



Burnt Fork Estates Development Traffic Impact Study

Stevensville, Montana



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Burnt Fork Estates Development Traffic Impact Study DRAFT Stevensville, Montana

A. EXECUTIVE SUMMARY

The Burnt Fork Estates development is a 55.8-acre residential and commercial project proposed west of Logan Lane near Stevensville, Montana. Upon completion around 2030, the development would include 125 residential lots and 16 commercial lots. The project would produce up to 1,675 new daily vehicle trips in this area. As proposed, the Burnt Fork Estates development will increase traffic volumes on the surrounding road network. Traffic volumes on the road network will increase by 10 to 20 % but no intersection modification will be required to improve capacity. Traffic volumes on Middle Burnt Fork Road will increase by approximately 700 VPD, Logan Lane and East Side Highway will see increases of 300 to 600 VPD. Total future traffic volumes on these roads will range from 2,000 to 4,000 VPD. The intersection of East Side Highway and Logan Lane currently warrants the installation of a southbound left-turn lane based on MDT road design standards. This intersection should be reconfigured to a single-point approach (or roundabout) to meet current roadway and intersection design standards. The developers should work with MDT to develop plans to reconstruct this intersection including appropriate left-turn lane treatments.

B. PROJECT DESCRIPTION

This document reports the study of the possible effects on the surrounding road system from the proposed Burnt Fork Estates residential and commercial development located west of Logan Lane between Middle Burnt Fork Road and Creekside Drive in Stevensville, Montana. The document provides preliminary information regarding possible traffic impacts in the area. The proposed project would include 125 residential lots and 16 commercial lots (6.7 acres) at full development.

C. EXISTING CONDITIONS

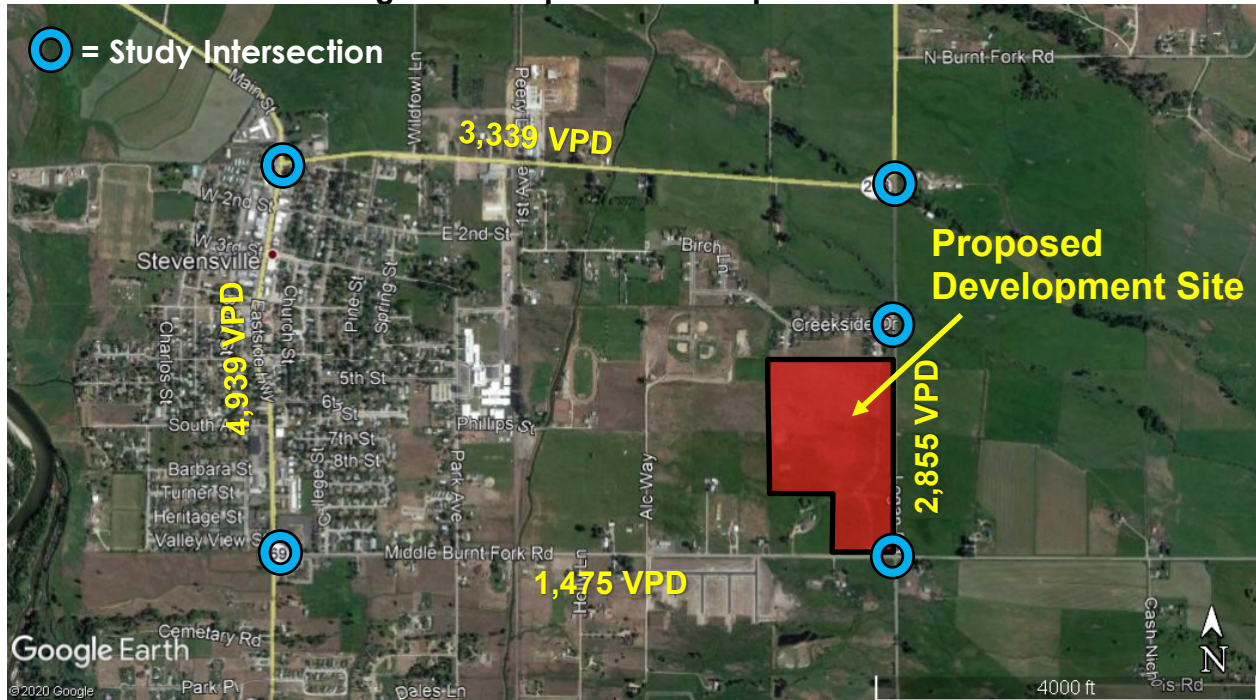
The Burnt Fork Estates residential and commercial development is proposed on a 55.8-acre parcel of land located west of Logan Road. The site is located in the rural residential and agricultural areas east of Stevensville just south of the Creek Side Meadows subdivision. See **Figure 1** for a location map of the proposed development.

Adjacent Roadways

Eastside Highway (S-203) extends from Stevensville north to Florence, MT. East of Stevensville the road has a rural cross-section and a paved width of 24-feet. Near Main Street the road has a posted speed limit of 25 MPH which increases in stages to the east. North of

Logan Lane the road has a speed limit of 60 MPH. Traffic data collected by MDT indicates that the road currently carries 3,339 VPD Vehicles per Day (VPD).

Figure 1- Proposed Development Site



Middle Burnt Fork Road is an east/west county-maintained roadway that extends east from Main Street in Stevensville. The road provides access to the residential and agricultural areas to the southeast of Stevensville. The road has a paved width of 30 feet and the posted speed limit is 45 MPH. Middle Burnt Fork Road is STOP controlled at the intersection with Main Street. Traffic data collected by Ravalli County in 2019 indicates that the road currently carries 1,475 VPD Vehicles per Day (VPD).

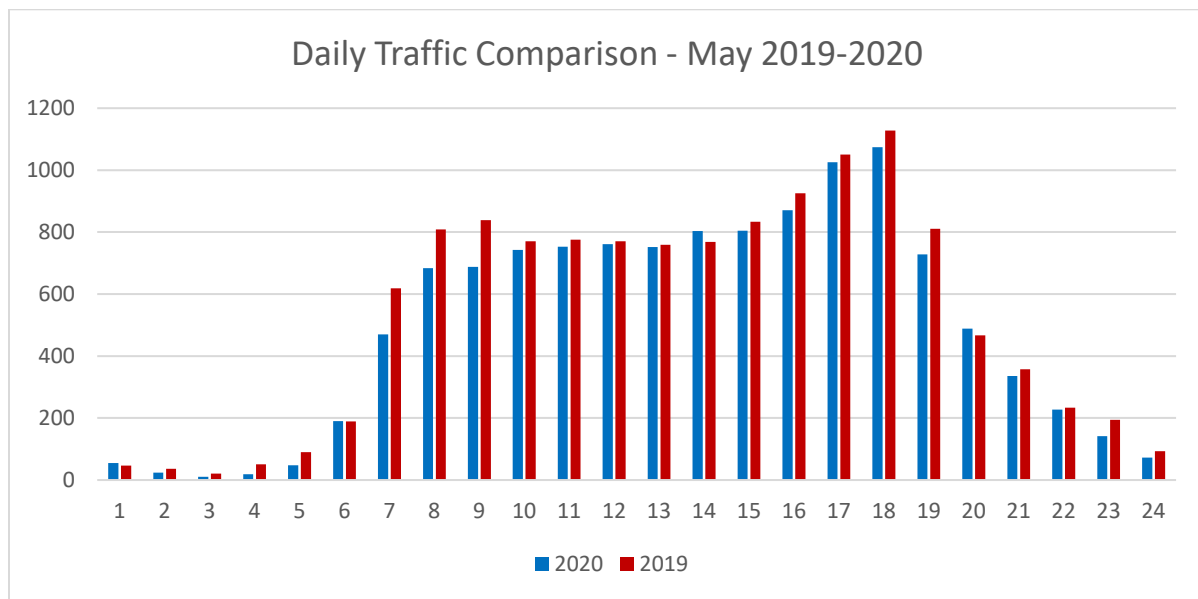
Logan Lane is a north/south county-maintained roadway that extends south from the East Side Highway on the east side of Stevensville. This section of the roadway has a two-lane rural cross-section with a paved width of 22-24 feet. The posted speed limit is 45 MPH. Traffic data collected by ATS in May of 2020 indicates that the roadway currently carries 2,855 VPD. The intersections with East Side Highway and Middle Burnt Fork Road are STOP controlled. Logan Lane intersects Eastside Highway at a curve in the highway and the intersection is split with skewed approaches for vehicles approaching Logan Lane from the north and west.

Creekside Drive is an east/west local road that provides access to the existing homes in the Creekside Subdivision west of Logan Lane. This roadway has an urban cross-section and a

paved width of 38 feet with adjacent sidewalks. No ADT is available for Creekside Drive, but based on the number of homes accessed from the road and peak-hour traffic volumes, the current ADT is approximately 400 VPD.

Traffic Data Collection

In May 2020, Abelin Traffic Services (ATS) collected turning movement count data at the study intersections. Additional ADT data was collected on Middle Burnt Fork Road and Logan Lane including ADT and vehicle speed data. Due to the Covid-19 outbreak traffic volumes throughout Montana have dropped below normal levels. In order to account for the impacts on the nearby intersection, ATS reviewed the daily and hourly traffic volumes from MDT counts station #A-047 on Highway 93 located on Highway 93 south of Florence (5 miles north of Stevensville) for the days that data was collected and compared the data to historical averages. This data is shown in **Figure 2**. Overall traffic volumes in the area are below average compared to the same time-period in 2019, but have generally the same overall daily patterns.



*Based on MDT data State #A-047 for May 22, 2019 vs. May 27, 2020.

Normally traffic counts are factored to account for seasonal variations using data from MDT permanent traffic recorders near the project site. The standard seasonal adjustment for this section of Highway 93 would be done using site A-047 US 93, RP 72, 2 Miles south of Florence. This count station data indicates that normal traffic data collected in May is approximately 106% of the AADT (Average Annual Daily Traffic) volume in this area. The raw collected traffic data would generally be reduced by 6% to match the annual average traffic data for this location. However, due to the current traffic volume drop around the state, the raw traffic data collected in May 2020 was increase by 9% based on the data collected by MDT

on May 28, 2020 at the traffic data recorder near Florence to factor the total daily traffic data to annual average conditions for 2019. The raw traffic data is included in **Appendix A** of this report. It should also be noted that the ADT collected by ATS for Middle Burnt Fork Road in May of 2020 were slightly higher than the ADT reported by the county in 2019 (1,475 VPD in 2019 vs. 2,101 VPD in May 2020)

Historic Traffic Data

Abelin Traffic Services obtained historic traffic data for area roadways from the Montana DOT which is presented in **Table 1**. The traffic data history for this area indicates that traffic volumes on the roadways around Stevensville have not increased significantly in volume over the last ten years. Therefore, no background traffic volume growth factor was applied to the future traffic volume projections for this project.

Table 1 – Historic Average Daily Traffic Data

Location	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Middle Burnt Fork W of Logan Rd #091321F	--	--	--	--	--	1,188	1,183	1,190	1,177	1,475
E Side Hwy E of Main Street #41-1-016	2,040	2,060	3,410	3,550	3,960	3,540	2,883	2,900	3,107	3,339
Main Street btwn 1st & 2nd # 41-1-014	8,220	8,190	6,370	6,020	7,040	7,910	7,175	6,013	5,947	6,577
Main Street N E Side Hwy #41-1-015	9,870	9,830	7,380	6,970	7,970	8,180	8,144	8,193	7,022	7,351
East Side Hwy N of Valley View St #41-1-012	6,660	6,630	4,670	4,410	4,680	5,650	5,542	5,575	4,861	4,939

Level of Service

Using the data collected for this project, ATS conducted a Level of Service (LOS) analysis at area intersections. This evaluation was conducted in accordance with the procedures outlined in the Transportation Research Board's *Highway Capacity Manual (HCM) - Special Report 209* and the Highway Capacity Software (HCS) version 7.8. Intersections are graded from A to F representing the average delay that a vehicle entering an intersection can expect. Typically, a LOS of C or better is considered acceptable for peak-hour conditions.

Table 2 shows the existing 2020 LOS for the AM and PM peak hours without the traffic from the proposed development. The LOS calculations are included in **Appendix C**. The table shows the study intersections are operating with minimal delay given the current roadway configuration in this area. All study intersections are operating with reserve capacity under normal traffic conditions.

Table 2 – 2020 Level of Service Summary

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS
East Side Hwy & Main Street*	9.0/10.4	A/B	21.1/14.1	C/B
East Side Hwy & Logan Lane	10.4	B	12.5	B
Main Street & Middle Burnt Fork	9.9	A	10.6	B
Logan Lane & Middle Burnt Fork*	10.1/10.2	B/B	10.5/11.2	B/B
Logan Lane & Creekside Drive	9.5	A	10.1	B

*Northbound/Southbound or Eastbound/Westbound Side Street LOS and Delay.

ATS also collected vehicle speed data along Middle Burnt Fork Road and Logan Lane. This information indicated that the average vehicle speed on this section of Middle Burnt Fork Road is 44 MPH with an 85th percentile speed of 51 MPH for all recorded vehicles. On Logan Lane the Average Travel Speed was 46 MPH with an 85th percentile speed of 52 MPH. These speeds are consistent with the posted 45 MPH posted speed limit on these roads.

Anecdotal information from area residents indicates that a vehicle speed issue exists along the northern end of Logan Lane near the intersection with Eastside Highway. At this location southbound drivers have a tendency to pass directly from Eastside Highway onto Logan Lane at high speed due to the alignment of the intersection which allows southbound drivers to ‘turn’ onto Logan Lane without slowing from the 60 MPH speed limit on Eastside Highway. Northbound drivers also have a tendency to ignore the STOP control at the intersection when approaching the highway from the south.

Area Crash Data

ATS reviewed data from the MDT online vehicle crash database for the roadways around the proposed development to determine if any vehicle crash concentrations could be identified in this area within the last five years. The vehicle crash numbers and rates from the MDT

database are shown in **Table 2**. In general, most rural and urban intersection have an average vehicle crash rate of 0.5-1.5 crashes per Million Vehicles Entering (MVE). Most of the intersections included in this study have a crash rate in this range, except the intersection of Middle Burnt Fork Road and Logan Lane which has an above average crash rate. This intersection was identified by MDT for a Highway Safety Improvement program review in 2018 and additional warning signage was installed at the intersection to improve compliance with the existing STOP signs on Logan Lane and address right-angle crashes at the intersection. No Crashes were reported at the intersection in 2019, but it may take several years of new crash data to determine if these signing improvements have improved safety at this intersection.

Table 2 – Vehicle Crashes 2015-2019

Intersection	Recorded Crashes	Crash Rate (Per MVE)
Middle Burnt Fork Road & Main Street	4	0.4
Main Street & East Side Highway	10	0.7
East Side Highway & Logan Lane	5	0.8
Middle Burnt Fork Road & Baldwin Road	4	1.4
Creekside Drive & Logan Lane	2	1.6
Middle Burnt Fork Road & Logan Lane	8	3.1

D. PROPOSED DEVELOPMENT

The Burnt Fork Estates Development is currently proposed along the west side of Logan Road between Middle Burnt Fork Road and Creekside Drive. The project would include 125 residential (77 single family lots and 48 multi-family lots) and 16 commercial lots (48 KSF total commercial floor area) on 55.8 acres of land. The commercial lots would be intended for a variety of commercial, office, light-industrial land uses, and the Stevensville fire station. The project would connect into the Creekside Subdivision to the north, Logan Lane to the east, and Middle Burnt Fork Road to the south. There would be no internal road connection between the commercial and residential portions of the development. The interior road network would include 38-foot roads with curb and gutter and separated sidewalks. The project would be developed in five residential phases and one commercial phase over the next 10-12 years. The site plans for the Burnt Fork Estates is shown in **Figure 2**.

Figure 2 – Proposed Burnt Fork Estates Development



E. TRIP GENERATION AND ASSIGNMENT

ATS performed a trip generation analysis to determine the anticipated future traffic volumes from the proposed development using the trip generation rates contained in *Trip Generation* (Institute of Transportation Engineers, Tenth Edition). These rates are the national standard and are based on the most current information available to planners. A vehicle “trip” is defined as any trip that either begins or ends at the development site. ATS determined that the critical traffic impacts on the intersections and roadways would occur during the weekday morning and evening peak hours. According to the ITE trip generation rates, at full build-out the Burnt Fork Estates development would produce 146 AM peak hour trips, 163 PM peak hour trips, and 1,675 daily trips. See **Table 3** for detailed trip generation information

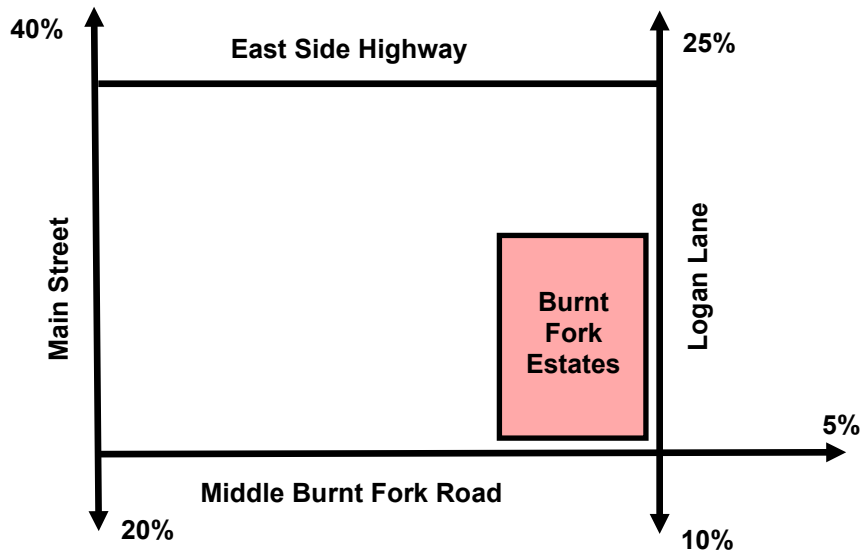
Table 3 - Trip Generation Rates

Land Use	Units	AM Peak Hour Trip Ends per Unit	Total AM Peak Hour Trip Ends	PM Peak Hour Trip Ends per Unit	Total PM Peak Hour Trip Ends	Weekday Trip Ends per Unit	Total Weekday Trip Ends
Single Family #210	77 Lots	0.74	57	0.99	76	9.44	727
Multi-family #220	48 Lots	0.46	22	0.56	27	7.32	351
Business Park #770	48 KSF	1.4	67	1.26	60	12.44	597
TOTAL			146		163		1,675

F. TRIP DISTRIBUTION

The traffic distribution and assignment for the proposed development was based upon the existing ADT volumes along the adjacent roadways and the existing road configuration. Traffic is expected to distribute onto the surrounding road network as shown on **Figure 3**. It is expected that approximately 50% of traffic from the development will use Middle Burnt Fork Road and the remaining traffic will distribute onto Logan Lane and East Side Highway to reach Stevensville and other destinations to the north and south.

Figure 3 – Trip Distribution



G. TRAFFIC IMPACTS OUTSIDE OF THE DEVELOPMENT

Using the trip generation and trip distribution numbers, ATS determined the future Level of Service for the area intersections. The anticipated intersection LOS with the Burnt Fork Estates is shown in **Table 4**. These calculations are included in **Appendix C** of this report.

Table 4 –Future Level of Service Summary with Burnt Fork Estates

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS	Delay (Sec.)	LOS
East Side Hwy & Main Street*	9.2/10.7	A/B	23.3/15.0	C/C
East Side Hwy & Logan Lane	10.7	B	13.0	B
Main Street & Middle Burnt Fork*	10.4	B	11.3	B
Logan Lane & Middle Burnt Fork*	10.5/10.5	B/B	11.5/12.3	B/B
Logan Lane & Creekside Drive*	9.8	A	10.5	B
Logan Lane & New West Approach Approach*	9.3	A	9.3	A
Middle Burnt Fork & New South Approach*	9.9	A	10.4	B

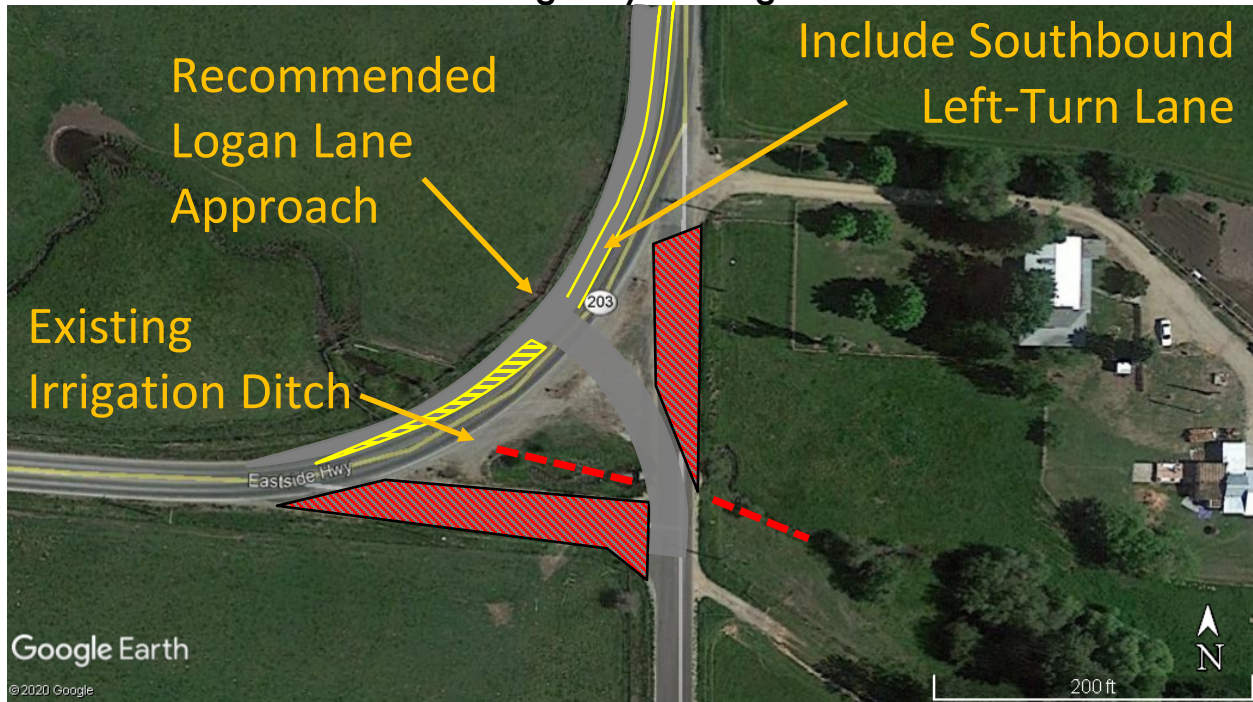
*Northbound/Southbound or Eastbound/Westbound Side Street LOS and Delay.

Table 4 indicates that the construction of Burnt Fork Estates will not cause and specific capacity related traffic issues at the area intersections. It is expected that traffic volumes at the study intersections will increase by 10 to 20 percent and that overall peak-hour intersection delay will increase by 1-2 seconds per vehicle with the construction of the Burnt Fork Estates. No roadway modifications are recommended to improve intersection capacity at these locations. As designed, traffic volumes would increase by approximately 700 VPD on Middle Burnt Fork Road and 600 VPD on Logan Lane, and 300 VPD on East Side Highway. Based on the projected traffic volumes on these roads, it is not expected that any roadway or intersection modification would be required to improve capacity.

ATS also reviewed the projected intersection volumes to determine if any additional right- or left-turn deceleration lanes may be needed with the development of the Burnt Fork Estates Development. Based on the guidance from the MDT Road Design Manual, no right-turn lanes would be needed. The approaches to the project on Logan Lane and Middle Burnt Fork Road are well below the thresholds to require the installation of deceleration lanes. A review of the existing and projected traffic volumes along East Side Highway indicate that there is sufficient traffic to warrant a left-turn deceleration lane for southbound traffic at the intersection with Logan Lane. The MDT turn-lane warrant worksheets are included in **Appendix D**.

The development of a left-turn deceleration lane at this location may require major modifications to this intersection. This approach currently has separated lanes which do not conform with current engineering standards. These separated approaches also have an existing irrigation ditch located between the approaches which may create challenges for correcting the intersection geometry. Ideally this intersection should be improved by bringing the two approaches together in the middle of the curve and installing a southbound left-turn deceleration lane. This would eliminate the two skewed approaches in favor of a single perpendicular approach near the middle of the curve. The intersection could also be improved with the installation of a roundabout but that would likely require more right-of-way near the intersection for installation. See **Figure 4** for a conceptual intersection configuration. This intersection reconfiguration would address the existing vehicle speed issues at this location by requiring all drivers to slow to make the 90-degree turn onto Logan Lane and would enhance safety by including a southbound left-turn lane on Eastside Highway. The developers would need to work with MDT to develop an approved design for this location.

Figure 3 – Recommended Configuration for East Side Highway and Logan Lane



APPENDIX A

Traffic Data

Basic Volume Report: LOGAN

Station ID : LOGAN

Info Line 1 : ATS
 Info Line 2 : Unicorn # 2

GPS Lat/Lon :
 DB File : LOGAN.DB

Last Connected Device Type : Unic-L

Version Number : 1.41
 Serial Number : 91434

Number of Lanes : 1
 Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	NB		Normal	Veh.	No	

Lane #1 Basic Volume Data From: 13:00 - 05/27/2020 To: 14:59 - 05/28/2020

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
052720	W														82	112	110	101	124	72	46	34	27	12	4	724
052820	T	4	4	0	6	10	32	42	78	87	96	65	60	82	92	85										743
Month Total :		4	4	0	6	10	32	42	78	87	96	65	60	82	174	197	110	101	124	72	46	34	27	12	4	1467
Percent :		0%	0%	0%	0%	1%	2%	3%	5%	6%	7%	4%	4%	6%	12%	13%	7%	7%	8%	5%	3%	2%	2%	1%	0%	
ADT :		4	4	0	6	10	32	42	78	87	96	65	60	82	87	99	110	101	124	72	46	34	27	12	4	1282

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Percent
DW Totals :	0	0	0	724	743	0	0	Weekday (Mon-Fri) :	1467 100%
# Days :	0.0	0.0	0.0	0.5	0.6	0.0	0.0	ADT :	1354
ADT :	0	0	0	1580	1189	0	0	Weekend (Sat-Sun) :	0 0%
Percent :	0%	0%	0%	49%	51%	0%	0%	ADT :	0

Lane #3 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
3.	SB		Normal	Veh.	No	

Lane #3 Basic Volume Data From: 13:00 - 05/27/2020 To: 14:59 - 05/28/2020

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
052720	W														114	108	127	130	132	70	40	40	25	16	7	809
052820	T	6	2	3	2	4	14	50	84	98	86	88	94	89	97	107										824
Month Total :		6	2	3	2	4	14	50	84	98	86	88	94	89	211	215	127	130	132	70	40	40	25	16	7	1633
Percent :		0%	0%	0%	0%	0%	1%	3%	5%	6%	5%	5%	6%	5%	13%	13%	8%	8%	8%	4%	2%	2%	2%	1%	0%	
ADT :		6	2	3	2	4	14	50	84	98	86	88	94	89	106	108	127	130	132	70	40	40	25	16	7	1421

	Sun	Mon	Tue	Wed	Thu	Fri	Sat		Total	Percent
DW Totals :	0	0	0	809	824	0	0	Weekday (Mon-Fri) :	1633	100%
# Days :	0.0	0.0	0.0	0.5	0.6	0.0	0.0	ADT :	1507	
ADT :	0	0	0	1765	1318	0	0	Weekend (Sat-Sun) :	0	0%
Percent :	0%	0%	0%	50%	50%	0%	0%	ADT :	0	

Basic Volume Report: Middle Burnt Fork

Station ID : Middle Burnt Fork

Info Line 1 : ATS
 Info Line 2 : UNICORN 5

GPS Lat/Lon :
 DB File : MBF.DB

Last Connected Device Type : Unic-L

Version Number : 1.50
 Serial Number :

Number of Lanes : 1
 Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	EB		Normal	Veh.	No	

Lane #1 Basic Volume Data From: 13:00 - 05/27/2020 To: 16:59 - 05/28/2020

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
052720	W														59	72	81	66	80	59	38	27	19	5	4	510
052820	T	3	1	1	0	3	8	13	40	37	73	35	52	72	83	71	86	98								676
Month Total :		3	1	1	0	3	8	13	40	37	73	35	52	72	142	143	167	164	80	59	38	27	19	5	4	1186
Percent :		0%	0%	0%	0%	0%	1%	1%	3%	3%	6%	3%	4%	6%	12%	12%	14%	14%	7%	5%	3%	2%	2%	0%	0%	
ADT :		3	1	1	0	3	8	13	40	37	73	35	52	72	71	72	84	82	80	59	38	27	19	5	4	879

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Percent
DW Totals :	0	0	0	510	676	0	0	Weekday (Mon-Fri) :	1186 100%
# Days :	0.0	0.0	0.0	0.5	0.7	0.0	0.0	ADT :	1017
ADT :	0	0	0	1113	954	0	0	Weekend (Sat-Sun) :	0 0%
Percent :	0%	0%	0%	43%	57%	0%	0%	ADT :	0

Lane #3 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
3.	WB		Normal	Veh.	No	

Lane #3 Basic Volume Data From: 13:00 - 05/27/2020 To: 16:59 - 05/28/2020

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
052720	W														70	63	81	92	79	43	25	28	18	5	3	507
052820	T	1	0	3	1	2	10	37	69	77	72	66	77	62	67	65	79	79								767
Month Total :		1	0	3	1	2	10	37	69	77	72	66	77	62	137	128	160	171	79	43	25	28	18	5	3	1274
Percent :		0%	0%	0%	0%	0%	1%	3%	5%	6%	6%	5%	6%	5%	11%	10%	13%	13%	6%	3%	2%	2%	1%	0%	0%	
ADT :		1	0	3	1	2	10	37	69	77	72	66	77	62	69	64	80	86	79	43	25	28	18	5	3	977

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Percent
DW Totals :	0	0	0	507	767	0	0	Weekday (Mon-Fri) :	1274 100%
# Days :	0.0	0.0	0.0	0.5	0.7	0.0	0.0	ADT :	1092
ADT :	0	0	0	1106	1083	0	0	Weekend (Sat-Sun) :	0 0%
Percent :	0%	0%	0%	40%	60%	0%	0%	ADT :	0

Special Speed Study Summary: LOGAN

Description	Lane	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Other	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9			
Grand Total : #1		2	0	4	30	166	475	517	200	54	6	5	1	0	0	0	1	1461	
Percent :		0%	0%	0%	2%	11%	33%	35%	14%	4%	0%	0%	0%	0%	0%	0%	0%		
Cum. Percent :		0%	0%	0%	2%	14%	46%	82%	95%	99%	100%	100%	100%	100%	100%	100%	100%		
Average :		0	0	0	1	6	18	20	8	2	0	0	0	0	0	0	0	55	
ADT = 1348		Average Speed 45.4 mph				50% Speed : 45.6 mph				67% Speed : 47.9 mph				85% Speed : 51.4 mph					
		10mph Pace: 40.0 - 49.9 (67.9%)																	
Grand Total : #3		3	3	9	54	154	485	551	286	65	16	3	2	0	0	0	1	1632	
Percent :		0%	0%	1%	3%	9%	30%	34%	18%	4%	1%	0%	0%	0%	0%	0%	0%		
Cum. Percent :		0%	0%	1%	4%	14%	43%	77%	95%	99%	100%	100%	100%	100%	100%	100%	100%		
Average :		0	0	0	2	6	19	21	11	3	1	0	0	0	0	0	0	63	
ADT = 1506		Average Speed 45.7 mph				50% Speed : 46.0 mph				67% Speed : 48.5 mph				85% Speed : 52.3 mph					
		10mph Pace: 40.0 - 49.9 (63.5%)																	
Comb. Total :		5	3	13	84	320	960	1068	486	119	22	8	3	0	0	0	2	3093	
Percent :		0%	0%	0%	3%	10%	31%	35%	16%	4%	1%	0%	0%	0%	0%	0%	0%		
Cum. Percent :		0%	0%	1%	3%	14%	45%	79%	95%	99%	100%	100%	100%	100%	100%	100%	100%		
Average :		0	0	1	3	12	37	41	19	5	1	0	0	0	0	0	0	119	
ADT = 2855		Average Speed 45.6 mph				50% Speed : 45.9 mph				67% Speed : 48.2 mph				85% Speed : 51.8 mph					
		10mph Pace: 40.0 - 49.9 (65.6%)																	

Special Speed Study Summary: Middle Burnt Fork

Description	Lane	#1 0 - 19.9	#2 20 - 24.9	#3 25 - 29.9	#4 30 - 34.9	#5 35 - 39.9	#6 40 - 44.9	#7 45 - 49.9	#8 50 - 54.9	#9 55 - 59.9	#10 60 - 64.9	#11 65 - 69.9	#12 70 - 74.9	#13 75 - 79.9	#14 80 - 84.9	#15 85 - 89.9	#16 Other	Total
Grand Total : #1		6	7	23	71	203	386	315	127	35	4	1	1	0	1	1	0	1181
Percent :		1%	1%	2%	6%	17%	33%	27%	11%	3%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		1%	1%	3%	9%	26%	59%	86%	96%	99%	100%	100%	100%	100%	100%	100%	100%	
Average :		0	0	1	3	7	14	11	5	1	0	0	0	0	0	0	0	42
ADT = 1012		Average Speed 43.4 mph			50% Speed : 43.6 mph				67% Speed : 46.5 mph				85% Speed : 49.8 mph					
		10mph Pace: 40.0 - 49.9 (59.4%)																
Grand Total : #3		5	6	10	51	130	420	401	179	53	12	2	1	1	0	0	0	1271
Percent :		0%	0%	1%	4%	10%	33%	32%	14%	4%	1%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		0%	1%	2%	6%	16%	49%	80%	95%	99%	100%	100%	100%	100%	100%	100%	100%	
Average :		0	0	0	2	5	15	14	6	2	0	0	0	0	0	0	0	44
ADT = 1089		Average Speed 45.0 mph			50% Speed : 45.2 mph				67% Speed : 47.8 mph				85% Speed : 51.8 mph					
		10mph Pace: 40.0 - 49.9 (64.6%)																
Comb. Total :		11	13	33	122	333	806	716	306	88	16	3	2	1	1	1	0	2452
Percent :		0%	1%	1%	5%	14%	33%	29%	12%	4%	1%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		0%	1%	2%	7%	21%	54%	83%	95%	99%	100%	100%	100%	100%	100%	100%	100%	
Average :		0	0	1	4	12	29	26	11	3	1	0	0	0	0	0	0	87
ADT = 2101		Average Speed 44.3 mph			50% Speed : 44.4 mph				67% Speed : 47.3 mph				85% Speed : 50.9 mph					
		10mph Pace: 40.0 - 49.9 (62.1%)																

Middle Burnt Fork Road
 LOCATION: Logan Lane
 5/28/2020
 Passenger Cars

	South Leg				West Leg				North Leg				East Leg				TOTAL
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
7:30	2	8	1		0	8	4		8	13	3		3	7	1		58
7:45	4	15	1		2	3	6		10	18	2		3	6	2		72
8:00	2	8	2		0	1	5		14	7	0		2	3	1		45
8:15	2	12	0		1	1	8		9	5	0		3	10	1		52
																	0
4:30	1	12	1		5	9	15		14	18	6		6	5	0		92
4:45	3	7	1		3	10	10		11	20	4		2	6	2		79
5:00	4	15	1		3	7	9		10	25	6		3	5	2		90
5:15	3	23	0		2	9	13		7	16	7		4	5	0		89
5:30	2	14	5		3	6	10		8	10	3		2	9	1		73
	23	114	12	149	19	54	80	153	91	132	31	254	28	56	10	94	
	15%	77%	8%		12%	35%	52%		36%	52%	12%		30%	60%	11%		
	13	71	8	0	16	41	57	0	50	89	26	0	17	30	5		423
	21	79	13	0	12	32	46	0	50	84	25	0	18	33	8		421

Heavy Trucks

	South Leg				West Leg				North Leg				East Leg				TOTAL
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	5	20	2	0	2	4	7	0	14	19	6	0	2	11	2	0	94
4:45	2	15	3	0	1	5	12	0	13	21	3	0	3	7	1	0	86
5:00	2	6	1	0	1	6	4	0	10	17	9	0	6	6	1	0	69
5:15	3	16	4	0	2	10	10	0	7	11	1	0	3	7	1	0	75
5:30	9	22	3	0	6	7	13	0	6	16	6	0	4	2	3	0	97
	21	79	13	0	12	32	46	0	50	84	25	0	18	33	8		

FROM 5-27-2020

TOTAL

	South Leg				West Leg				North Leg				East Leg				TOTAL
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
7:30	2	8	1	0	0	8	4	0	8	13	3	0	3	7	1	0	58
7:45	4	15	1	0	2	3	6	0	10	18	2	0	3	6	2	0	72
8:00	2	8	2	0	0	1	5	0	14	7	0	0	2	3	1	0	45
8:15	2	12	0	0	1	1	8	0	9	5	0	0	3	10	1	0	52
4:30	1	12	1	0	5	9	15	0	14	18	6	0	6	5	0	0	92
4:45	3	7	1	0	3	10	10	0	11	20	4	0	2	6	2	0	79
5:00	4	15	1	0	3	7	9	0	10	25	6	0	3	5	2	0	90
5:15	3	23	0	0	2	9	13	0	7	16	7	0	4	5	0	0	89
5:30	2	14	5	0	3	6	10	0	8	10	3	0	2	9	1	0	73

APPENDIX B

Traffic Model

Burnt Fork Estates

Peak Hour Traffic PM

Existing 2020

LOS: C/B 21.1/14.1

9			118
283			9
205			31
4			0
9			192
4			61

East Side Highwa

LOS: 12.5 B

183			26
105			144
310			
48			

LOS: 10.1 B

Creekside Dr

14			11
179			170
7			
7			

Main Street

186			181

LOS: 10.5/11.2 B/B

Middle BFR

126			57
31			31
			170
			65

82.8

70

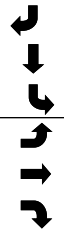
44			13
109			22
26			9
39			4
31			65
13			17

Logan
10%

Burnt Fork Estates

Residential Traffic Model AM

Site Generated Traffic 8
 5.19
 East Side Highw 2.6



8
 1
 16
 0

5



9
 15



IN 19
 OUT 60

Creekside Dr

20%

2
 6



2
 19



Main Street

in 19
 out 60

80%

6
 7



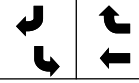
9
 2



0.91
 5.19



16
 9
 0
 3



25

25
 7
 4



1
 2



Middle BFR

8

8

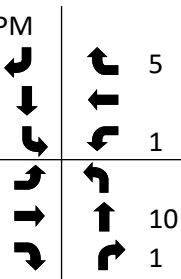


2

Logan

Burnt Fork Estates
 Residential Traffic Model PM
 Site Generated Traffic

18
 East Side Highway 9



Main Street

IN 65
 OUT 38

20%

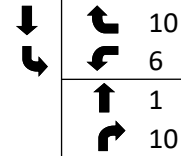
Creekside Dr

in 65
 out 38

80%

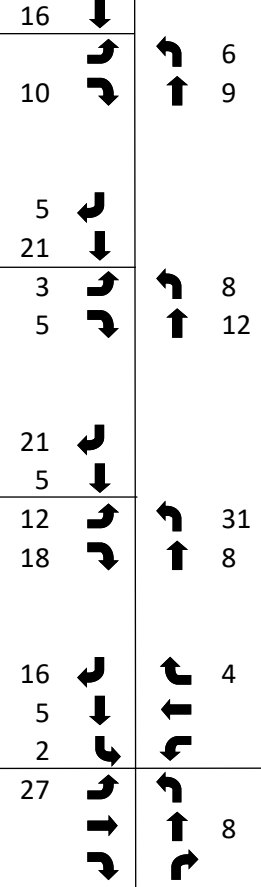
Middle BFR

1
 18



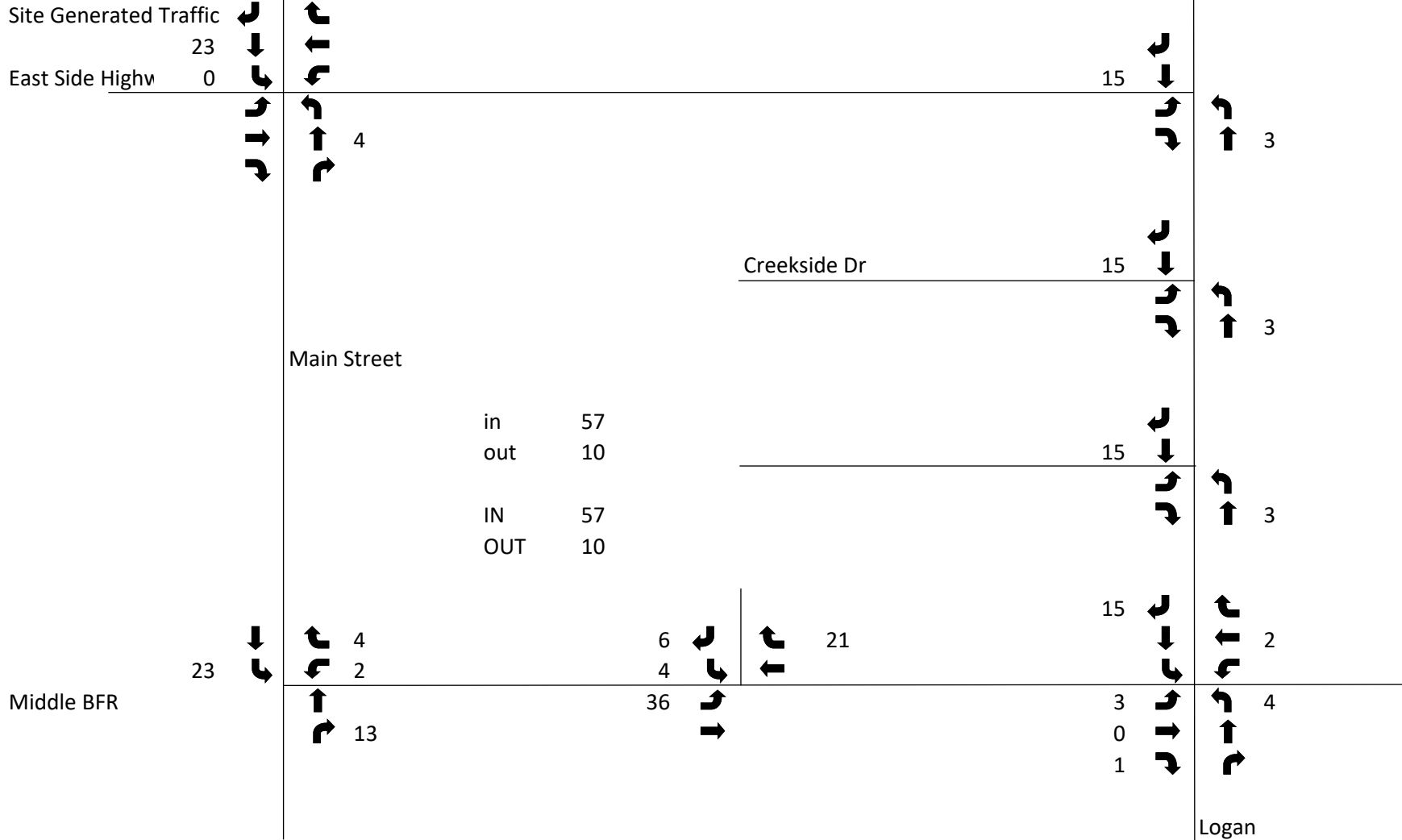
27

16



Logan

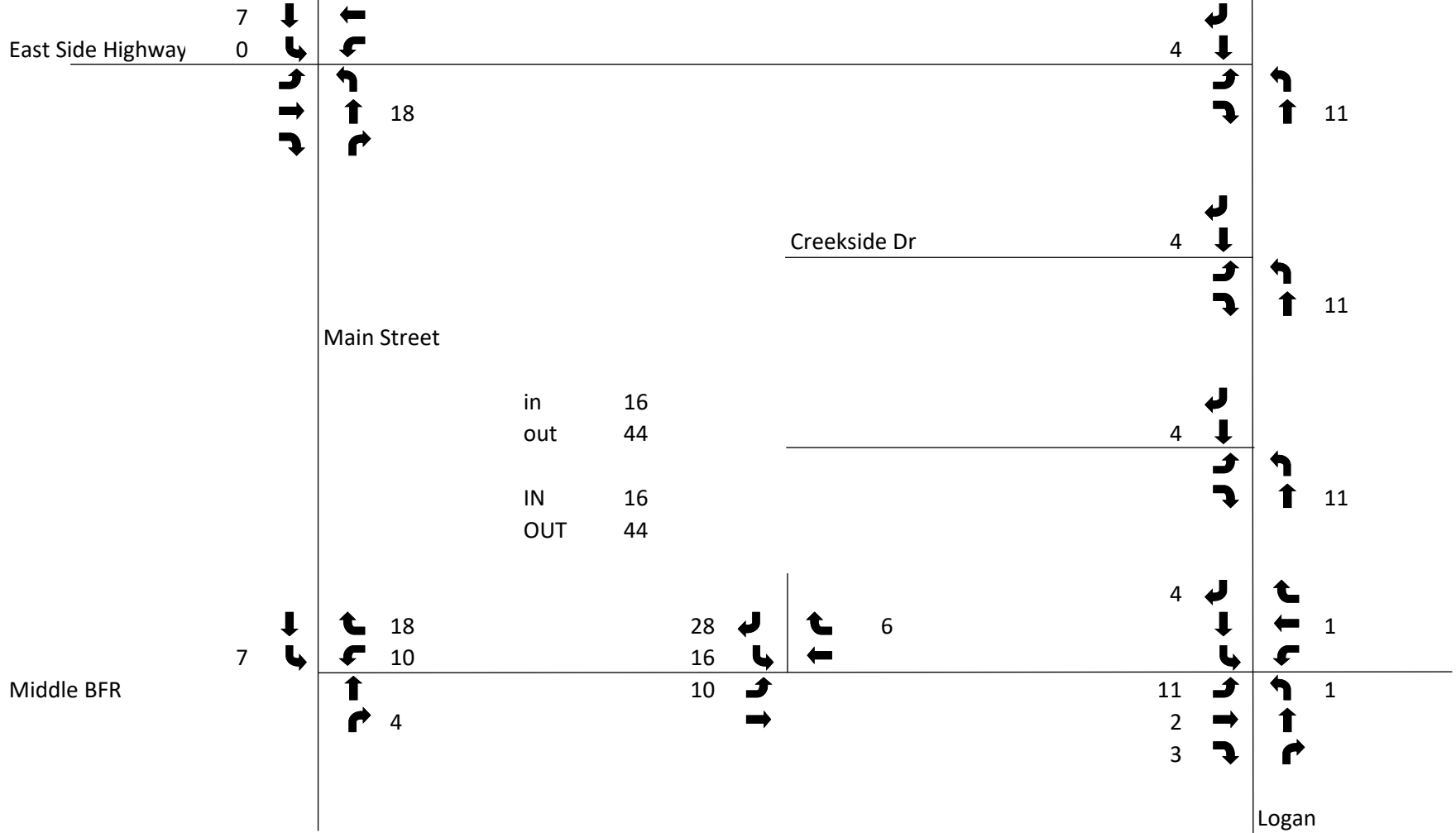
Burnt Fork Estates
Commercial Traffic Model AM



Burnt Fork Estates

Commercial Traffic Model PM

Site Generated Traffic



Burnt Fork Estates
 Projected Traffic PM

		LOS: C/C 23.3/15.0				LOS: 13.0 B	
	9	↶	↷	123			
	308	↓	↑	9		183	↶
East Side Highway	214	↶	↷	31		125	↓
	4	↶	↷	0		310	↶
	9	→	↑	220		58	↷
	4	↷	↶	62			↑
							32
							165
							LOS: 10.5 B
						19	↶
					Creekside Dr	204	↓
						10	↶
						12	↷
					Main Street		↑
							19
							194
							LOS: 10.4 B
						21	↶
						194	↓
						12	↶
						18	↷
							↑
							31
							200
							LOS: 11.5/12.3 B/B
						64	↶
	127	↓	↶	85	28	↶	↷
	55	↶	↷	46	16	↶	↷
							↑
							17
							22
							9
Middle BFR							↶
							↑
							6
							73
							17
							Logan

LOS: 11.3 B

LOS: 9.3 A

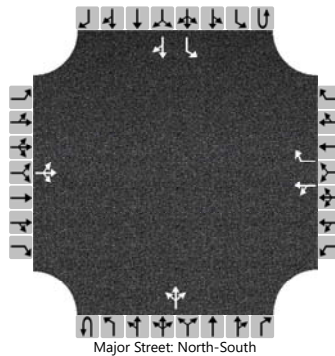
APPENDIX C

LOS Calculations

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & Eastside		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Eastside Highway		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR			L		TR
Volume (veh/h)		0	0	4		57	4	92		0	109	48		35	144	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					Yes											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

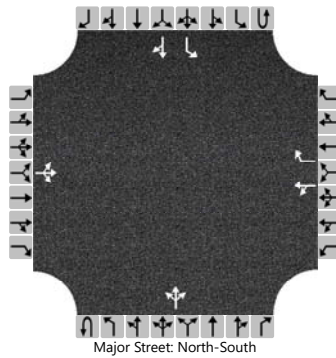
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			4			61		92		0				35		
Capacity, c (veh/h)			901			588		913		1432				1417		
v/c Ratio			0.00			0.10		0.10		0.00				0.02		
95% Queue Length, Q ₉₅ (veh)			0.0			0.3		0.3		0.0				0.1		
Control Delay (s/veh)			9.0			11.8		9.4		7.5				7.6		
Level of Service (LOS)			A			B		A		A				A		
Approach Delay (s/veh)	9.0				10.4				0.0				1.5			
Approach LOS	A				B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & Eastside		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Eastside Highway		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	PM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR			L		TR
Volume (veh/h)		4	9	4		31	9	118		0	192	61		205	283	9
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17		40		118		0				205			
Capacity, c (veh/h)			240		214		815		1264				1306			
v/c Ratio			0.07		0.19		0.14		0.00				0.16			
95% Queue Length, Q ₉₅ (veh)			0.2		0.7		0.5		0.0				0.6			
Control Delay (s/veh)			21.1		25.7		10.2		7.8				8.3			
Level of Service (LOS)			C		D		B		A				A			
Approach Delay (s/veh)	21.1				14.1				0.0				3.4			
Approach LOS	C				B											

HCS7 Two-Way Stop-Control Report

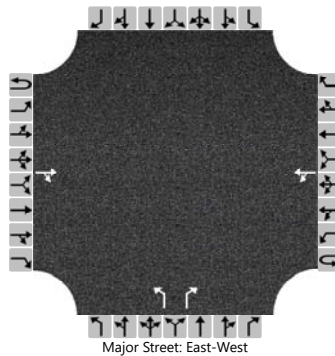
General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	6/10/2020
Analysis Year	2020
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	Burnt Fork

Site Information

Intersection	Eastside & Logan
Jurisdiction	Ravalli County
East/West Street	Eastside Highway
North/South Street	Logan
Peak Hour Factor	1.00
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			57	9		140	144			35		57				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						140					35		57			
Capacity, c (veh/h)						1529					485		1001			
v/c Ratio						0.09					0.07		0.06			
95% Queue Length, Q ₉₅ (veh)						0.3					0.2		0.2			
Control Delay (s/veh)						7.6					13.0		8.8			
Level of Service (LOS)						A					B		A			
Approach Delay (s/veh)					4.1				10.4							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

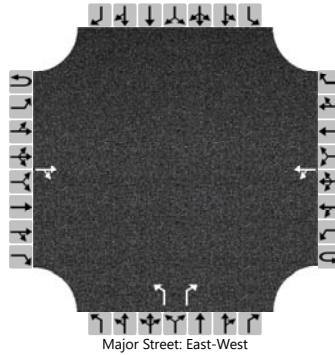
General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	6/10/2020
Analysis Year	2020
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	Burnt Fork

Site Information

Intersection	Eastside & Logan
Jurisdiction	Ravalli County
East/West Street	Eastside Highway
North/South Street	Logan
Peak Hour Factor	1.00
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			310	48		183	105			26		144				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

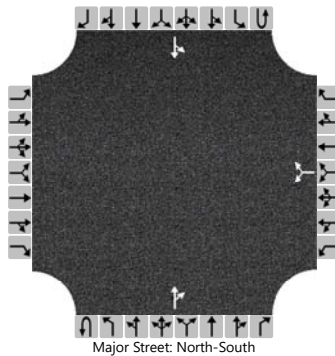
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						183					26		144			
Capacity, c (veh/h)						1195					293		706			
v/c Ratio						0.15					0.09		0.20			
95% Queue Length, Q ₉₅ (veh)						0.5					0.3		0.8			
Control Delay (s/veh)						8.6					18.5		11.4			
Level of Service (LOS)						A					C		B			
Approach Delay (s/veh)					5.9				12.5							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & MBF		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						31		52			92	4		52	100	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.43		6.23							4.13	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.53		3.33							2.23	

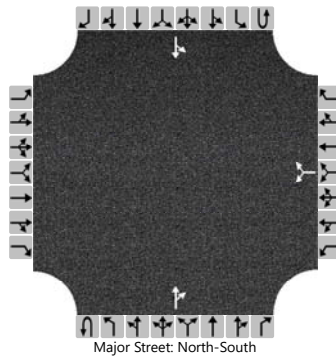
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						83									52	
Capacity, c (veh/h)						824									1491	
v/c Ratio						0.10									0.03	
95% Queue Length, Q ₉₅ (veh)						0.3									0.1	
Control Delay (s/veh)						9.9									7.5	
Level of Service (LOS)						A									A	
Approach Delay (s/veh)					9.9								2.7			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & MBF		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	PM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						31		57			170	65		31	126	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

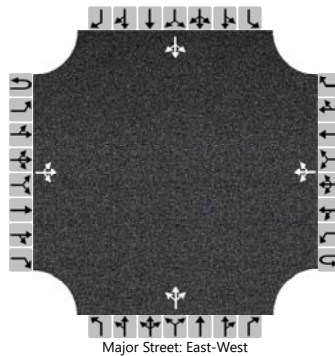
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						88								31		
Capacity, c (veh/h)						732								1326		
v/c Ratio						0.12								0.02		
95% Queue Length, Q ₉₅ (veh)						0.4								0.1		
Control Delay (s/veh)						10.6								7.8		
Level of Service (LOS)						B								A		
Approach Delay (s/veh)					10.6								1.7			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	MBF & Logan		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	PMPeak Hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		39	31	13		9	22	13		4	65	17		26	109	44
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

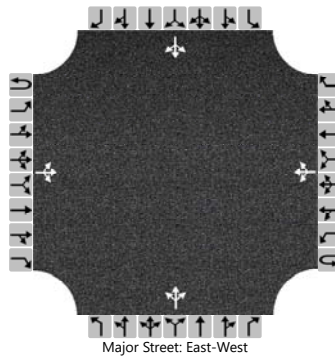
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		39				9					86					179	
Capacity, c (veh/h)		1570				1558					740					757	
v/c Ratio		0.02				0.01					0.12					0.24	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					0.4					0.9	
Control Delay (s/veh)		7.4				7.3					10.5					11.2	
Level of Service (LOS)		A				A					B					B	
Approach Delay (s/veh)		3.6				1.5				10.5				11.2			
Approach LOS										B				B			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	MBF & Logan		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		26	13	9		9	26	13		4	65	17		9	78	44
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

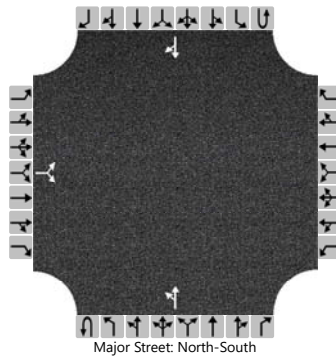
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				9					86					131	
Capacity, c (veh/h)		1565				1587					787					823	
v/c Ratio		0.02				0.01					0.11					0.16	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					0.4					0.6	
Control Delay (s/veh)		7.3				7.3					10.1					10.2	
Level of Service (LOS)		A				A					B					B	
Approach Delay (s/veh)		4.0				1.4				10.1				10.2			
Approach LOS										B				B			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Logan & Creekside Dr		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Creekside Dr		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		9		12						3	102				144	4
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

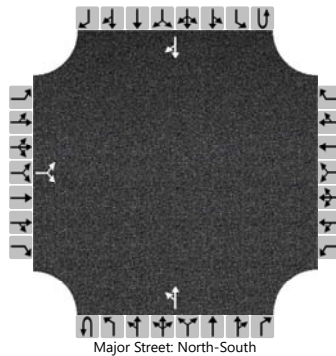
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21							3						
Capacity, c (veh/h)			818							1427						
v/c Ratio			0.03							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			9.5							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.5								0.2						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA	Intersection	Logan & Creekside Dr				
Agency/Co.	ATS	Jurisdiction	Ravalli County				
Date Performed	6/10/2020	East/West Street	Creekside Dr				
Analysis Year	2020	North/South Street	Logan				
Time Analyzed	PM Peak Hour	Peak Hour Factor	1.00				
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00				
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		7		7						11	170				179	14
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

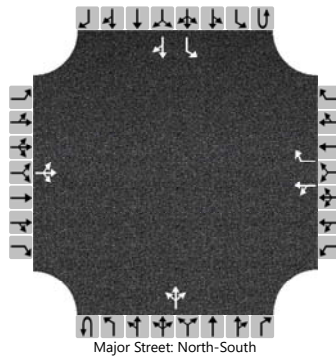
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			14							11						
Capacity, c (veh/h)			716							1374						
v/c Ratio			0.02							0.01						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			10.1							7.6						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	10.1								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & Eastside		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Eastside Highway		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	AM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR			L		TR
Volume (veh/h)		0	0	4		58	4	100		0	129	48		37	172	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

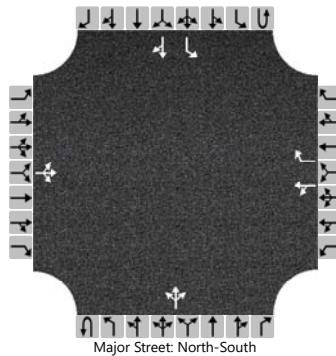
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			4			62		100		0				37		
Capacity, c (veh/h)			869			543		890		1399				1393		
v/c Ratio			0.00			0.11		0.11		0.00				0.03		
95% Queue Length, Q ₉₅ (veh)			0.0			0.4		0.4		0.0				0.1		
Control Delay (s/veh)			9.2			12.5		9.6		7.6				7.7		
Level of Service (LOS)			A			B		A		A				A		
Approach Delay (s/veh)	9.2				10.7				0.0				1.4			
Approach LOS	A				B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & Eastside		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Eastside Highway		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	PM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR			L		TR
Volume (veh/h)		4	9	4		31	9	123		0	220	62		214	308	9
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

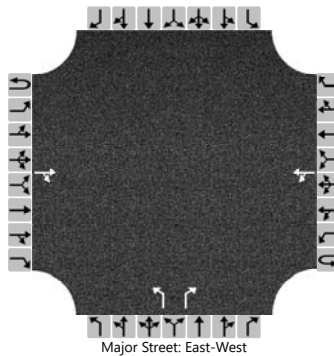
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17		40		123		0				214			
Capacity, c (veh/h)			214		189		785		1237				1275			
v/c Ratio			0.08		0.21		0.16		0.00				0.17			
95% Queue Length, Q ₉₅ (veh)			0.3		0.8		0.6		0.0				0.6			
Control Delay (s/veh)			23.3		29.1		10.4		7.9				8.4			
Level of Service (LOS)			C		D		B		A				A			
Approach Delay (s/veh)	23.3				15.0				0.0				3.4			
Approach LOS	C				C											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Eastside & Logan		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Eastside Highway		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			57	12		159	144			44		74				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						159					44		74			
Capacity, c (veh/h)						1526					453		999			
v/c Ratio						0.10					0.10		0.07			
95% Queue Length, Q ₉₅ (veh)						0.3					0.3		0.2			
Control Delay (s/veh)						7.6					13.8		8.9			
Level of Service (LOS)						A					B		A			
Approach Delay (s/veh)					4.4				10.7							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

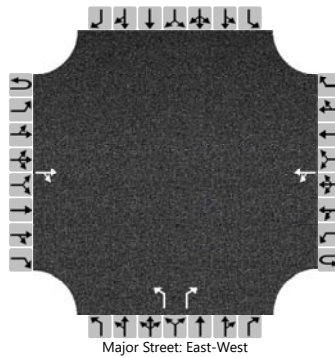
General Information

Analyst	RLA
Agency/Co.	ATS
Date Performed	6/10/2020
Analysis Year	2020
Time Analyzed	PM Projected Peak Hour
Intersection Orientation	East-West
Project Description	Burnt Fork

Site Information

Intersection	Eastside & Logan
Jurisdiction	Ravalli County
East/West Street	Eastside Highway
North/South Street	Logan
Peak Hour Factor	1.00
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			310	58		183	125			32		165				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1					7.1		6.2			
Critical Headway (sec)						4.13					6.43		6.23			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.23					3.53		3.33			

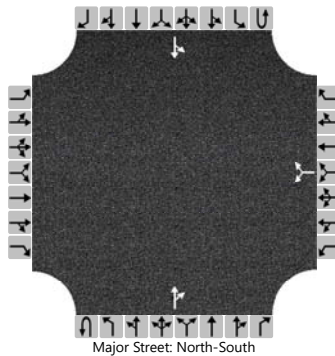
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						183					32		165			
Capacity, c (veh/h)						1185					282		701			
v/c Ratio						0.15					0.11		0.24			
95% Queue Length, Q ₉₅ (veh)						0.5					0.4		0.9			
Control Delay (s/veh)						8.6					19.4		11.7			
Level of Service (LOS)						A					C		B			
Approach Delay (s/veh)					5.7				13.0							
Approach LOS									B							

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & MBF		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	AM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						42		73			92	20		81	101	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

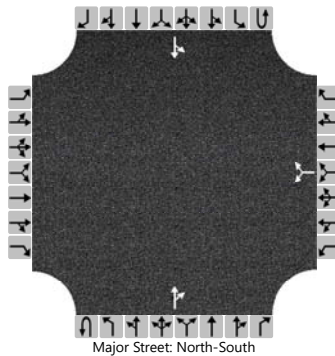
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						115								81		
Capacity, c (veh/h)						781								1471		
v/c Ratio						0.15								0.06		
95% Queue Length, Q ₉₅ (veh)						0.5								0.2		
Control Delay (s/veh)						10.4								7.6		
Level of Service (LOS)						B								A		
Approach Delay (s/veh)					10.4								3.6			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Main & MBF		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Main		
Time Analyzed	AM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						46		85			171	78		55	127	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

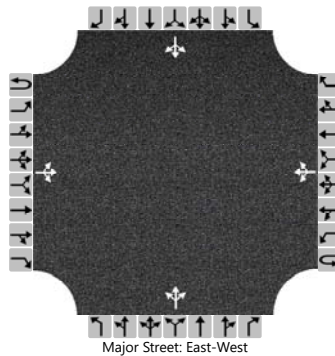
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						131								55		
Capacity, c (veh/h)						698								1311		
v/c Ratio						0.19								0.04		
95% Queue Length, Q ₉₅ (veh)						0.7								0.1		
Control Delay (s/veh)						11.3								7.9		
Level of Service (LOS)						B								A		
Approach Delay (s/veh)					11.3								2.6			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	MBF & Logan		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		37	13	9		9	28	14		9	68	17		12	86	84
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

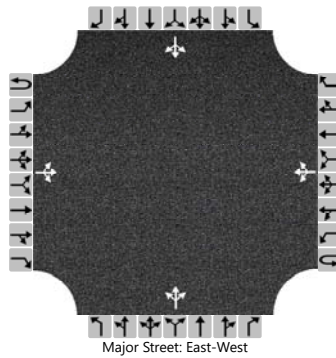
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37				9					94					182	
Capacity, c (veh/h)		1561				1587					745					834	
v/c Ratio		0.02				0.01					0.13					0.22	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					0.4					0.8	
Control Delay (s/veh)		7.4				7.3					10.5					10.5	
Level of Service (LOS)		A				A					B					B	
Approach Delay (s/veh)		4.7				1.3				10.5				10.5			
Approach LOS										B				B			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	MBF & Logan		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	PM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		78	32	16		9	22	17		6	73	17		28	111	64
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

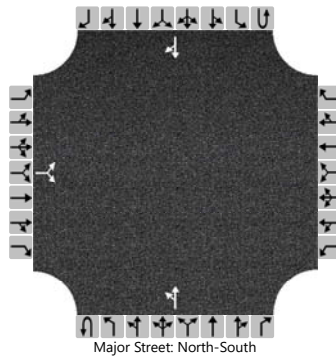
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		78				9					96					203	
Capacity, c (veh/h)		1565				1553					647					694	
v/c Ratio		0.05				0.01					0.15					0.29	
95% Queue Length, Q ₉₅ (veh)		0.2				0.0					0.5					1.2	
Control Delay (s/veh)		7.4				7.3					11.5					12.3	
Level of Service (LOS)		A				A					B					B	
Approach Delay (s/veh)		4.7				1.4				11.5				12.3			
Approach LOS										B				B			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA	Intersection	Logan & Creekside Dr				
Agency/Co.	ATS	Jurisdiction	Ravalli County				
Date Performed	6/10/2020	East/West Street	Creekside Dr				
Analysis Year	2020	North/South Street	Logan				
Time Analyzed	AM Projected Peak Hour	Peak Hour Factor	1.00				
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00				
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		14		19						5	123				165	6
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

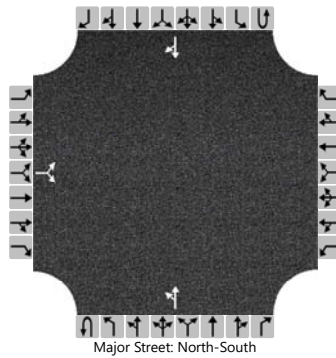
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			33							5						
Capacity, c (veh/h)			783							1400						
v/c Ratio			0.04							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			9.8							7.6						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)	9.8								0.3							
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Logan & Creekside Dr		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Creekside Dr		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	PM Projected Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		11		14						23	198				201	22
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

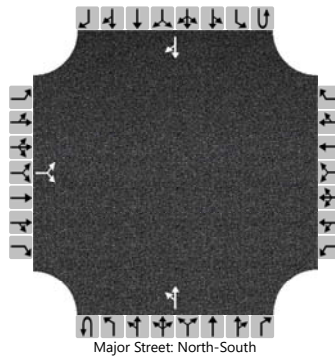
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			25							23						
Capacity, c (veh/h)			676							1340						
v/c Ratio			0.04							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			10.5							7.7						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.5								0.9						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Logan & Residential Acces		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Residential Access		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		19		29						9	110				178	6
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

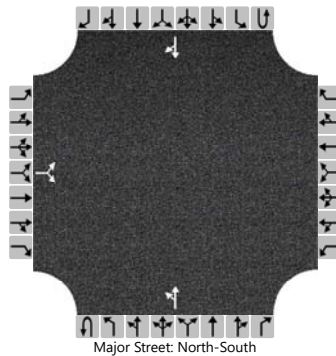
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			48							9						
Capacity, c (veh/h)			776							1385						
v/c Ratio			0.06							0.01						
95% Queue Length, Q ₉₅ (veh)			0.2							0.0						
Control Delay (s/veh)			9.9							7.6						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)	9.9								0.6							
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	Logan & Residential Acces		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Residential Access		
Analysis Year	2020			North/South Street	Logan		
Time Analyzed	AM Peak Hour			Peak Hour Factor	1.00		
Intersection Orientation	North-South			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		10		16						28	204				197	18
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

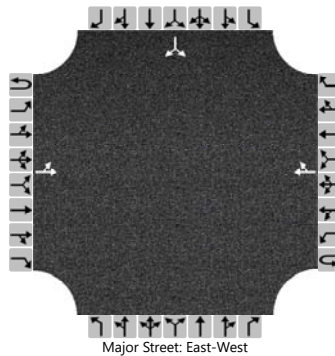
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			26							28						
Capacity, c (veh/h)			689							1349						
v/c Ratio			0.04							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			10.4							7.7						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	10.4								1.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA			Intersection	MBF & Commercial access		
Agency/Co.	ATS			Jurisdiction	Ravalli County		
Date Performed	6/10/2020			East/West Street	Middle Burnt Fork		
Analysis Year	2020			North/South Street	Commercial Access		
Time Analyzed	AM Projected Peak hour			Peak Hour Factor	1.00		
Intersection Orientation	East-West			Analysis Time Period (hrs)	1.00		
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		36	56				99	21						4		6
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

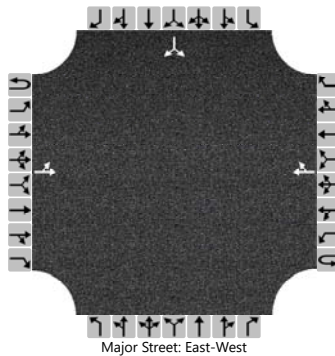
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36														10	
Capacity, c (veh/h)		1462														843	
v/c Ratio		0.02														0.01	
95% Queue Length, Q ₉₅ (veh)		0.1														0.0	
Control Delay (s/veh)		7.5														9.3	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)		3.1												9.3			
Approach LOS														A			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	RLA	Intersection	MBF & Commercial access				
Agency/Co.	ATS	Jurisdiction	Ravalli County				
Date Performed	6/10/2020	East/West Street	Middle Burnt Fork				
Analysis Year	2020	North/South Street	Commercial Access				
Time Analyzed	PM Projected Peak hour	Peak Hour Factor	1.00				
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00				
Project Description	Burnt Fork						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound						
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R			
Priority	1U	1	2	3	4U	4	5	6					7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0					0	0	0		0	1	0
Configuration		LT						TR										LR	
Volume (veh/h)		10	110				85	6									16		28
Percent Heavy Vehicles (%)		3															3		3
Proportion Time Blocked																			
Percent Grade (%)													0						
Right Turn Channelized																			
Median Type Storage	Undivided																		

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1													7.1		6.2
Critical Headway (sec)		4.13													6.43		6.23
Base Follow-Up Headway (sec)		2.2													3.5		3.3
Follow-Up Headway (sec)		2.23													3.53		3.33

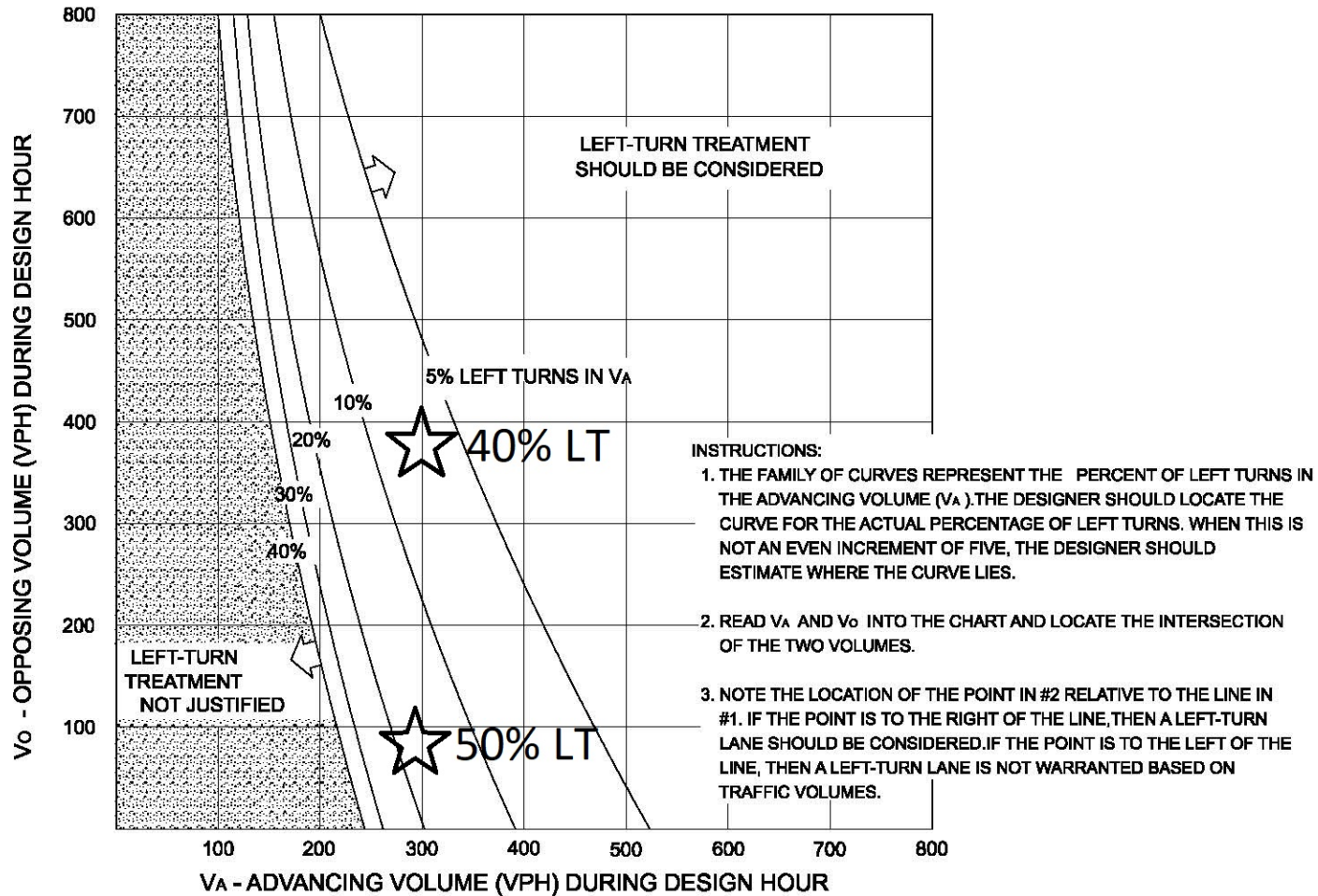
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10															44
Capacity, c (veh/h)		1498															881
v/c Ratio		0.01															0.05
95% Queue Length, Q ₉₅ (veh)		0.0															0.2
Control Delay (s/veh)		7.4															9.3
Level of Service (LOS)		A															A
Approach Delay (s/veh)	0.7												9.3				
Approach LOS													A				

APPENDIX D

Turn- Lane Warrants

East Side Highway & Logan Lane



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS 60 mph(100 km/h)

Figure 13.3C