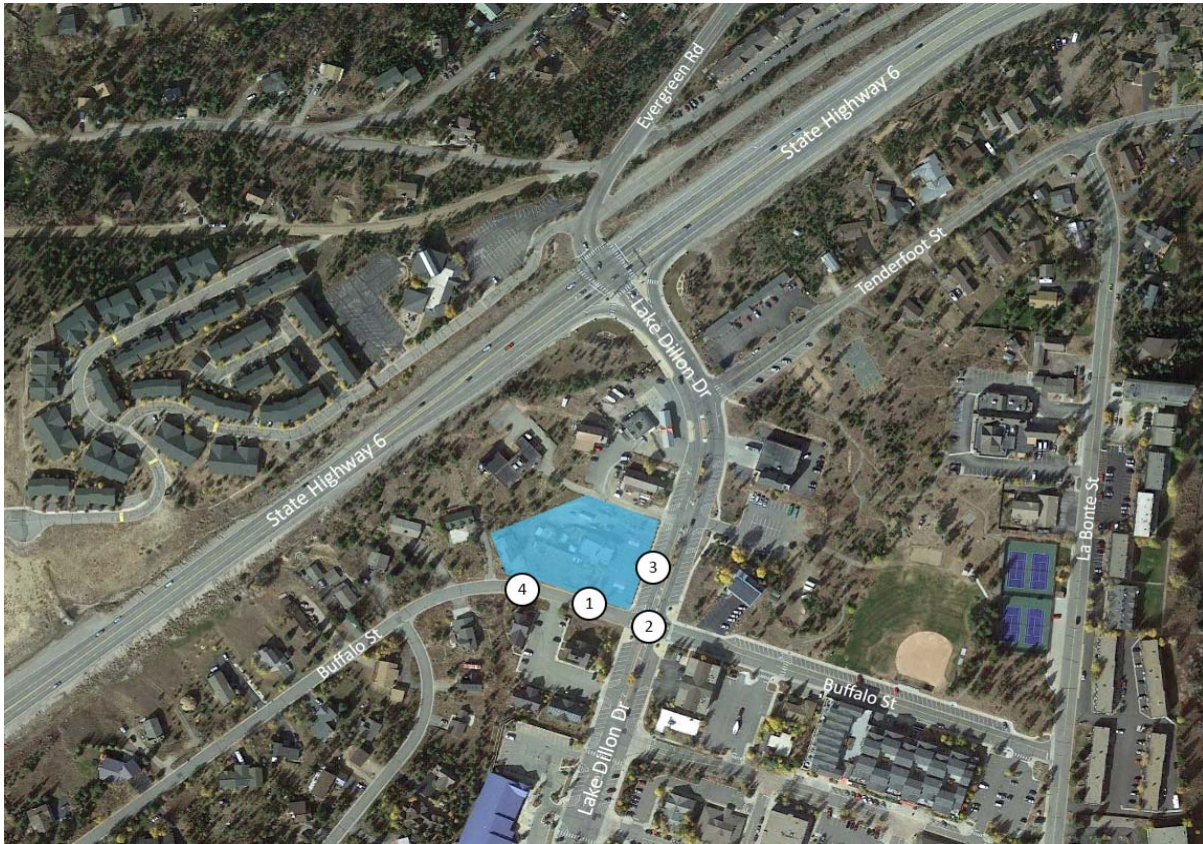
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 Gateway  
 Dillon, CO



Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



Figure 9: Year 2040 Total Traffic



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 Gateway  
 Dillon, CO



Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



## 5.0 Transportation Impact Analysis

### 5.1 Site Access and Circulation Evaluation

As seen in **Figure 2**, the conceptual site plan, Uptown240 development will have two site accesses to Buffalo Street and one to Lake Dillon Drive. The Uptown240 facility will have bi-directional internal roadways.

Lake Dillon Drive: The proposed Uptown240 site will add approximately 44 vehicles per hour (1 vehicle every 1-2 minutes) to Lake Dillon Drive during the Saturday peak hour.

Buffalo Street: The proposed Uptown240 site will add approximately 9 vehicles per hour (1 vehicle every 3 minutes) to Buffalo Street, west of the site, during the Saturday peak hour.

### 5.2 Site Access Design

Site accesses shall be designed per the Town of Dillon's Municipal Code.

### 5.3 Auxiliary Turn Lane Requirements

No additional turn lanes are required on Buffalo Street or Lake Dillon Drive.

### 5.4 Design Vehicle

The design vehicle for this site shall be a single unit delivery truck. The accesses shall also be designed to accommodate the applicable fire trucks.

Per **Section 5.5**, the site shall be signed to prohibit combination trucks. Single unit delivery trucks shall be directed to the Buffalo Street accesses.

### 5.5 Sight Distance

According to Summit County's *Access Management Manual*, the AASHTO *A Policy on Geometric Design of Highways and Structures* shall be used to determine adequate sight distance.

Stopping sight distance (SSD) for a roadway is calculated as follows:

$$SSD = 1.47Vt + 1.075 \frac{V^2}{a}, \text{ where } v = \text{design speed (mph)}, t = \text{brake reaction time (2.5 s) and } a = \text{deceleration rate (11.2 ft/s}^2\text{)}.$$

Using the equation above, the required stopping sight distance for a 25 MPH roadway is 152 feet. For both proposed accesses, there is sufficient stopping sight distance in all directions.

Intersection sight distance is also another sight distance requirement per Summit County's *Access Management Manual*. For left turns at stop-controlled intersections with a speed limit of 25 MPH, the following sight distances are required:

- 280' for passenger cars
- 348' for single-unit trucks

For right turns and crossing at stop-controlled intersections with a speed limit of 25 MPH, the following sight distances are required:

- 240' for passenger cars
- 315' for single-unit trucks

Right-In, Right-Out Access: There is adequate intersection sight distance for right-turning passenger cars for the proposed right-in, right-out access. Signage shall be displayed prohibiting all single-unit and combination trucks from egressing via this access due to the lack of intersection sight distance.

Main Site Access: There is adequate intersection sight distance for the site's anticipated design vehicles, passenger cars and single-unit trucks, turning left or right out of the main site access. Signage should be displayed prohibiting combination trucks at the main site access due to the lack of intersection sight distance.

West Parking Lot Access: There is adequate intersection sight distance for the site's anticipated design vehicles, passenger cars and single-unit trucks, turning left or right out of the main site access. Signage should be displayed prohibiting combination trucks at the West Parking Lot access due to the lack of intersection sight distance.

## 5.6 Peak Hour LOS Total Traffic Conditions

An HCM analysis was performed for both short-term Year 2020 and long-term Year 2040 conditions. **Table 5** summarizes the total level of service (LOS) and delays.

*Table 5: Total Traffic Level of Service*

Intersection		Traffic Control	Approach	Total*					
				Level of Service (Delay in Seconds)					
#	Name			Year 2020			Year 2040		
				AM	PM	SAT	AM	PM	SAT
1	Site Access & Buffalo St	SB Stop	EB	A (3.9)	A (5.1)	A (0.8)	A (3.6)	A (4.9)	A (0.7)
			WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SB	A (8.6)	A (8.7)	A (9.3)	A (8.6)	A (8.7)	A (9.4)
2	Lake Dillon Dr & Buffalo St	EB/WB Stop	EB	B (11.4)	B (14.5)	C (17.8)	B (14.0)	C (23.7)	E (39.2)
			WB	A (9.3)	B (11.1)	C (19.3)	B (10.2)	B (14.9)	D (33.3)
			NB	A (0.3)	A (0.3)	C (0.3)	A (0.2)	A (0.2)	C (0.2)
			SB	A (0.8)	A (0.9)	A (3.1)	A (0.5)	A (0.5)	A (2.3)
3	Lake Dillon Dr & RIRO	EB Stop	EB	A (9.3)	A (9.9)	B (10.7)	B (10.2)	B (11.5)	B (13.7)
			NB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
4	West Parking Lot Access & Buffalo St	SB Stop	EB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			WB	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SB	A (8.7)	A (8.7)	A (9.4)	A (8.7)	A (8.7)	A (9.6)

\* A conservative three percent (3.0%) growth rate was used for Lake Dillon Drive. Therefore, predicted Levels of Service are based upon high traffic growth conditions. A lower growth rate would yield better Levels of Service.

As seen above, both site accesses to Buffalo Street are anticipated to operate at acceptable overall intersection Levels of Service through the long-term planning horizon Year 2040 with the addition of site-generated traffic. The intersection of Lake Dillon Drive and Buffalo Street is anticipated to see deteriorating Levels of Services as traffic on Lake Dillon Drive increases. The study assumed a conservatively high growth rate on Lake Dillon Drive.

### 5.7 State Highway Access Permit

Section 2.6(3) of the *State Highway Access Code* requires a new access permit when there is a land use change and/or the driveway volume is anticipated to increase by more than twenty percent. The Uptown240 development is expected to add eight percent more traffic to State Highway 6 during the Saturday, morning, and evening peak hour. The increase in traffic during the Saturday peak hour can be seen below:

- $$\frac{44 \text{ VPH Uptown 240 Site-Generated Traffic}}{570 \text{ VPH Existing Traffic on North Leg of Lake Dillon Drive}} \times 100\% = 8\%$$

Therefore, a new State Highway Access Permit will not be required for this project.

### 5.8 Alternative Modes Summary

There are sidewalk segments on either side of Lake Dillon Drive. The applicant should construct a sidewalk along Buffalo Street for the length of the property to create

connectivity to the Lake Dillon Drive sidewalk network. The site will also be connected via internal sidewalks and ADA ramps.

## 5.9 Signage

There should be a “No U-Turn” sign displayed on Lake Dillon Drive at Buffalo Street, facing the southbound traffic.

There should also be signage prohibiting single-unit and combination trucks from egressing via the proposed right-in, right-out access.

## 6.0 Summary and Recommendations

The Uptown240 development project is a proposed retail and residential development located on the northwest corner of Lake Dillon Drive and Buffalo Street in Dillon, Colorado. The proposed project will include the construction of a 5,605 square-foot restaurant and 80 condominium dwelling units.

The current access to this property is via an existing drive to Buffalo Street on the south side of the property. This site access will remain. A new right-in, right-out access will be constructed to Lake Dillon Drive. A new parking lot to serve this site will be constructed on the 186 West Buffalo Street parcel.

Trip Generation: The proposed Uptown240 development is expected to add 559 new vehicle trips on the average weekday, 530 vehicle trips on the average Saturday, 33 vehicle trips during the morning peak hour, 44 vehicle trips during the evening peak hour and 52 vehicle trips during the Saturday peak hour to the existing roadway network.

HCM Level of Service: As seen above, both site accesses to Buffalo Street are anticipated to operate at acceptable overall intersection Levels of Service through the long-term planning horizon Year 2040. The intersection of Lake Dillon Drive and Buffalo Street is anticipated to see deteriorating Levels of Services as traffic on Lake Dillon Drive increases. The study assumed a conservatively high growth rate on Lake Dillon Drive.

Auxiliary Turn Lane Requirements: No additional turn lane construction is required to accommodate Uptown240's site-generated traffic.

Site Access and Circulation: Site access shall be designed per the Town of Dillon's Municipal Code. The design vehicle for this site shall be a single unit delivery truck. The accesses shall also be designed to accommodate fire trucks.

Right-In, Right-Out Access: There is adequate intersection sight distance for right-turning passenger cars for the proposed right-in, right-out access. Signage shall be displayed prohibiting all single-unit and combination trucks from egressing via this access.

Main Site Access: There is adequate intersection sight distance for the site's anticipated design vehicles, passenger cars and single-unit trucks, turning left or right out of the main site access. Signage should be displayed prohibiting combination trucks at the main site access.

West Parking Lot Access: There is adequate intersection sight distance for the site's anticipated design vehicles, passenger cars and single-unit trucks, turning

left or right out of the main site access. Signage should be displayed prohibiting combination trucks at the west parking lot access.

State Highway Access Permit: The *State Highway Access Code* requires a new access permit when there is a land use change and/or the driveway volume is anticipated to increase by more than twenty percent. The Uptown240 development is expected to add eight percent more traffic to State Highway 6. Therefore, a new State Highway Access Permit will not be required for this project.

Multimodal Pedestrian and Bicycle Facilities: There are sidewalk segments on either side of Lake Dillon Drive. The applicant should construct a sidewalk along Buffalo Street for the length of the property to create connectivity to the Lake Dillon Drive sidewalk network. The site will also be connected via internal sidewalks and ADA ramps.

Signage: There should be a “No U-Turn” sign displayed on Lake Dillon Drive at Buffalo Street, facing the southbound traffic.

The site shall be signed to prohibit combination trucks. Single unit delivery trucks shall be directed to the Buffalo Street accesses.

Transportation Recommendations: Based upon the analysis and recommendations presented in this report, the Uptown240 development will be successfully incorporated in the existing roadway network.

## 7.0 Appendix

### Reference Documents

1. *9<sup>th</sup> Edition Trip Generation Manual*. Institute of Transportation Engineers, 2012.
2. *Trip Generation Handbook, An ITE Recommended Practice*. Institute of Transportation Engineers, 2001.
3. *Highway Capacity Manual*. Transportation Research Board, 2010.
4. *State Highway Access Code*. State of Colorado, 2002.
5. *Access Management Manual*. Summit County, 2015.

### Included Documents

1. Scoping Form and Correspondence
2. Traffic Counts
3. Seasonal Adjustment Factor Data
4. Existing Traffic Subtraction Figure
5. HCM Reports



## McDowell Engineering Traffic Study Scoping Form

<b>Contact Information</b>	
Consultant Name:	McDowell Engineering
Tele:	970-623-0788
E-mail:	<a href="mailto:kari@mcdowelleng.com">kari@mcdowelleng.com</a>
Developer/Owner Name:	Danilo Ottoborgo

<b>Project Information (Attach proposed site plan.)</b>								
Project Name:			Uptown 240					
Project Location:			240 Lake Dillon Drive, NW Corner of Buffalo St & Lake Dillon Dr in Dillon, CO					
Project Description:			Redevelopment					
Application type (rezoning, subdivision), acreage, new or re-development, etc.			Condominiums & Restaurant					
Existing Land Uses	ITE Code	# Units or Size	Proposed Land Uses	ITE Code	# Units or Size	Existing / Proposed Land Uses	ITE Code	# Units or Size
Quality Restaurant	#931	3.7 kSF	Quality Restaurant	#931	3.8 kSF			
Multifamily Housing (Low-Rise)	#220	2 DU	Multifamily Housing (Mid-Rise)	#221	80 DU			
<i>See attached trip generation table.</i>								


<b>Assumptions</b>			
Study Horizons	Current Year: 2018	Buildout Year: 2020	Long Term Year: 2040
Study Area Boundaries <i>(Attach map if needed.)</i>	North: RIRO Site Access on Lake Dillon Drive		
	South: Buffalo Street		
	East: Lake Dillon Drive		West: Full-Movement Access on Buffalo Street
Intersections to be Evaluated <i>(Attach map if needed.)</i>	1. All Site Accesses		6.
	2. Lake Dillon Drive & Buffalo Street		7.
	3.		8.
	4.		9.
	5.		10.
Trip Distribution	See attached.		
Trip Reductions*	Internal Capture	Use: N/A	Pass By Use: 0 %
	Multi-modal	Use: 5 %	Use: 0 %
<i>*Include in Trip Generation table if provided. Submit calculations based upon ITE's Trip Generation Handbook.</i>			

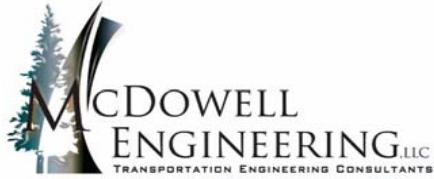
**McDowell Engineering Traffic Study Scoping Form**

<b>Assumptions (Continued)</b>			
Anticipated Future Traffic Growth Rates <i>(Describe methodology.)</i>	3.0% per year on Lake Dillon Drive and Buffalo	Study Time Periods <i>(Check all that apply.)</i>	<input checked="" type="checkbox"/> AM (7-9) <input checked="" type="checkbox"/> PM (4-6) <input checked="" type="checkbox"/> SAT (evening) <input type="checkbox"/> Other:
Other Factors <i>(Proposed/assumed transportation improvements, other studies, nearby proposed developments, etc.)</i>	Seasonal adjustment factor per CDOT's OTIS data on SH 9.		
Analysis Methods & Issues <i>(Check all that apply.)</i>	<input checked="" type="checkbox"/> Synchro <input type="checkbox"/> HCS <input type="checkbox"/> aaSidra or Rodel <input checked="" type="checkbox"/> Intersections <input type="checkbox"/> Roadway Sections <input type="checkbox"/> Signal Warrants <input checked="" type="checkbox"/> Safety/Sight Distance <input checked="" type="checkbox"/> Queuing & Storage <input type="checkbox"/> CDOT (Access Permit, etc.) <input checked="" type="checkbox"/> Identify Bicycle, Pedestrian & Transit Accommodations <input type="checkbox"/> TDM <input type="checkbox"/> Neighborhood Impacts <input type="checkbox"/> Other:		

**Attachments, Notes, & Other Assumptions:**

1. Amount of additional traffic on Buffalo?
2. Number of U Turns at Lake Dillon Drive/Bufalo?

Signed: (Applicant or Consultant)		Review Agency: Department:
Print Name: (Applicant or Consultant)	Kari J. McDowell Schroeder, PE, PTOE	Signed:
Date:	2/16/2018	Print Name: Date:



PROJECT NUMBER: M1318  
 PREPARED BY: MLH  
 DATE: February 16, 2018  
 REVISED:

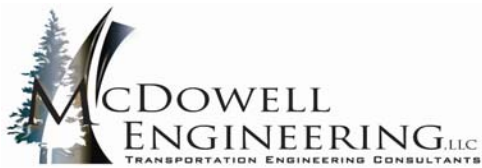
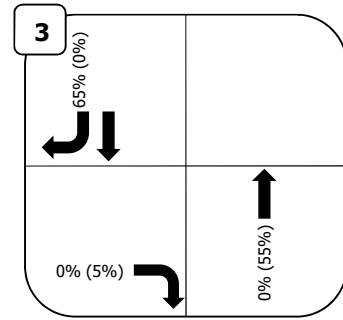
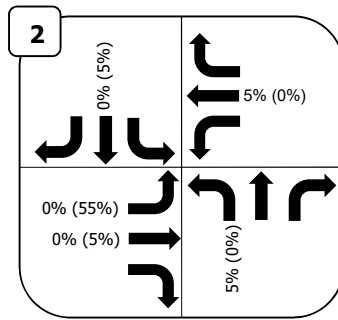
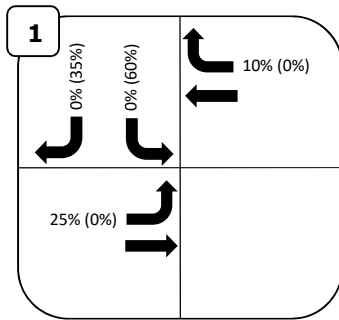
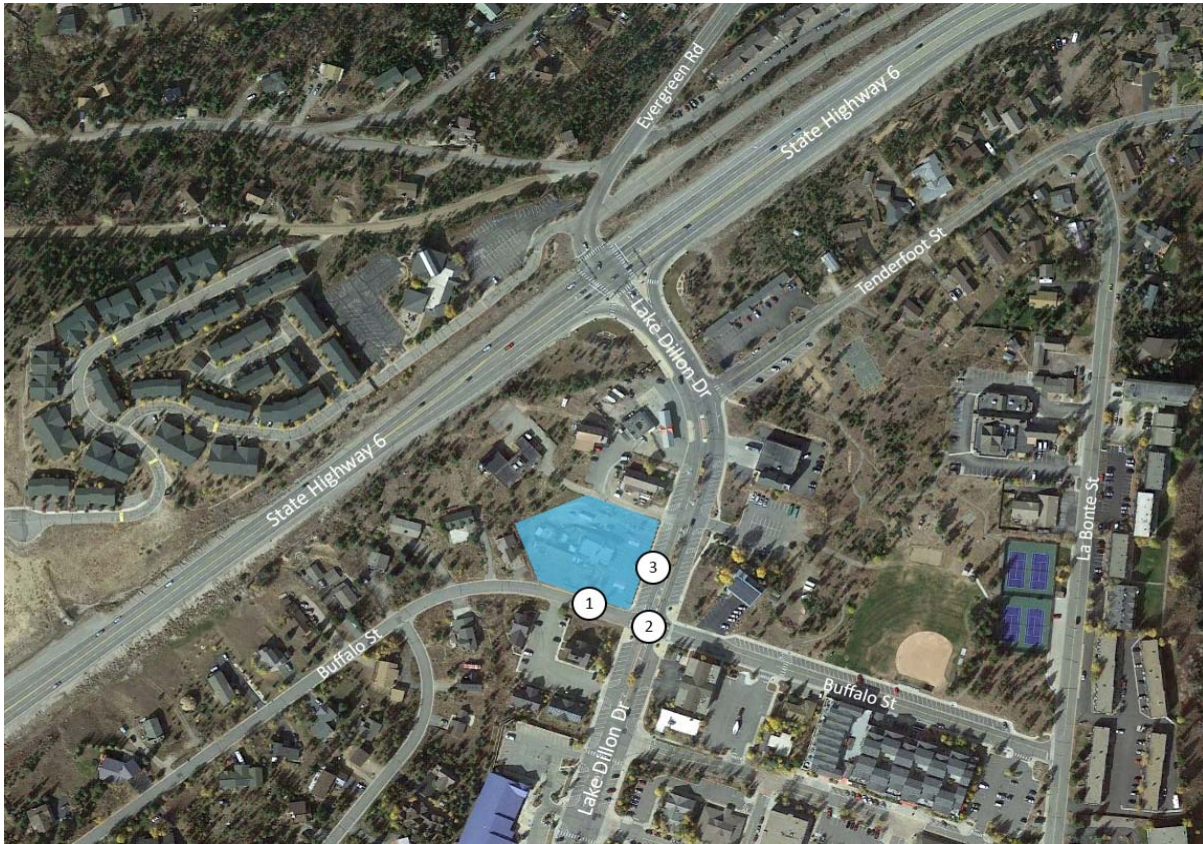
Table - Project Trip Generation  
 Gateway  
 Dillon, Colorado  
 Estimated Project-Generated Traffic<sup>1</sup>

ITE Code	Units	Avg. Weekday	Avg. Saturday	AM Peak Hour	PM Peak Hour	SAT Peak Hour	Average Weekday	Average Saturday	Morning Peak Hour		Evening Peak Hour		Saturday Peak Hour			
							Trips (VPD)	Trips (VPD)	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound		
									% Trips	Trips	% Trips	Trips	% Trips	Trips	% Trips	Trips
<b><u>Existing Land Use</u></b>																
#220 Multifamily Housing (Low-Rise)	2 DU	7.32	8.14	0.56	0.67	0.7	15	16	28%	0	72%	1	59%	1	41%	1
Multimodal Reduction	-5%						-1	-1		0		0		0		0
Residential Subtotal							14	15		0		1		1		1
#931 Quality Restaurant	3.7 kSF	83.84	90.04	4.47	8.28	10.68	310	333	80%	13	20%	3	61%	19	39%	12
Existing Land Use Total							324	348		13		4		20		13
<b><u>Proposed Land Use</u></b>																
#221 Multifamily Housing (Mid-Rise)	80 DU	5.44	4.91	0.32	0.41	0.44	435	393	27%	7	73%	19	60%	20	40%	13
Multimodal Reduction	-5%						-22	-20		0		-1		-1		-1
Residential Subtotal							413	373		7		18		19		12
#931 Quality Restaurant	3.8 kSF	83.84	90.04	4.47	8.28	10.68	319	342	80%	14	20%	3	61%	19	39%	12
Proposed Land Use Total							732	715		21		21		38		24
<b>Total New Trips</b>							<b>408</b>	<b>367</b>		<b>8</b>		<b>17</b>		<b>18</b>		<b>11</b>

<sup>1</sup> Values obtained from *Trip Generation, 10th Edition*, Institute of Transportation Engineers, 2017.

DU = Dwelling Units  
 kSF = 1,000 Square-Feet

Figure 6: Directional Distribution



Project Number: M1318  
 Prepared by: MLH  
 Date: 2/16/2018  
 Gateway  
 Dillon, CO



**Legend:**  
 Inbound (Outbound) Directional Distribution = XX% (XX%)  
 Turning Movements





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## FW: Traffic Scoping for Uptown 240 Development

3 messages

---

**Kari McDowell Schroeder** <kari@mcdowelleng.com>  
To: Madeleine Hirsch <madeleine@mcdowelleng.com>

Tue, Feb 20, 2018 at 8:15 PM

---

**From:** Dan Burroughs [mailto:[dburroughs@townofdillon.com](mailto:dburroughs@townofdillon.com)]  
**Sent:** Tuesday, February 20, 2018 8:13 PM  
**To:** Kari McDowell Schroeder <[kari@mcdowelleng.com](mailto:kari@mcdowelleng.com)>  
**Cc:** Rob Goss <[rob@marcinengineering.com](mailto:rob@marcinengineering.com)>  
**Subject:** Re: Traffic Scoping for Uptown 240 Development

Hi Kari,

I think that scope looks fine. We have been talking about this project for 8-10 years. So the Town Council's main concerns will be:

- 1) What is the traffic impact to W. Buffalo Street between the property and W. LaBonte Street (Heading to the Dam Road).
- 2) Now that there is an exit on Lake Dillon Drive do you think most people will head to E. LaBonte Street and head out to Dam Road....or use Buffalo Street to exit town.
- 3) For cars leaving the Lake Dillon Drive (LD) entrance, the Buffalo Street intersection is too narrow to do a U-Turn to go north on Lake Dillon Drive...because of the intersection configuration. So this links back to #2 above. Existing LDD Median blocks left turns to north LDD

Main thing is to develop traffic/turning numbers and decide if it is or isn't a significant amount of traffic compared to the existing restaurant use.

-Dan

---

**From:** Kari McDowell Schroeder <[kari@mcdowelleng.com](mailto:kari@mcdowelleng.com)>  
**Sent:** Friday, February 16, 2018 12:02 PM  
**To:** Dan Burroughs  
**Subject:** Traffic Scoping for Uptown 240 Development

Dan,

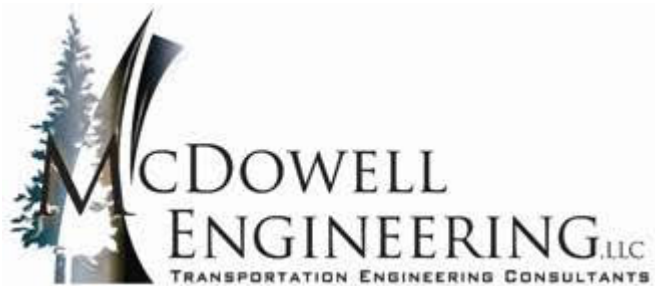
I am working on the traffic study for the Uptown 240 project. Can you please review the attached scoping form and comment?

Thank you,

Kari

Kari J. McDowell Schroeder, PE, PTOE

Transportation / Traffic Engineer



Eagle • Broomfield • Grand Junction

970.623.0788 • 303.949.4748 • 303.845.9541 fax

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[www.mcdowelleng.com](http://www.mcdowelleng.com)

Flexible Transportation Engineering Solutions . McDowell Engineering provides traffic and transportation engineering expertise to both public and private entities ...

---

Based on Dan's comments, let's discuss the distribution again!

---

**From:** Kari McDowell Schroeder [mailto:[kari@mcdowelleng.com](mailto:kari@mcdowelleng.com)]  
**Sent:** Tuesday, February 20, 2018 8:16 PM  
**To:** Madeleine Hirsch <[madeleine@mcdowelleng.com](mailto:madeleine@mcdowelleng.com)>  
**Subject:** FW: Traffic Scoping for Uptown 240 Development

[Quoted text hidden]

---

**Madeleine Hirsch** <[madeleine@mcdowelleng.com](mailto:madeleine@mcdowelleng.com)>  
To: [dburroughs@townofdillon.com](mailto:dburroughs@townofdillon.com)  
Cc: Kari McDowell Schroeder <[kari@mcdowelleng.com](mailto:kari@mcdowelleng.com)>  
Bcc: M1318 Dillon Gateway Marcin <[M1318@mcdowelleng.com](mailto:M1318@mcdowelleng.com)>

Wed, Feb 21, 2018 at 11:42 AM

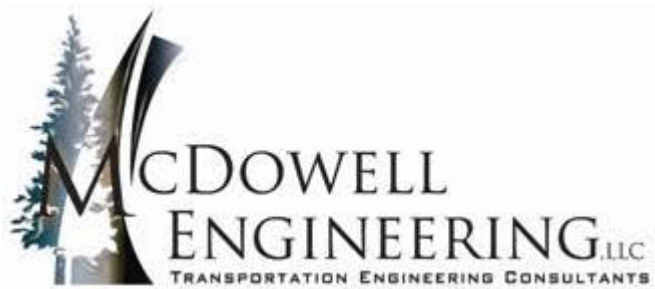
Thanks for your comments Dan!

[Quoted text hidden]

--

Madeleine Hirsch, EIT

Transportation & Traffic Engineer



Eagle • Broomfield • Grand Junction

970.623.0788 • 303.949.4748 • 303.845.9541 fax

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[www.mcdowelleng.com](http://www.mcdowelleng.com)







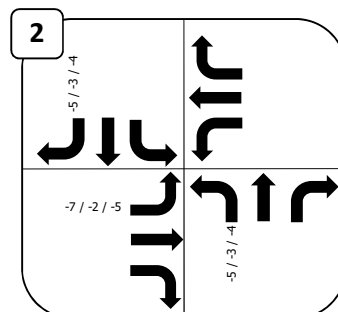
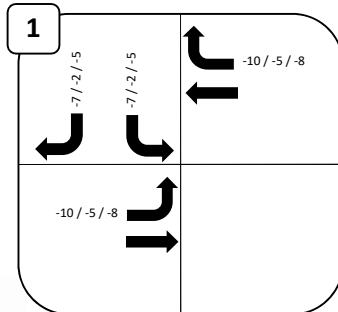
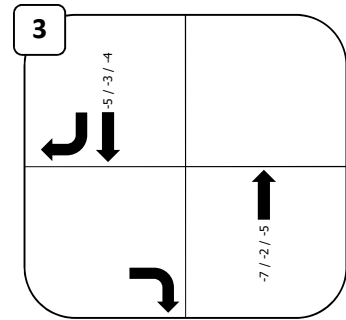
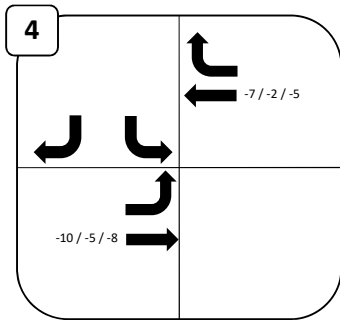
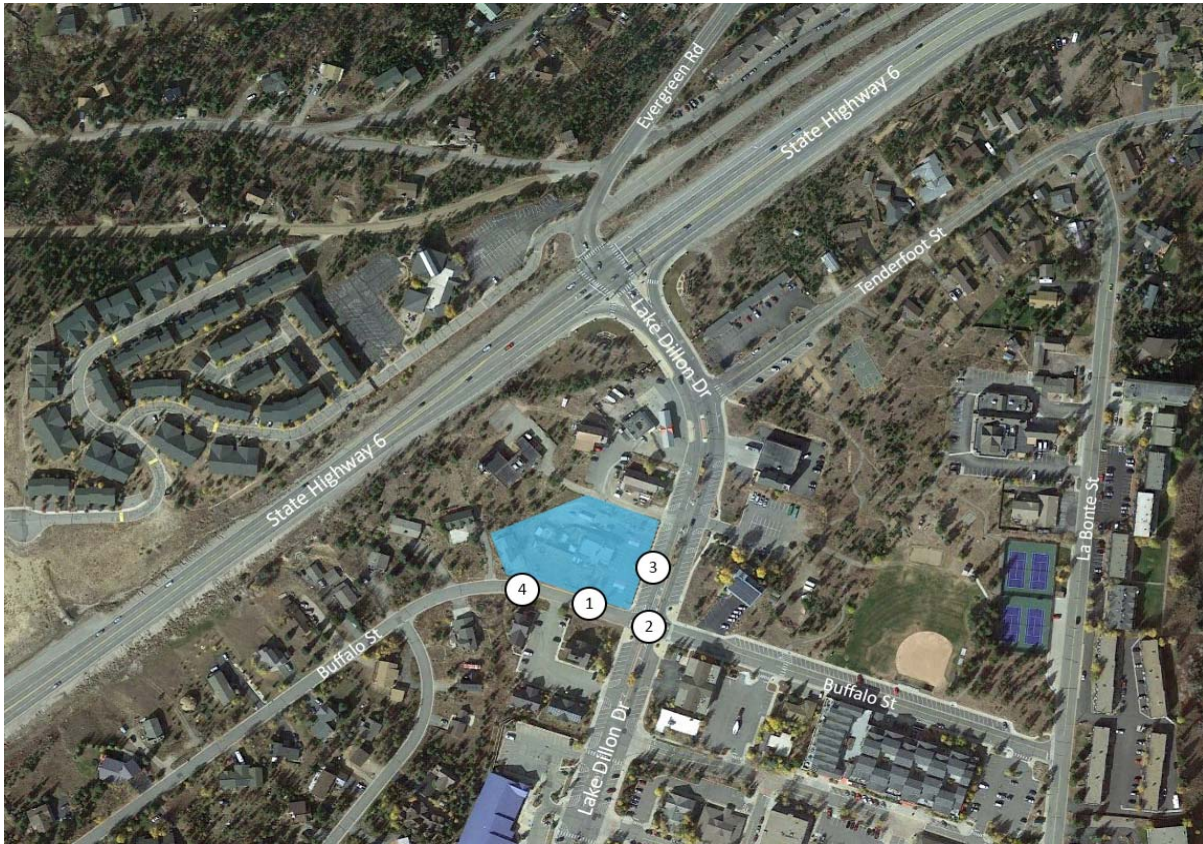
Seasonal Adjustment Factor Calculations

Continuous Count Station SH 6 W/O SWAN MOUNTAIN RD (Station Id: 000310)

3/26/2018

COUNTSTATION	I	CALYR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
310		2017	20250	18277	17824	12265	10799	13724	16618	15058	13228	11921	14193	18485	
310		2016	19474	17492	18093	11756	10443	12963	15794	13763	12648	10807	12519	18154	
310		2015	17309	16804	17207	11558	10061	11878	14767	13699	12228	10586	14000	18426	
310		2014	15195	16130	16386	11065	9585	11260	13661	12792	10827	10471		16253	
310		2013	14507	14670	15030	9508	8705	10041	12760	11514	10219	8637	12387	14591	
310		2012	13759	14357	14697	8828	8290	10290	11939	11558	10131	9102	11654	14467	
310		2011	15246	14960	15855	10085	8961	11424	12487	11434	9661	8906	11045	14526	
310		2010	14396	14322	15231	10236	8210	9729	11907	11877	10440	8633	10945	15494	
310		2009	15101	14834	14502	10046	8939	10473	12827	11719	9910	9076	11324	15614	
310		2008	14242		16214	10118	9564	10975	13484	12190	10054	9398	10741	13464	
310		2007	15359	15436	17002	11035	9440	11325	13671	13159	10934	9939	12007	13958	
310		2006	15092	15500	16294	10555	9340	11230	13111	12131	10853	9541	12185	15560	
310		2005	13651	14997	15945	9956	9181	10549	13352	11912	10328	8905	11378	14909	
310		2004	14434	15026	15838	10268	8832	10466	12683	11792	9859	9264	11304	14757	
310		2003	14879	14710	15961	10509	8905	10403	12604	12277	9712	9251	10591	13782	
310		2002	14148	15112	16673	10616	8911	10920	13499	12701	10613	9300	12185	14713	
310		2001				11631	9418	11771	13567	12839	10602	9464	11401	14211	
Monthly Average (AADT)			15440	15508	16172	10590	9270	11142	13455	12495	10720	9600	11866	15374	
Seasonal Adjustment Factor			1.047	1.043	1.000	1.527	1.745	1.451	1.202	1.294	1.509	1.685	1.363	1.052	

Appendix: Existing Traffic Subtraction Figure



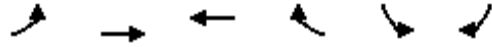
Project Number: M1318  
 Prepared by: MLH  
 Date: 3/20/2018  
 Gateway  
 Dillon, CO



Legend:  
 SAT / AM / PM Volumes: XX / XX / XX (VPH)  
 Turning Movements



1: Buffalo St & Site Access  
 2018 EX AM.syn

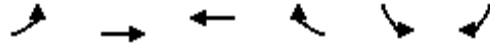


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	
Volume (veh/h)	5	5	5	5	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	5	5	5	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	11				24	8
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	11				24	8
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1608				988	1074

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	11	11	4
Volume Left	5	0	2
Volume Right	0	5	2
cSH	1608	1700	1029
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	3.6	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.6	0.0	8.5
Approach LOS			A

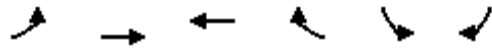
Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization		14.7%	ICU Level of Service A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
2018 EX PM.syn






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	8	3	8	8	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	3	9	9	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	17				34	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	17				34	13
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1600				974	1067
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	12	17	11			
Volume Left	9	0	5			
Volume Right	0	9	5			
cSH	1600	1700	1019			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	5.3	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	5.3	0.0	8.6			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			3.9			
Intersection Capacity Utilization		17.2%		ICU Level of Service		A
Analysis Period (min)			15			

1: Buffalo St & Site Access  
2018 EX SAT.syn






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Volume (veh/h)	10	103	21	10	7	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	112	23	11	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	34				162	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34				162	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1578				823	1047
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	123	34	15			
Volume Left	11	0	8			
Volume Right	0	11	8			
cSH	1578	1700	922			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	0.7	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	0.7	0.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		22.6%		ICU Level of Service		A
Analysis Period (min)			15			




















2: Lake Dillon Dr & Buffalo St  
2018 EX AM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	1	2	0	1	12	6	109	3	18	137	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	2	0	1	13	7	118	3	20	149	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	334	324	150	324	323	120	151			122		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334	324	150	324	323	120	151			122		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	99	100			99		
cM capacity (veh/h)	601	583	896	618	584	931	1430			1466		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	8	14	4	124	20	151						
Volume Left	4	0	4	2	20	0						
Volume Right	2	13	0	3	0	2						
cSH	661	891	1430	1430	1466	1700						
Volume to Capacity	0.01	0.02	0.00	0.00	0.01	0.09						
Queue Length 95th (ft)	1	1	0	0	1	0						
Control Delay (s)	10.5	9.1	7.5	0.2	7.5	0.0						
Lane LOS	B	A	A	A	A							
Approach Delay (s)	10.5	9.1	0.4		0.9							
Approach LOS	B	A										
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			18.2%	ICU Level of Service	A							
Analysis Period (min)			15									

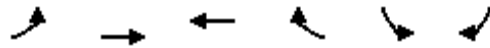
2: Lake Dillon Dr & Buffalo St  
2018 EX PM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	1	4	2	17	10	208	4	27	203	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1	1	4	2	18	11	226	4	29	221	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	549	534	223	531	534	228	225			230		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	549	534	223	531	534	228	225			230		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	99	100	98	99			98		
cM capacity (veh/h)	425	439	817	447	439	811	1344			1337		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	9	25	7	234	29	225						
Volume Left	7	4	7	4	29	0						
Volume Right	1	18	0	4	0	4						
cSH	454	667	1344	1344	1337	1700						
Volume to Capacity	0.02	0.04	0.01	0.01	0.02	0.13						
Queue Length 95th (ft)	1	3	1	1	2	0						
Control Delay (s)	13.1	10.6	7.7	0.2	7.8	0.0						
Lane LOS	B	B	A	A	A							
Approach Delay (s)	13.1	10.6	0.4		0.9							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			32.4%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2018 EX SAT.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	7	72	7	11	4	9	202	18	132	190	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	8	78	8	12	4	10	220	20	143	207	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	749	758	212	824	754	229	218			239		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	749	758	212	824	754	229	218			239		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	97	91	97	96	99	99			89		
cM capacity (veh/h)	289	298	828	236	299	810	1351			1328		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	120	24	7	242	143	218						
Volume Left	34	8	7	3	143	0						
Volume Right	78	4	0	20	0	12						
cSH	505	309	1351	1351	1328	1700						
Volume to Capacity	0.24	0.08	0.01	0.01	0.11	0.13						
Queue Length 95th (ft)	23	6	1	1	9	0						
Control Delay (s)	14.3	17.6	7.7	0.2	8.0	0.0						
Lane LOS	B	C	A	A	A							
Approach Delay (s)	14.3	17.6	0.4		3.2							
Approach LOS	B	C										
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			39.7%	ICU Level of Service	A							
Analysis Period (min)			15									

1: Buffalo St & Site Access  
2020 BG AM.syn

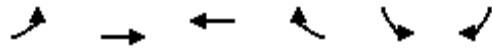


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	
Volume (veh/h)	5	5	5	5	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	5	5	5	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	11				24	8
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	11				24	8
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1608				988	1074

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	11	11	4
Volume Left	5	0	2
Volume Right	0	5	2
cSH	1608	1700	1029
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	3.6	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.6	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization	14.7%		ICU Level of Service A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
2020 BG PM.syn

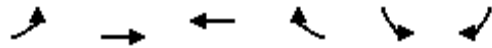


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	8	3	9	8	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	3	10	9	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	18				35	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	18				35	14
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1598				973	1066

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	12	18	11
Volume Left	9	0	5
Volume Right	0	9	5
cSH	1598	1700	1017
Volume to Capacity	0.01	0.01	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	5.3	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	5.3	0.0	8.6
Approach LOS			A




















Intersection Summary			
Average Delay		3.8	
Intersection Capacity Utilization	17.2%		ICU Level of Service A
Analysis Period (min)		15	

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



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	↘
Volume (veh/h)	10	110	22	10	7	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	120	24	11	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	35				171	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35				171	29
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1577				814	1045
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	130	35	15			
Volume Left	11	0	8			
Volume Right	0	11	8			
cSH	1577	1700	915			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	0.7	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	0.7	0.0	9.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization		23.0%		ICU Level of Service		A
Analysis Period (min)			15			




















2: Lake Dillon Dr & Buffalo St  
2020 BG AM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	1	2	0	1	13	6	121	3	19	152	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	2	0	1	14	7	132	3	21	165	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	367	356	167	355	356	133	168			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	367	356	167	355	356	133	168			135		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	98	100			99		
cM capacity (veh/h)	571	559	877	589	559	916	1409			1450		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	8	15	4	137	21	168						
Volume Left	4	0	4	2	21	0						
Volume Right	2	14	0	3	0	3						
cSH	632	876	1409	1409	1450	1700						
Volume to Capacity	0.01	0.02	0.00	0.00	0.01	0.10						
Queue Length 95th (ft)	1	1	0	0	1	0						
Control Delay (s)	10.8	9.2	7.6	0.2	7.5	0.0						
Lane LOS	B	A	A	A	A							
Approach Delay (s)	10.8	9.2	0.4		0.8							
Approach LOS	B	A										
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			26.3%	ICU Level of Service	A							
Analysis Period (min)			15									

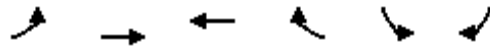
2: Lake Dillon Dr & Buffalo St  
2020 BG PM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	1	4	2	18	10	231	4	28	225	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1	1	4	2	20	11	251	4	30	245	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	601	585	247	582	585	253	249			255		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	601	585	247	582	585	253	249			255		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	99	99	98	99			98		
cM capacity (veh/h)	391	410	792	413	410	785	1317			1310		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	9	26	7	259	30	249						
Volume Left	7	4	7	4	30	0						
Volume Right	1	20	0	4	0	4						
cSH	420	640	1317	1317	1310	1700						
Volume to Capacity	0.02	0.04	0.01	0.01	0.02	0.15						
Queue Length 95th (ft)	2	3	1	1	2	0						
Control Delay (s)	13.8	10.9	7.8	0.2	7.8	0.0						
Lane LOS	B	B	A	A	A							
Approach Delay (s)	13.8	10.9	0.4		0.9							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			33.3%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2020 BG SAT.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	7	75	7	12	4	9	224	19	138	210	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	8	82	8	13	4	10	243	21	150	228	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	808	818	234	887	814	254	240			264		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	808	818	234	887	814	254	240			264		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	97	90	96	95	99	99			88		
cM capacity (veh/h)	260	273	805	211	274	785	1326			1300		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	124	25	7	267	150	240						
Volume Left	35	8	7	3	150	0						
Volume Right	82	4	0	21	0	12						
cSH	471	281	1326	1326	1300	1700						
Volume to Capacity	0.26	0.09	0.01	0.01	0.12	0.14						
Queue Length 95th (ft)	26	7	1	1	10	0						
Control Delay (s)	15.3	19.1	7.7	0.2	8.1	0.0						
Lane LOS	C	C	A	A	A							
Approach Delay (s)	15.3	19.1	0.3		3.1							
Approach LOS	C	C										
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			42.3%	ICU Level of Service	A							
Analysis Period (min)			15									

1: Buffalo St & Site Access  
2020 T AM.syn

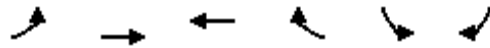


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	
Volume (veh/h)	7	6	6	1	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	7	7	1	14	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	8				29	7
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	8				29	7
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1613				981	1075

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	8	22
Volume Left	8	0	14
Volume Right	0	1	8
cSH	1613	1700	1012
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	3.9	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.9	0.0	8.6
Approach LOS			A

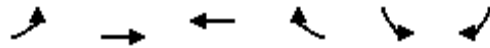
Intersection Summary			
Average Delay		5.6	
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
2020 T PM.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	12	5	11	2	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	5	12	2	14	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	14				45	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	14				45	13
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1604				958	1067
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	18	14	22			
Volume Left	13	0	14			
Volume Right	0	2	8			
cSH	1604	1700	994			
Volume to Capacity	0.01	0.01	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	5.1	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	5.1	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization		17.6%		ICU Level of Service		A
Analysis Period (min)			15			

1: Buffalo St & Site Access  
2020 T SAT.syn





















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	
Volume (veh/h)	13	112	25	3	23	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	122	27	3	25	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				179	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				179	29
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1582				804	1046



















Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	136	30	39
Volume Left	14	0	25
Volume Right	0	3	14
cSH	1582	1700	877
Volume to Capacity	0.01	0.02	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.8	0.0	9.3
Lane LOS	A		A
Approach Delay (s)	0.8	0.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)		15	




















2: Lake Dillon Dr & Buffalo St  
2020 T AM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	2	2	0	2	13	4	121	3	19	154	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	2	2	0	2	14	4	132	3	21	167	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	364	352	167	354	351	133	167			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	364	352	167	354	351	133	167			135		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	100	100	98	100			99		
cM capacity (veh/h)	573	563	877	590	564	916	1410			1450		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	21	16	3	136	21	167						
Volume Left	16	0	3	1	21	0						
Volume Right	2	14	0	3	0	0						
cSH	594	846	1410	1410	1450	1700						
Volume to Capacity	0.03	0.02	0.00	0.00	0.01	0.10						
Queue Length 95th (ft)	3	1	0	0	1	0						
Control Delay (s)	11.3	9.3	7.6	0.1	7.5	0.0						
Lane LOS	B	A	A	A	A							
Approach Delay (s)	11.3	9.3	0.3		0.8							
Approach LOS	B	A										
Intersection Summary												
Average Delay			1.6									
Intersection Capacity Utilization			30.2%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2020 T PM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	3	1	4	4	18	8	231	4	28	228	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	3	1	4	4	20	9	251	4	30	248	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	599	582	248	582	579	253	248			255		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	599	582	248	582	579	253	248			255		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	99	100	99	99	98	99			98		
cM capacity (veh/h)	391	412	791	412	413	785	1318			1310		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	24	28	6	258	30	248						
Volume Left	20	4	6	3	30	0						
Volume Right	1	20	0	4	0	0						
cSH	403	615	1318	1318	1310	1700						
Volume to Capacity	0.06	0.05	0.01	0.01	0.02	0.15						
Queue Length 95th (ft)	5	4	0	0	2	0						
Control Delay (s)	14.5	11.1	7.7	0.1	7.8	0.0						
Lane LOS	B	B	A	A	A							
Approach Delay (s)	14.5	11.1	0.3		0.9							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.7									
Intersection Capacity Utilization			34.6%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2020 T SAT.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	9	75	7	15	4	7	224	19	138	214	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	10	82	8	16	4	8	243	21	150	233	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	807	815	236	888	808	254	239			264		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	807	815	236	888	808	254	239			264		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	96	90	96	94	99	99			88		
cM capacity (veh/h)	259	274	803	210	277	785	1328			1300		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	143	28	5	267	150	239						
Volume Left	52	8	5	3	150	0						
Volume Right	82	4	0	21	0	7						
cSH	423	281	1328	1328	1300	1700						
Volume to Capacity	0.34	0.10	0.01	0.01	0.12	0.14						
Queue Length 95th (ft)	37	8	0	0	10	0						
Control Delay (s)	17.8	19.3	7.7	0.1	8.1	0.0						
Lane LOS	C	C	A	A	A							
Approach Delay (s)	17.8	19.3	0.3		3.1							
Approach LOS	C	C										
Intersection Summary												
Average Delay			5.3									
Intersection Capacity Utilization			45.2%	ICU Level of Service	A							
Analysis Period (min)			15									

3: Lake Dillon Dr & RIRO  
2020 T AM.syn



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	2	0	149	172	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	0	162	187	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359	197	207			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	197	207			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	640	844	1365			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	2	162	207			
Volume Left	0	0	0			
Volume Right	2	0	20			
cSH	844	1700	1700			
Volume to Capacity	0.00	0.10	0.12			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.3	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.3	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			20.1%	ICU Level of Service	A	
Analysis Period (min)			15			

3: Lake Dillon Dr & RIRO  
2020 T PM.syn



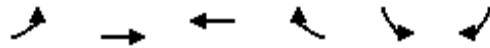
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↓	↘
Volume (veh/h)	0	3	0	269	256	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	0	292	278	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	588	295	312			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588	295	312			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	472	744	1248			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	3	292	312			
Volume Left	0	0	0			
Volume Right	3	0	34			
cSH	744	1700	1700			
Volume to Capacity	0.00	0.17	0.18			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.9	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.9	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			25.4%	ICU Level of Service	A	
Analysis Period (min)			15			

3: Lake Dillon Dr & RIRO  
2020 T SAT.syn



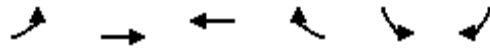
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	4	0	278	363	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	0	302	395	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	715	412	430			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	715	412	430			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	398	640	1129			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	4	302	430			
Volume Left	0	0	0			
Volume Right	4	0	36			
cSH	640	1700	1700			
Volume to Capacity	0.01	0.18	0.25			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.7	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.7	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization		31.1%		ICU Level of Service		A
Analysis Period (min)		15				

4: Buffalo St & West Parking Lot Access  
2020 T AM.syn



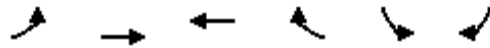
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	13	12	1	1	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	13	1	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	14				28	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	14				28	14
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1604				987	1066
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	14	14	1			
Volume Left	0	0	1			
Volume Right	0	1	0			
cSH	1604	1700	987			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.7			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.7			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.3			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

4: Buffalo St & West Parking Lot Access  
2020 T PM.syn



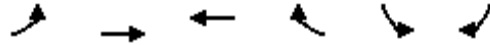
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	0	16	18	2	2	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	17	20	2	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	22				38	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	22				38	21
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1594				974	1057
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	17	22	2			
Volume Left	0	0	2			
Volume Right	0	2	0			
cSH	1594	1700	974			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.7			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.7			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

4: Buffalo St & West Parking Lot Access  
2020 T SAT.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	0	123	36	3	2	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	134	39	3	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	42				174	41
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	42				174	41
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1567				815	1030
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	134	42	2			
Volume Left	0	0	2			
Volume Right	0	3	0			
cSH	1567	1700	815			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	9.4			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.4			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization		16.5%		ICU Level of Service		A
Analysis Period (min)			15			

1: Buffalo St & Site Access  
2040 BG AM.syn

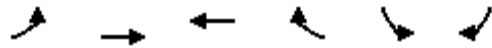


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	
Volume (veh/h)	5	6	6	5	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	7	7	5	2	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	12				27	9
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12				27	9
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1607				985	1072

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	12	12	4
Volume Left	5	0	2
Volume Right	0	5	2
cSH	1607	1700	1027
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	3.3	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.3	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization	14.8%	ICU Level of Service	A
Analysis Period (min)	15		

1: Buffalo St & Site Access  
2040 BG PM.syn

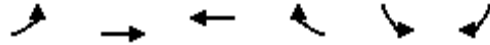


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	8	4	10	8	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	4	11	9	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	20				37	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	20				37	15
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1597				970	1064

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	13	20	11
Volume Left	9	0	5
Volume Right	0	9	5
cSH	1597	1700	1015
Volume to Capacity	0.01	0.01	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	4.9	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	4.9	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		3.6	
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
 2040 BG SAT.syn






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	10	134	27	10	7	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	146	29	11	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	40				202	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40				202	35
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1569				781	1038




















Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	157	40	15
Volume Left	11	0	8
Volume Right	0	11	8
cSH	1569	1700	891
Volume to Capacity	0.01	0.02	0.02
Queue Length 95th (ft)	1	0	1
Control Delay (s)	0.6	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	0.6	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization	24.3%	ICU Level of Service	A
Analysis Period (min)	15		




















2: Lake Dillon Dr & Buffalo St  
2040 BG AM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	1	2	0	1	13	6	218	3	19	274	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	1	2	0	1	14	7	237	3	21	298	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	605	594	299	593	594	239	301			240		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	605	594	299	593	594	239	301			240		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	98	99			98		
cM capacity (veh/h)	395	409	740	408	409	800	1260			1326		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	8	15	4	242	21	301						
Volume Left	4	0	4	2	21	0						
Volume Right	2	14	0	3	0	3						
cSH	458	749	1260	1260	1326	1700						
Volume to Capacity	0.02	0.02	0.01	0.01	0.02	0.18						
Queue Length 95th (ft)	1	2	0	0	1	0						
Control Delay (s)	13.0	9.9	7.9	0.1	7.8	0.0						
Lane LOS	B	A	A	A	A							
Approach Delay (s)	13.0	9.9	0.3		0.5							
Approach LOS	B	A										
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			26.3%	ICU Level of Service	A							
Analysis Period (min)			15									

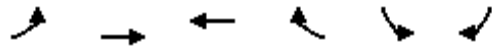
2: Lake Dillon Dr & Buffalo St  
2040 BG PM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	1	1	4	3	18	10	417	4	28	407	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1	1	4	3	20	11	453	4	30	442	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1002	985	445	982	985	455	447			458		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1002	985	445	982	985	455	447			458		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	100	98	99	97	99			97		
cM capacity (veh/h)	206	239	613	221	239	605	1114			1103		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	9	27	7	461	30	447						
Volume Left	7	4	7	4	30	0						
Volume Right	1	20	0	4	0	4						
cSH	229	414	1114	1114	1103	1700						
Volume to Capacity	0.04	0.07	0.01	0.01	0.03	0.26						
Queue Length 95th (ft)	3	5	1	1	2	0						
Control Delay (s)	21.3	14.3	8.3	0.2	8.4	0.0						
Lane LOS	C	B	A	A	A							
Approach Delay (s)	21.3	14.3	0.3		0.5							
Approach LOS	C	B										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			33.3%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2040 BG SAT.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	9	75	7	14	4	9	404	19	138	380	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	10	82	8	15	4	10	439	21	150	413	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1190	1198	419	1268	1194	449	425			460		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1190	1198	419	1268	1194	449	425			460		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	74	94	87	93	90	99	99			86		
cM capacity (veh/h)	135	159	634	107	160	610	1134			1101		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	126	27	7	463	150	425						
Volume Left	35	8	7	3	150	0						
Volume Right	82	4	0	21	0	12						
cSH	282	157	1134	1134	1101	1700						
Volume to Capacity	0.45	0.17	0.01	0.01	0.14	0.25						
Queue Length 95th (ft)	55	15	1	1	12	0						
Control Delay (s)	27.7	32.7	8.2	0.2	8.8	0.0						
Lane LOS	D	D	A	A	A							
Approach Delay (s)	27.7	32.7	0.3		2.3							
Approach LOS	D	D										
Intersection Summary												
Average Delay			4.9									
Intersection Capacity Utilization			61.1%	ICU Level of Service		B						
Analysis Period (min)			15									

1: Buffalo St & Site Access  
2040 T AM.syn

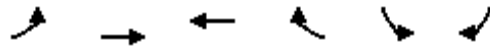


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	
Volume (veh/h)	7	7	7	1	13	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	8	8	1	14	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	9				31	8
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	9				31	8
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	99
cM capacity (veh/h)	1611				978	1074

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	9	22
Volume Left	8	0	14
Volume Right	0	1	8
cSH	1611	1700	1010
Volume to Capacity	0.00	0.01	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	3.6	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.6	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		5.3	
Intersection Capacity Utilization	16.6%		ICU Level of Service A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
2040 T PM.syn

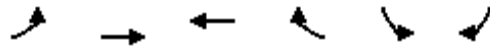


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Volume (veh/h)	12	6	12	2	17	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	7	13	2	18	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	15				47	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	15				47	14
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1603				955	1066

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	20	15	28
Volume Left	13	0	18
Volume Right	0	2	10
cSH	1603	1700	991
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	4.9	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	4.9	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		5.4	
Intersection Capacity Utilization	17.6%		ICU Level of Service A
Analysis Period (min)		15	

1: Buffalo St & Site Access  
2040 T SAT.syn






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Volume (veh/h)	13	136	30	3	23	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	148	33	3	25	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	36				210	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36				210	34
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1575				771	1039



















Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	162	36	39
Volume Left	14	0	25
Volume Right	0	3	14
cSH	1575	1700	850
Volume to Capacity	0.01	0.02	0.05
Queue Length 95th (ft)	1	0	4
Control Delay (s)	0.7	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	0.7	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		



















2: Lake Dillon Dr & Buffalo St  
2040 T AM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	2	2	0	2	13	4	218	3	19	276	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	2	2	0	2	14	4	237	3	21	300	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	602	590	300	592	589	239	300			240		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602	590	300	592	589	239	300			240		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	100	100	99	98	100			98		
cM capacity (veh/h)	397	412	740	409	413	800	1261			1326		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	21	16	3	242	21	300						
Volume Left	16	0	3	1	21	0						
Volume Right	2	14	0	3	0	0						
cSH	419	711	1261	1261	1326	1700						
Volume to Capacity	0.05	0.02	0.00	0.00	0.02	0.18						
Queue Length 95th (ft)	4	2	0	0	1	0						
Control Delay (s)	14.0	10.2	7.9	0.1	7.8	0.0						
Lane LOS	B	B	A	A	A							
Approach Delay (s)	14.0	10.2	0.2		0.5							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			30.2%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2040 T PM.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	3	1	4	5	18	8	417	4	28	410	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	3	1	4	5	20	9	453	4	30	446	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	999	982	446	982	979	455	446			458		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	999	982	446	982	979	455	446			458		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	99	100	98	98	97	99			97		
cM capacity (veh/h)	206	240	613	219	241	605	1115			1103		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	24	29	6	461	30	446						
Volume Left	20	4	6	3	30	0						
Volume Right	1	20	0	4	0	0						
cSH	216	393	1115	1115	1103	1700						
Volume to Capacity	0.11	0.07	0.01	0.01	0.03	0.26						
Queue Length 95th (ft)	9	6	1	1	2	0						
Control Delay (s)	23.7	14.9	8.3	0.1	8.4	0.0						
Lane LOS	C	B	A	A	A							
Approach Delay (s)	23.7	14.9	0.2		0.5							
Approach LOS	C	B										
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			34.7%	ICU Level of Service	A							
Analysis Period (min)			15									

2: Lake Dillon Dr & Buffalo St  
2040 T SAT.syn

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	11	75	7	17	4	7	404	19	138	384	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	12	82	8	18	4	8	439	21	150	417	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1189	1196	421	1270	1189	449	424			460		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1189	1196	421	1270	1189	449	424			460		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	61	93	87	93	89	99	99			86		
cM capacity (veh/h)	133	160	633	106	161	610	1135			1101		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	146	30	5	462	150	424						
Volume Left	52	8	5	3	150	0						
Volume Right	82	4	0	21	0	7						
cSH	245	157	1135	1135	1101	1700						
Volume to Capacity	0.59	0.19	0.01	0.01	0.14	0.25						
Queue Length 95th (ft)	86	17	1	1	12	0						
Control Delay (s)	39.2	33.3	8.2	0.1	8.8	0.0						
Lane LOS	E	D	A	A	A							
Approach Delay (s)	39.2	33.3	0.2		2.3							
Approach LOS	E	D										
Intersection Summary												
Average Delay			6.7									
Intersection Capacity Utilization			64.1%	ICU Level of Service		C						
Analysis Period (min)			15									

3: Lake Dillon Dr & RIRO  
2040 T AM.syn



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	2	0	261	313	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	0	284	340	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	634	350	360			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	634	350	360			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	443	693	1199			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	2	284	360			
Volume Left	0	0	0			
Volume Right	2	0	20			
cSH	693	1700	1700			
Volume to Capacity	0.00	0.17	0.21			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	10.2	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.2	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization		27.6%		ICU Level of Service		A
Analysis Period (min)			15			

3: Lake Dillon Dr & RIRO  
2040 T PM.syn



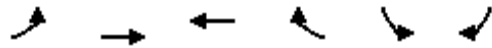
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑	↓	↘
Volume (veh/h)	0	3	0	475	465	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	0	516	505	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1039	522	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1039	522	539			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	256	554	1029			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	3	516	539			
Volume Left	0	0	0			
Volume Right	3	0	34			
cSH	554	1700	1700			
Volume to Capacity	0.01	0.30	0.32			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	11.5	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	11.5	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			36.4%	ICU Level of Service	A	
Analysis Period (min)			15			

3: Lake Dillon Dr & RIRO  
2040 T SAT.syn



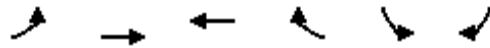
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	4	0	490	660	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	0	533	717	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1268	735	753			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1268	735	753			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	186	419	857			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	4	533	753			
Volume Left	0	0	0			
Volume Right	4	0	36			
cSH	419	1700	1700			
Volume to Capacity	0.01	0.31	0.44			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	13.7	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	13.7	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization		46.7%		ICU Level of Service		A
Analysis Period (min)			15			

4: Buffalo St & West Parking Lot Access  
2040 T AM.syn



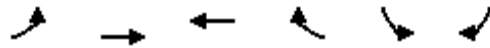
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	15	14	1	1	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	16	15	1	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	16				32	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16				32	16
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1601				982	1064
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	16	16	1			
Volume Left	0	0	1			
Volume Right	0	1	0			
cSH	1601	1700	982			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.7			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.7			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.3			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

4: Buffalo St & West Parking Lot Access  
2040 T PM.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Volume (veh/h)	0	18	21	2	2	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	23	2	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	25				43	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	25				43	24
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1589				967	1053
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	20	25	2			
Volume Left	0	0	2			
Volume Right	0	2	0			
cSH	1589	1700	967			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.7			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.7			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.4			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

4: Buffalo St & West Parking Lot Access  
 2040 T SAT.syn



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	150	42	3	2	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	163	46	3	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	49				210	47
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	49				210	47
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1558				778	1022
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	163	49	2			
Volume Left	0	0	2			
Volume Right	0	3	0			
cSH	1558	1700	778			
Volume to Capacity	0.00	0.03	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	9.6			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.6			
Approach LOS			A			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization		17.9%		ICU Level of Service		A
Analysis Period (min)			15			