

TRAFFIC ANALYSIS REPORT

FOR

BAKER CREEK NORTH DEVELOPMENT

NW BAKER CREEK ROAD

McMinnville

SUBMITTED BY



July 2019

Project 19-32

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Prepared By

CHARBONNEAU Engineering LLC



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INTRODUCTION

This traffic study has been prepared to evaluate and document the operations and safety conditions for the Baker Creek North development being planned in McMinnville, Oregon. Figure 'a' in the appendix is a vicinity map highlighting the project location.

The planned development will construct 280 single-family housing units along the north side of NW Baker Creek Road between Hill Road and Shadden Drive. Adjacent to this single-family housing development situated in the northeast corner of the Hill Road at Baker Creek Road intersection is a parcel over six acres planned for no more than 120 multi-family units and no less than 2-acres of commercial use with a planned development amendment. Although the property is likely to develop in the future the parcel is not part of the Baker Creek North PD application.

For analysis purposes and to consider a worst-case scenario 10 acres of commercial property was used instead of six. A total of 100,000 square feet of retail space was assumed for the commercial property.

With input from the City the study area was defined as Baker Creek Road extending between Hill Road and Shadden Drive and included analysis of the intersections at Meadows Drive, Shadden Drive, and Michelbook Lane.

TRAFFIC ANALYSIS CONSIDERATIONS

In the project scope established with McMinnville engineering and planning staff, a number of important elements were identified and considered in this study.

- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane conditions, pedestrian & bicycle facilities, transit zones, parking, and street characteristics.
- Record data on typical weekdays during the AM and PM peak traffic hours. The video traffic counts were collected in July 2019.
- Ten years of traffic growth at 2.5% per year was applied with in-process traffic to establish the year 2029 background volumes. The traffic growth rate was determined based on data provided by ODOT's Transportation Analysis Unit (TPAU).
- Level of service (LOS) analysis of the study intersections to measure the approach delays and volume-to-capacity ratios for comparison to McMinnville standards.
- Determination of vehicular queuing at the study intersections including Baker Creek Road at Meadows Drive, Shadden Drive, and Michelbook Lane.
- Preparation of traffic signal warrants at the study intersections.
- Review intersection sight distance at the proposed access locations.
- Review traffic accident data furnished by ODOT. Determine the intersection crash rates at the study intersections.

SITE DESCRIPTION, STREETS, ACCESS, AND CRITICAL INTERSECTIONS

Development of the Baker Creek North project includes buildout of 280 single-family housing units. The site is adjacent to Baker Creek Road on the north side between Hill Road and Shadden Drive. To assess a worst-case scenario 10 acres of commercial property was included in the analysis. For this parcel a total of 100,000 square feet of retail use was considered. Development of the commercial parcel is not part of the Baker Creek North PD application, however for the purpose of review of the concurrent comprehensive plan map amendment and zoning applications, the commercial component is being analyzed in concert with the single-family development's impacts.

Access to the proposed development includes two approaches on Baker Creek Road and one access to Baker Creek Road at Hill Road. On Baker Creek Road the site's west access will be located opposite Meadows Drive and the east access across from Shadden Drive. The third site access will occur on a new north leg of the Baker Creek Road and Hill Road roundabout. The project site plan (Figure 'b') illustrates the access locations. The new access approaches will require stop sign control.

The existing intersections on Baker Creek Road at Meadows Drive, Shadden Drive, and Michelbook Lane are controlled by stop signs. The intersection at Baker Creek Road at Hill Road is configured as a roundabout design with the north leg (Hill Lane) yet to be constructed.

The City of McMinnville has identified future traffic signal control at the intersection of Baker Creek Road and Michelbook Lane. The Transportation System Plan (TSP, Chapter 4, Street System Plan, Exhibit 4-6) documents that based on city-wide traffic growth the signal installation may be necessary.

The existing and future lane configurations and traffic control are presented in Figure `c` in the report's appendix.

Baker Creek Road is classified as a minor arterial by the City and is in the process of being converted from a two lane configuration to three lanes between Hill Road and Crimson Court. The improvements are anticipated to be completed in August. The new three-lane section will maintain one travel lane in each direction and provide a continuous center left turn lane. A bike lane will be maintained on the street's south side along with sidewalk on both sides. The posted speed is 35 mph.

The development will construct two southbound lanes and a single northbound lane at each access on Baker Creek Road (opposite Meadows Lane and at Shadden Lane). The southbound approaches will include a separate right turn lane and combination through/left movement lane. The southbound approaches will be controlled by stop signing. The development will also construct the north leg of the Hill Road and Baker Creek Road roundabout (Hill Lane) with one southbound lane that is controlled by a yield sign at the roundabout and one northbound lane entering the project.

TRAFFIC OPERATIONAL ANALYSIS

In order to evaluate traffic flow and delay the study intersections were analyzed for level of service (LOS) conditions, delay, and safety. The intersections evaluated included Baker Creek Road at Meadows Drive, Shadden Drive, and Michelbook Lane. Capacity and queuing analyses were completed in the AM and PM peak hour periods for the following scenarios:

- Year 2019 Traffic
- 2029 Background Traffic
- 2029 Total Traffic

Video traffic counts were recorded in July 2019 for the study. The counts were collected during the AM peak (7:00-9:00 AM) and PM peak (4:00-6:00 PM) traffic hours. Figure 1 illustrates the year 2019 volume data.

Ten years of traffic growth at 2.5% per year has been added to the Year 2019 volumes to account for the background traffic volumes. The year 2029 background traffic volumes are illustrated in Figure 3. The annual traffic growth rate was derived from select zone peak hour volume data obtained from ODOT's TAPU for the years 2003-2023. The input illustrating this data is included in the report's appendix.

McMinnville staff has identified a compilation of in-process projects that affect the study intersections. The in-process traffic includes the Oak Ridge Meadows residential development, Baker Creek West subdivision, & Baker Creek East subdivision. The status of each development is summarized below.

- Oak Ridge Meadows is a proposed subdivision for 108 single-family housing units located at the northern end of NW Pinot Noir Drive. None of the homes are constructed and 100% of the site's future traffic was accounted for as in-process traffic.
- Baker Creek West was planned for 125 single-family housing units and 70 apartment units. The site is located on the south side of Baker Creek Road in the southeast corner of the Hill Road at Baker Creek Road intersection. As of July 15, 2019 a total of 14 single-family homes have received occupancy permits. Trip generation for the balance of units including 111 single-family homes and 70 apartments was accounted for as in-process traffic.
- Baker Creek East was planned for 83 single-family housing units. The site is located south of Baker Creek Road and east of the Baker Creek West subdivision. As of July 15, 2019 a total of 22 single-family homes have received occupancy permits. Trip generation for the balance of units including 61 single-family homes was accounted for as in-process traffic.

The in-process traffic included in this analysis is presented in Figure 2.

The year 2029 total traffic (the summation of background traffic volumes and site generated traffic) is presented in Figure 9.

VEHICULAR TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineers (ITE) Trip Generation manual, 10th edition (year 2017) were utilized to estimate the site's trip generation. The trip generation is summarized in Table 1.

Table 1a Trip Generation Summary Baker Creek North Subdivision - Residential Use

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Single-Family (#210)	280							
Generation Rate ¹	homes	9.44	0.74	25%	75%	0.99	63%	37%
Site Trips		2,643	207	52	155	277	175	102

Table 1b Trip Generation Summary - Commercial Parcel (10 acres, future development by others)

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Shopping Center (#820)	100,000							
Generation Rate ¹	sq. ft.	37.75	0.94	62%	38%	3.81	48%	52%
Total Driveway Trips		3,775	94	58	36	381	183	198
Pass-By Rate ²						34%		
Pass-By Trips						130	62	68
New Site Trips ³		3,775	94	58	36	251	120	131

¹ Source: *Trip Generation*, 10th Edition, ITE, 2017, average rates.

² 34% based on *Trip Generation Handbook*, 3rd Edition, ITE, 2017.

³ New Site Trips = Total Driveway Trips - Pass-by Trips.

Development of 280 single-family homes and 100,000 square feet of commercial space is expected to generate 3,775 daily trips, 94 AM peak hour trips, and 251 PM peak hour trips.

For trip distribution purposes the trip assignment data from ODOT's Transportation Analysis Zone (TAZ) model was considered along with the impacts associated with recent alignment improvements on Hill Road. It is anticipated that approximately 10% of the site's traffic will choose to travel to/from the west using Hill Road.

The trip distribution for the site's residential units is presented in Figure 4 with the corresponding trip assignments displayed in Figure 5. The trip distribution for the future commercial parcel is presented in Figure 7 and the corresponding trip assignments shown in Figure 8. Copies of the TAZ model data is included in the appendix.

Figure 6 illustrates the pass-by traffic associated with the commercial property. The pass-by volumes represent the traffic that will be diverted to the commercial site from the adjacent street (Baker Creek Road). The pass-by rate applied (34%) is based on the recommended percentage documented in the ITE Trip Generation Handbook, year 2017.

CAPACITY ANALYSIS

Capacity analyses were performed to determine the levels of service for the weekday peak hours. Synchro v9.1 software was used to determine the approach delays and level of service for the study intersections. The program is based on the year 2010 Highway Capacity Manual methodology. Table 2 summarizes the analysis results. Copies of the capacity analysis summaries are included in the appendix.

Table 2 Capacity Analysis Summary

Intersection	Type of Control	Peak Hour	Traffic Scenario											
			2019 Existing				2029 Background				2029 Total			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Meadows Drive and Baker Creek Road	Two-way Stop	AM	NB	A	9.6	0.03	NB	B	10.6	0.14	SB	C	19.0	0.09
		PM	NB	A	9.4	0.03	NB	B	10.1	0.09	SB	F	56.2	0.20
Shadden Drive and Baker Creek Road	Two-way Stop	AM	NB	A	9.9	0.06	SB	C	18.4	0.17	SB	D	33.2	0.13
		PM	NB	A	9.8	0.06	SB	D	33.3	0.21	SB	F	137.3	0.16
Michelbook Lane and Baker Creek Road	Two-way Stop	AM	NB	B	10.9	0.08	NB	C	16.6	0.21	NB	D	28.7	0.45
		PM	NB	B	12.0	0.14	NB	F	65.6	0.78	NB	F	726.4	2.41
	Signal ¹	AM	-	-	-	-	-	B	11.0	0.39	-	B	15.3	0.47
		PM	-	-	-	-	-	B	11.7	0.54	-	B	19.8	0.70

Notes: 2010 Highway Capacity Manual methodology used in analysis, Synchro v9. NB - Northbound, SB - Southbound, Crit. Mov't - Critical movement or critical approach.

¹ Future signal identified in City's TSP - Not to be installed in conjunction with Baker Creek North Subdivision.

The City's mobility standard for intersection operations requires a v/c ratio of 0.90 or less. If intersections operate at values exceeding a v/c of 0.90 then mitigation may be considered. The City does not have a standard related to LOS determination.

The stop controlled intersection of **Baker Creek Road at Meadows Drive** will experience an acceptable volume-to-capacity (v/c) ratio of 0.20 or less in the peak hours through the year 2029 total traffic scenario. No mitigation is required at this location.

The stop controlled intersection of **Baker Creek Road at Shadden Drive** will experience an acceptable volume-to-capacity (v/c) ratio of 0.16 or less in the peak hours through the year 2029 total traffic scenario. No mitigation is required at this location.

The stop controlled intersection of **Baker Creek Road at Michelbook Lane** will experience an acceptable volume-to-capacity (v/c) ratio of 0.78 or less in the peak hours through the year 2029 background traffic scenario. For the year 2029 total traffic scenario the intersection operations will exceed the City's v/c standard with a resulting v/c value of 2.41 in the PM peak hour. This condition can be mitigated to a v/c of 0.70 by installing a traffic signal as identified in the City's TSP. This improvement has been planned for safety and capacity reasons in order to satisfy the anticipated city-wide traffic growth projections.

The future signal at Baker Creek North and Michelbook Lane is identified as a planned capital improvement project by the City in 2023 with general funds and SDC funds prior to the year 2029 full buildout, thus no mitigation of the intersection is recommended in conjunction with the proposed development.

QUEUING ANALYSIS

Queue length demand for study intersections on Baker Creek Road at Meadows Drive and at Shadden Drive were established in the Synchro analysis. The results are based on the 95th percentile queuing values. Copies of the reports are included in the appendix.

At the site access and Shadden Drive intersection with Baker Creek Road the southbound stop controlled access will experience a queue of two to three vehicles in the left/through lane during in the AM peak hour for the year 2029 total traffic scenario. A southbound queue of four to five vehicles in the left/through lane is projected during the PM peak hour for the year 2029 PM peak hour.

At the site access and Meadows Drive intersection with Baker Creek Road the southbound stop controlled access will experience a queue of one to two vehicles in the left/through lane during the AM peak hour for the year 2029 total traffic scenario. A southbound queue of three to four vehicles is projected in the left/through lane during the PM peak hour for the year 2029 PM peak hour.

The queuing analysis has confirmed that for the eastbound and westbound left turn movements occurring on Baker Creek Road at the Meadows Drive and Shadden Drive intersections the peak hour queues will not exceed one to two vehicles through the year 2029 total traffic scenario.

SIGHT DISTANCE

Intersection sight distance at the proposed access points on Baker Creek Road was reviewed in accordance with the AASHTO standards. Based on a posted speed of 35 miles per hour requires that 390 feet of sight distance be available. It was determined that over 500 feet of

sight distance will be available in both directions at both future access locations (Meadows Drive & Shadden Drive intersections). Therefore, the sight distance standard is met. When the development is constructed it will be necessary to maintain the required sight distance and any restriction within the sightlines must be avoided for safety purposes.

LEFT TURN LANE REQUIREMENTS

A center left turn lane on Baker Creek Road is in the process of being striped this summer along the project frontage. Therefore, no left turn lane warrant was prepared.

TRAFFIC SIGNAL WARRANTS

The peak hour signal warrant was evaluated for the intersections on Baker Creek Road at Meadows Drive, Shadden Drive, and Michelbook Lane. It was determined the warrant is not met at the Meadows Drive and Shadden Drive locations through the year 2029 total traffic scenarios.

At the Michelbook Lane intersection the peak hour warrant is not met in the year 2029 total traffic scenario with only the residential portion of the development considered. The warrant will be met in the year 2029 total traffic scenario if any portion of the commercial development is added to a full residential buildout. However, there is a planned capital improvement project by the City in 2023 with general funds and SDC funds, thus the signal will be installed already by 2029.

As a result installation of a traffic signal is not recommended in conjunction with the proposed development. The warrant is included in the appendix.

ACCIDENT HISTORY

Crash data for the study intersections were obtained from ODOT staff and reviewed to help identify any traffic safety issues. The study period covered the five year period from January 2013 through December 2017.

The accident rates presented in Table 3 are based on the number of accidents per million entering vehicles (MEV) per year. Typically an intersection is not considered unsafe unless its accident rate exceeds the threshold value of 1.0 accidents per MEV.

Table 3 Crash Rate Results

Intersection	Crash History (Years)	Number of Crashes	Crashes per year	Annual Traffic Entering (veh/yr)	Crash rate per M.E.V.*
Meadows Drive and Baker Creek Road	5	0	0.0	1950382	0.00
Shadden Drive and Baker Creek Road	5	2	0.4	2311969	0.17
Michelbook Lane and Baker Creek Road	5	4	0.8	3323684	0.24

* M.E.V. - million entering vehicles.

None of the study intersections have a crash rate higher than 0.24 crashes per MEV per year. As a result no intersection safety improvements are proposed in conjunction with the Baker Creek North subdivision development project.

PEDESTRIANS, BICYCLES, & BUSES

Sidewalk is provided on the south side and with site development in phases sidewalk will be provided on both sides of Baker Creek Road along the project's frontage. The project development will provide sidewalks within the site and connectivity to the existing sidewalk system on Baker Creek Road.

Bicycle lanes are currently provided on Baker Creek Road to the east and on the south side, and are available to the south on Hill Road. With site development in phases bike lanes will be provided on both sides of Baker Creek Road along the project's frontage.

With sidewalk and bike lane improvements on Baker Creek Road access from the development and adjacent existing communities to the powerline trail, an off-street path leading south from Baker Creek Road to 2nd Street, will be more convenient for pedestrians and bicyclists.

No transit service is provided in the area, however Baker Creek Road is a planned future transit route, thus traffic volumes and patterns may shift with future service.

SUMMARY AND RECOMMENDATIONS

The Baker Creek North development is being planned in McMinnville to construct 280 single-family housing units along the north side of NW Baker Creek Road between Hill Road and Shadden Drive. For analysis purposes and to consider a worst-case scenario 10 acres of commercial property was included in the study for the adjacent parcel. Although the commercial property is likely to develop in the future the parcel is not part of the Baker Creek North PD application. A total of 100,000 square feet of retail space was assumed for the commercial property even though it will likely develop with a lower intensity development pattern of no more than 120 multi-family units and no more than two acres of neighborhood commercial use..

Development of 280 single-family homes and 100,000 square feet of commercial space is expected to generate 3,775 daily trips, 94 AM peak hour trips, and 251 PM peak hour trips.

The traffic study included analysis of the intersections on Baker Creek Road at Meadows Drive, Shadden Drive, and Michelbook Lane.

Intersection sight distance at the proposed access points on Baker Creek Road was reviewed in accordance with the AASHTO standards. Based on a posted speed of 35 miles per hour requires that 390 feet of sight distance be available in each direction. It was determined that over 500 feet of sight distance will be available in both directions at both future access locations (Meadows Drive & Shadden Drive intersections). Therefore, the sight distance standard is met. When the development is constructed it will be necessary to maintain the required sight distance and any restriction within the sightlines must be avoided for safety purposes.

The City's mobility standard for intersection operations requires a v/c ratio of 0.90 or less. The stop controlled intersections on Baker Creek Road at Meadows Drive and at Shadden Drive will experience acceptable volume-to-capacity ratios of 0.20 or less in the peak hours through the year 2029 total traffic scenario. No mitigation is required at these locations. On the southbound access approaches the lane configuration will consist of a separate right turn lane and a combination through/left lane. The approaches shall be controlled with stop signing.

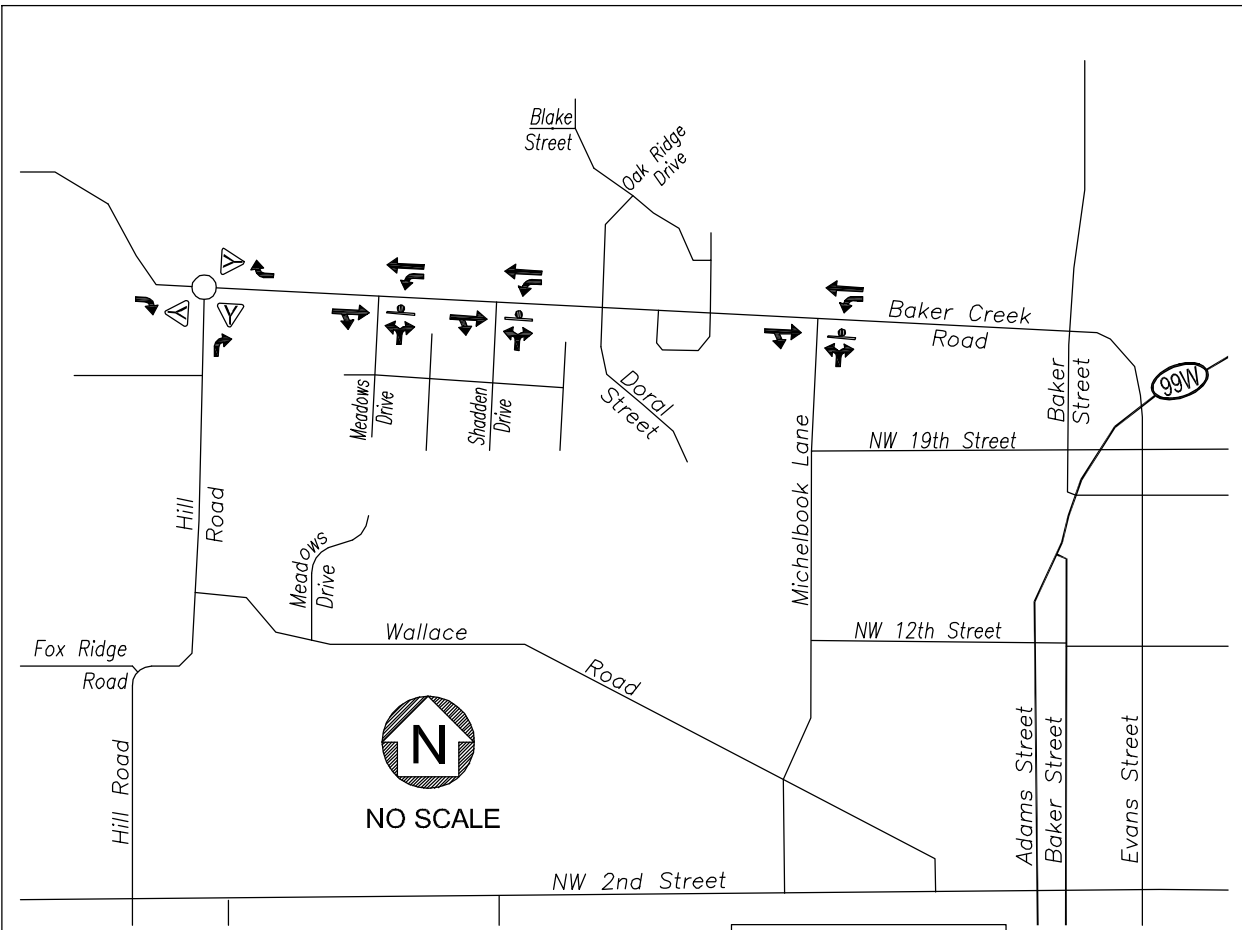
The stop controlled intersection of Baker Creek Road at Michelbook Lane will experience an acceptable volume-to-capacity (v/c) ratio of 0.78 or less in the peak hours through the year 2029 background traffic scenario. For the year 2029 total traffic scenario the intersection operations will exceed the City's v/c standard with a resulting value of 2.41 in the PM peak hour. This condition can be mitigated to a v/c of 0.70 by installing a traffic signal as identified in the City's TSP. This improvement has been planned by the City for safety and capacity reasons in order to satisfy the anticipated city-wide traffic growth projections. Therefore, no mitigation at the Baker Creek Road and Michelbook Lane intersection is recommended in conjunction with the proposed development.

None of the study intersections have a crash rate higher than 0.24 crashes per MEV per year. As a result no intersection safety improvements are proposed in conjunction with the Baker Creek North Subdivision development project.

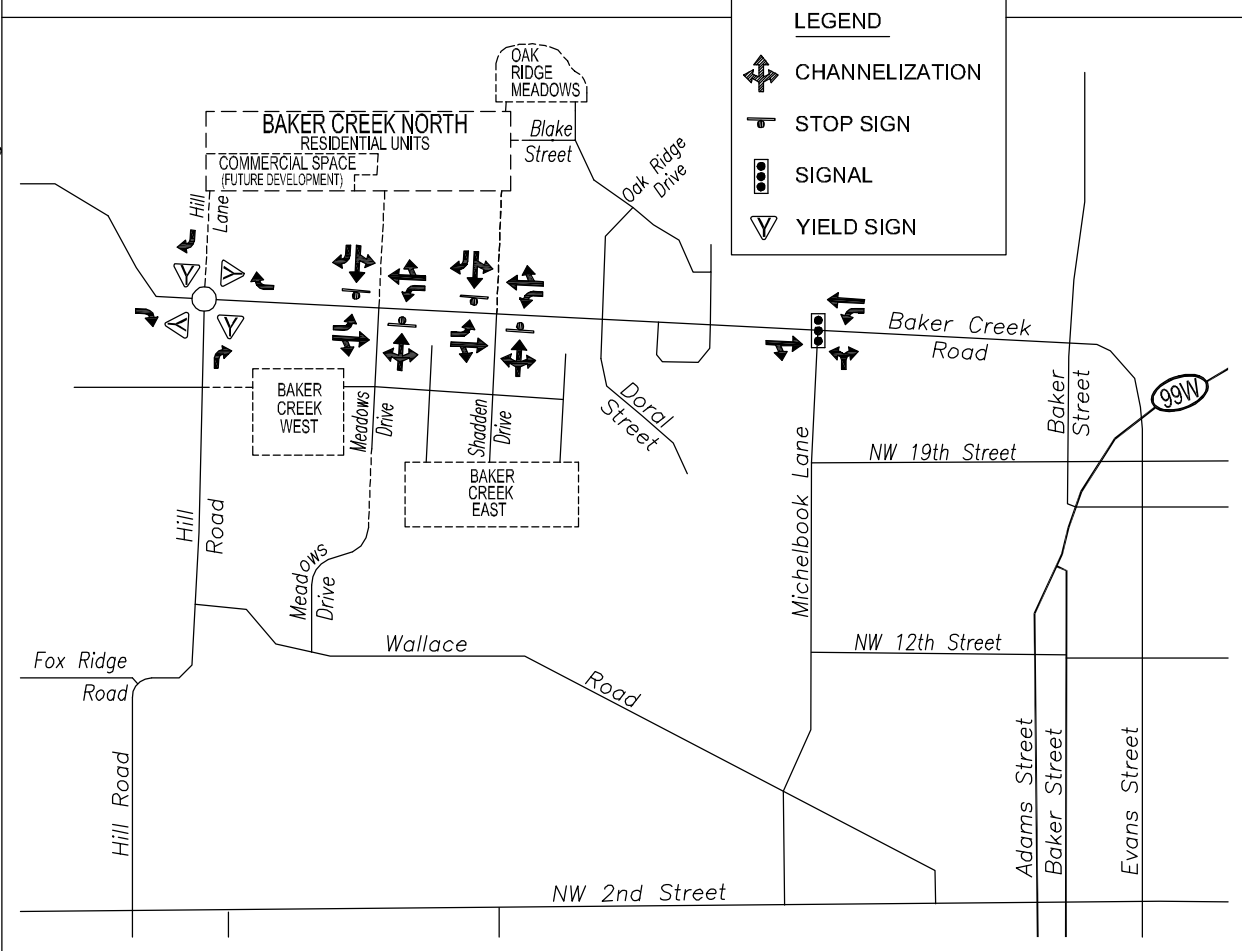
Based on the results of the traffic analysis no off-site intersection improvements are proposed in conjunction with the Baker Creek North development project where on-site and intersecting street and pedestrian/bicycle improvements are installed as proposed.

APPENDIX

- Vicinity Map Figure a
- Site Plan Figure b
- Lane Configurations & Traffic Control Figure c
- Traffic Flow Diagrams
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EXISTING



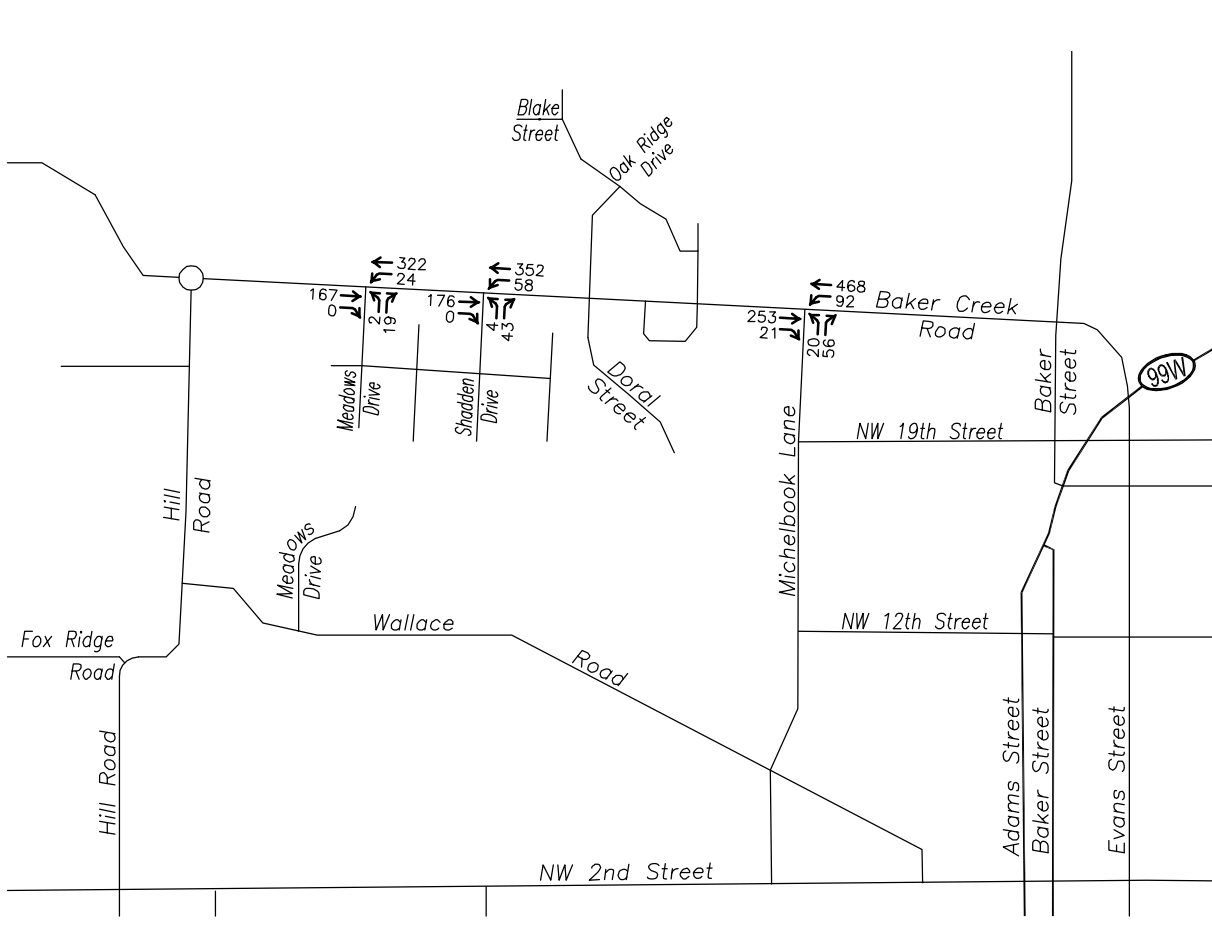
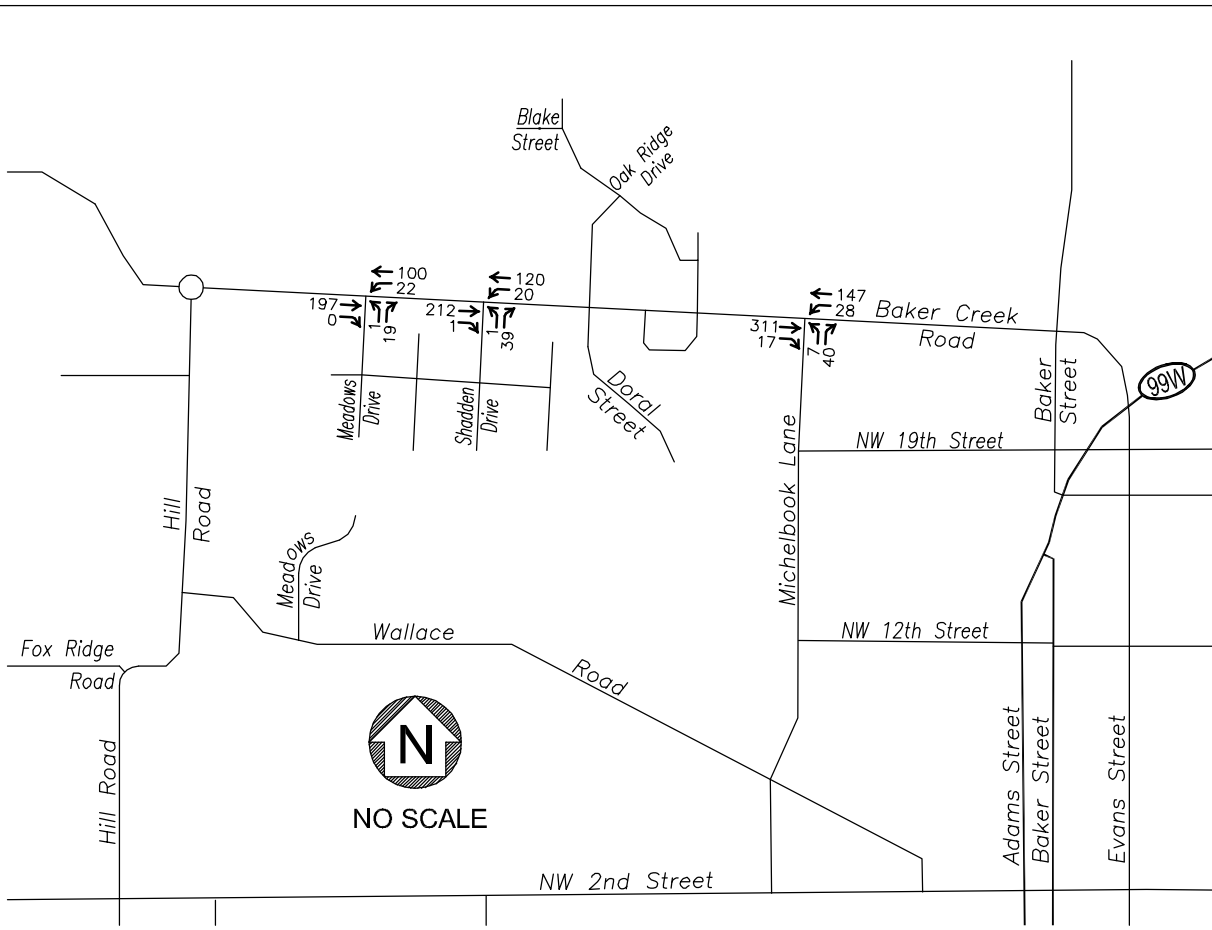
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PLOT DATE: 07.26.19

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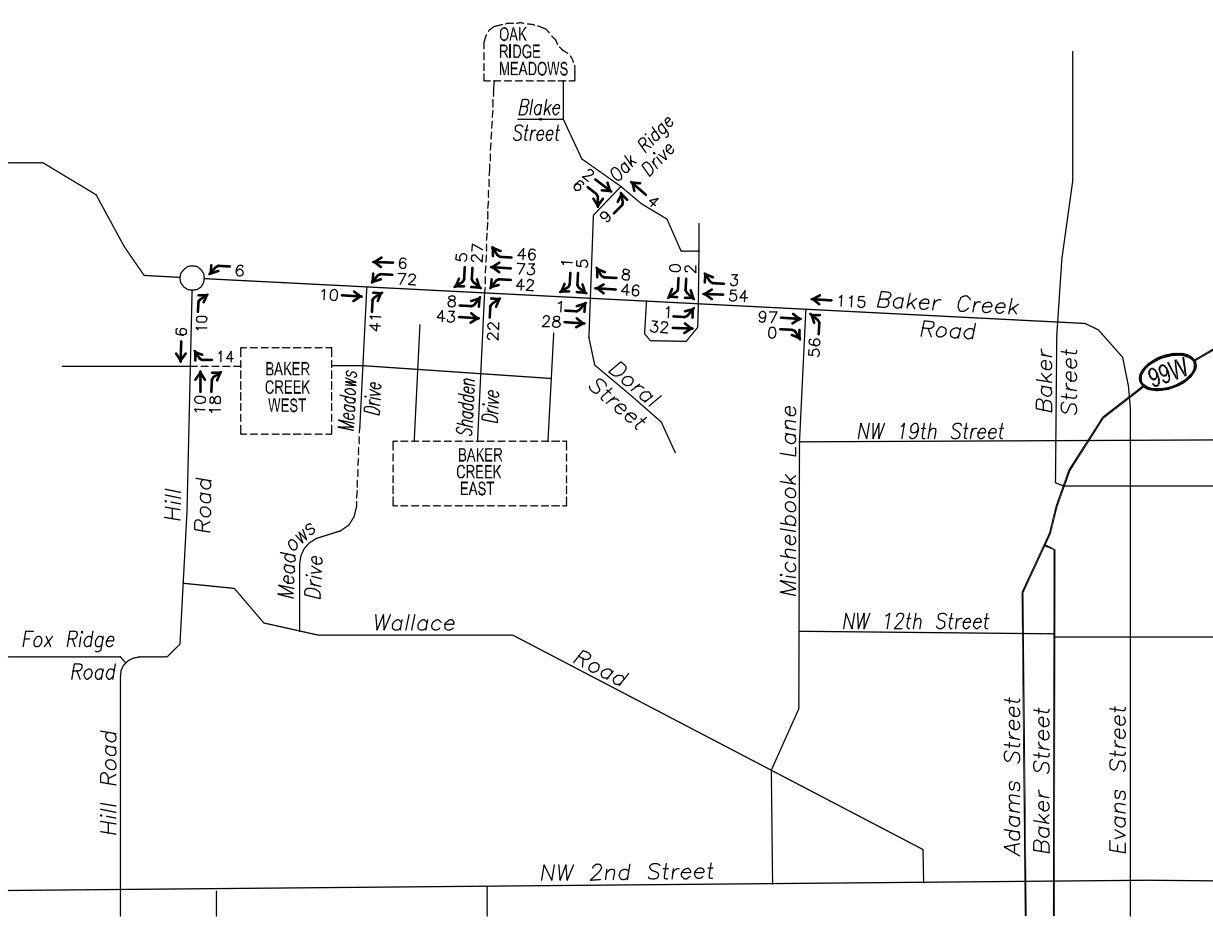
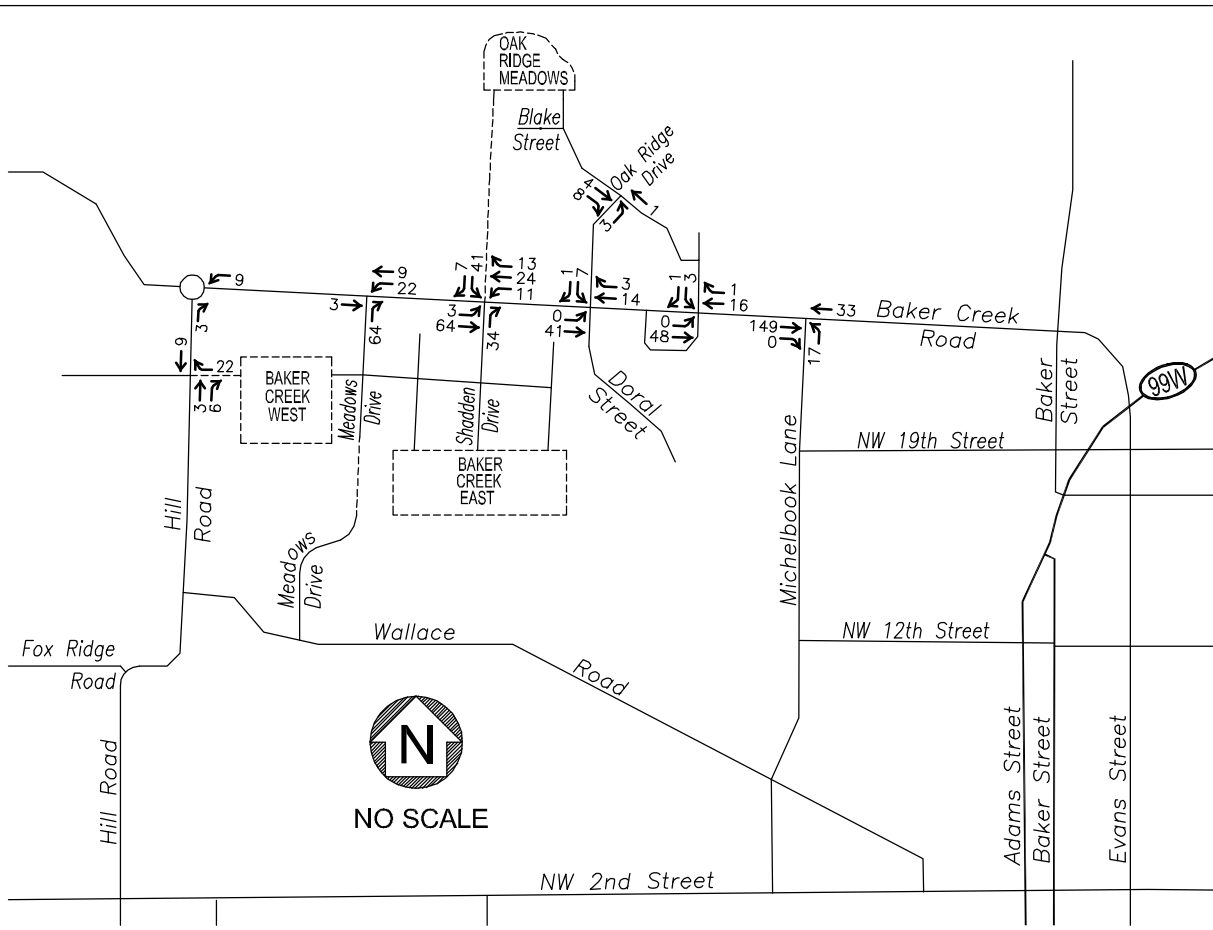
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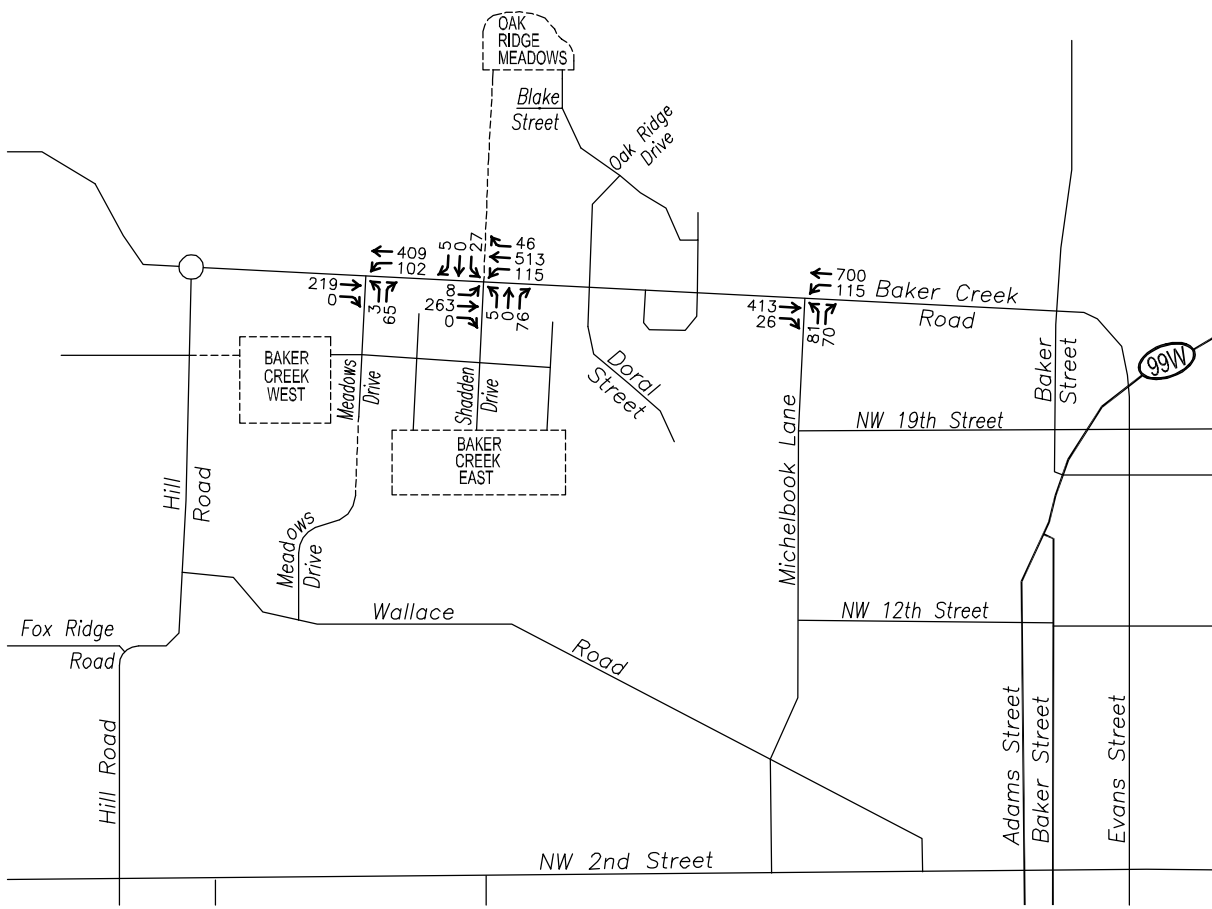
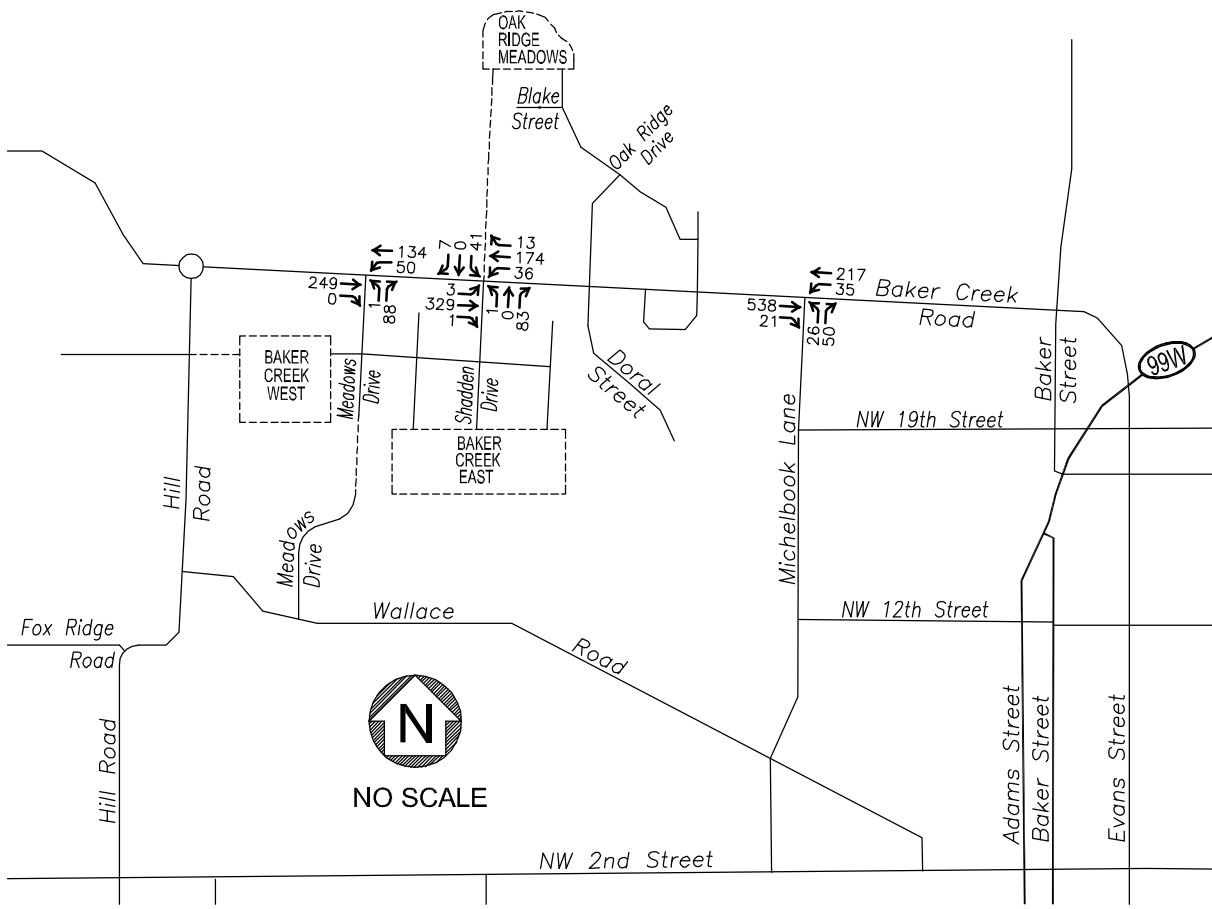
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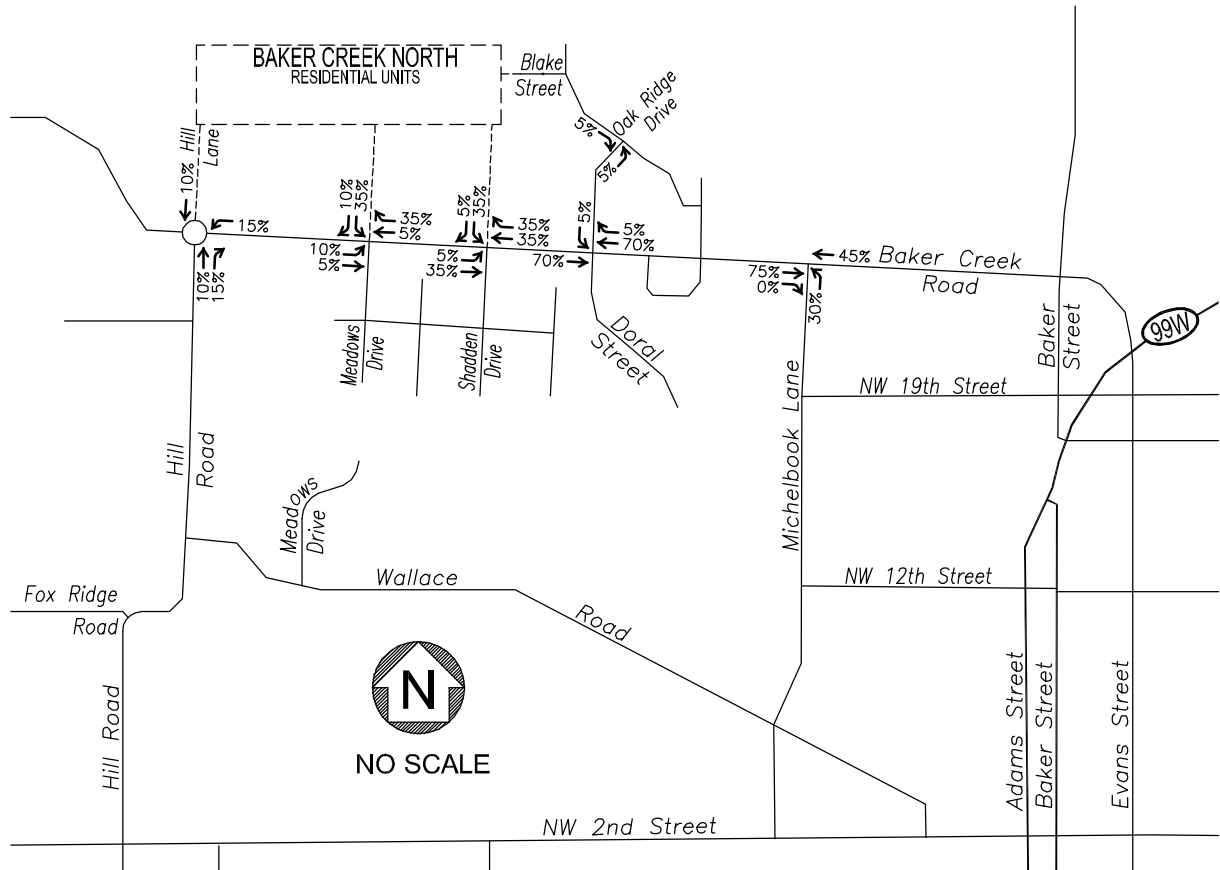
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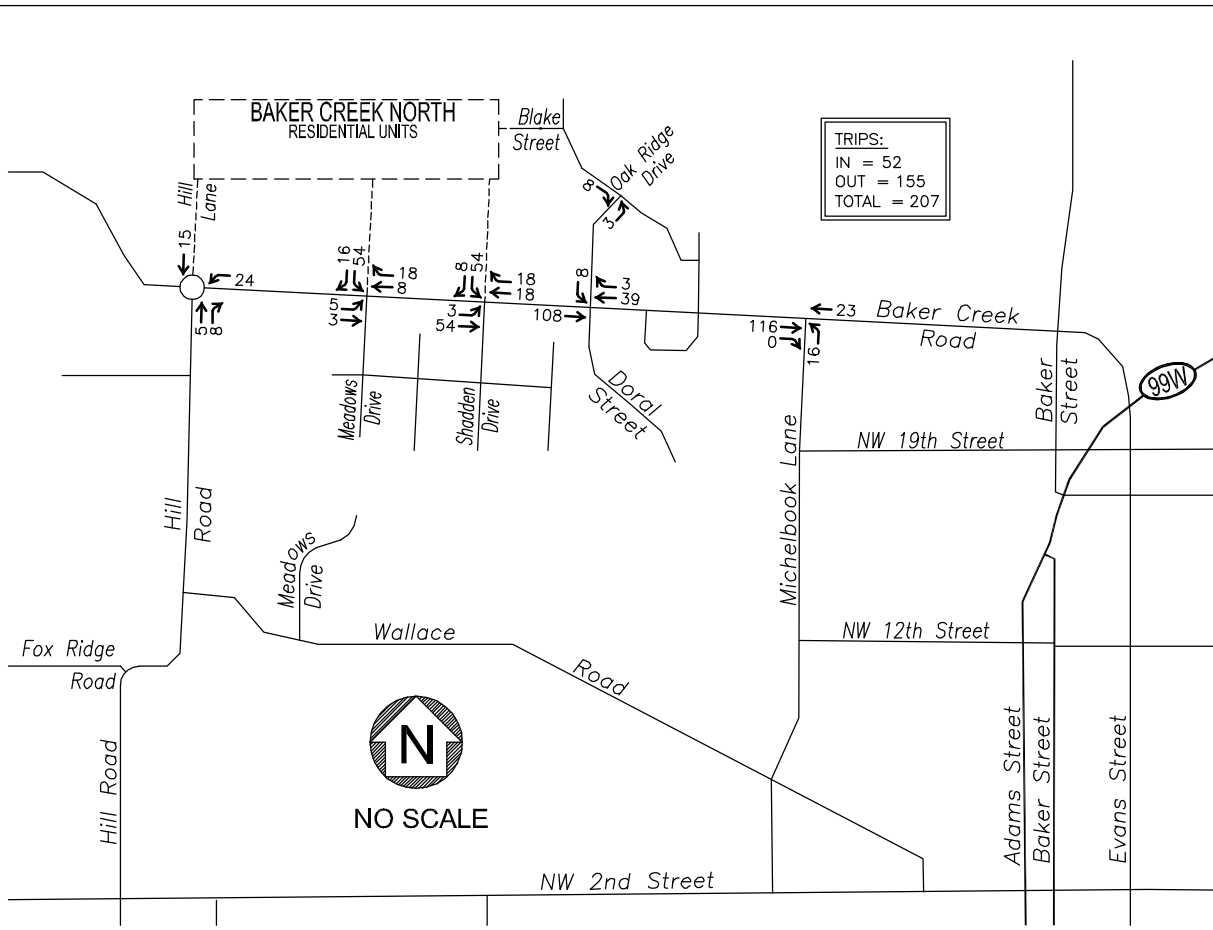
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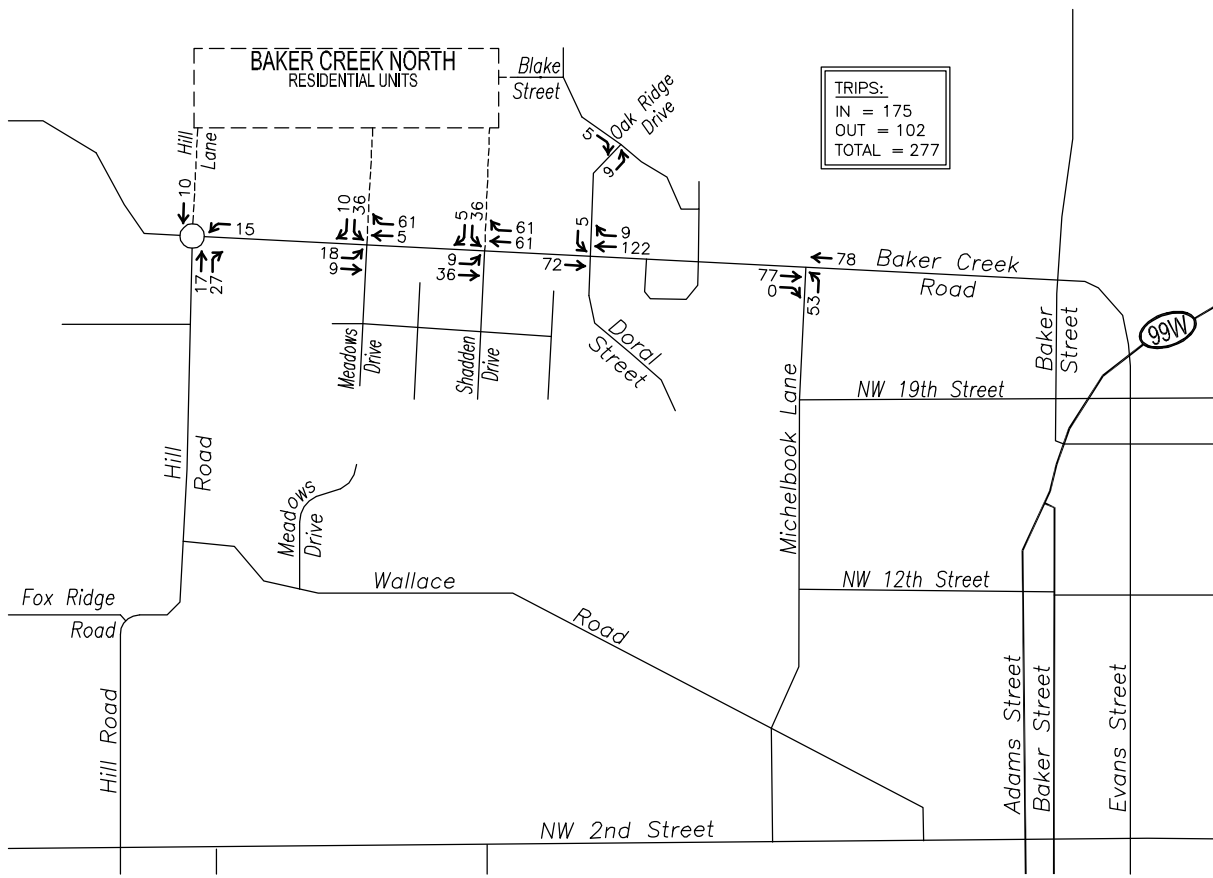


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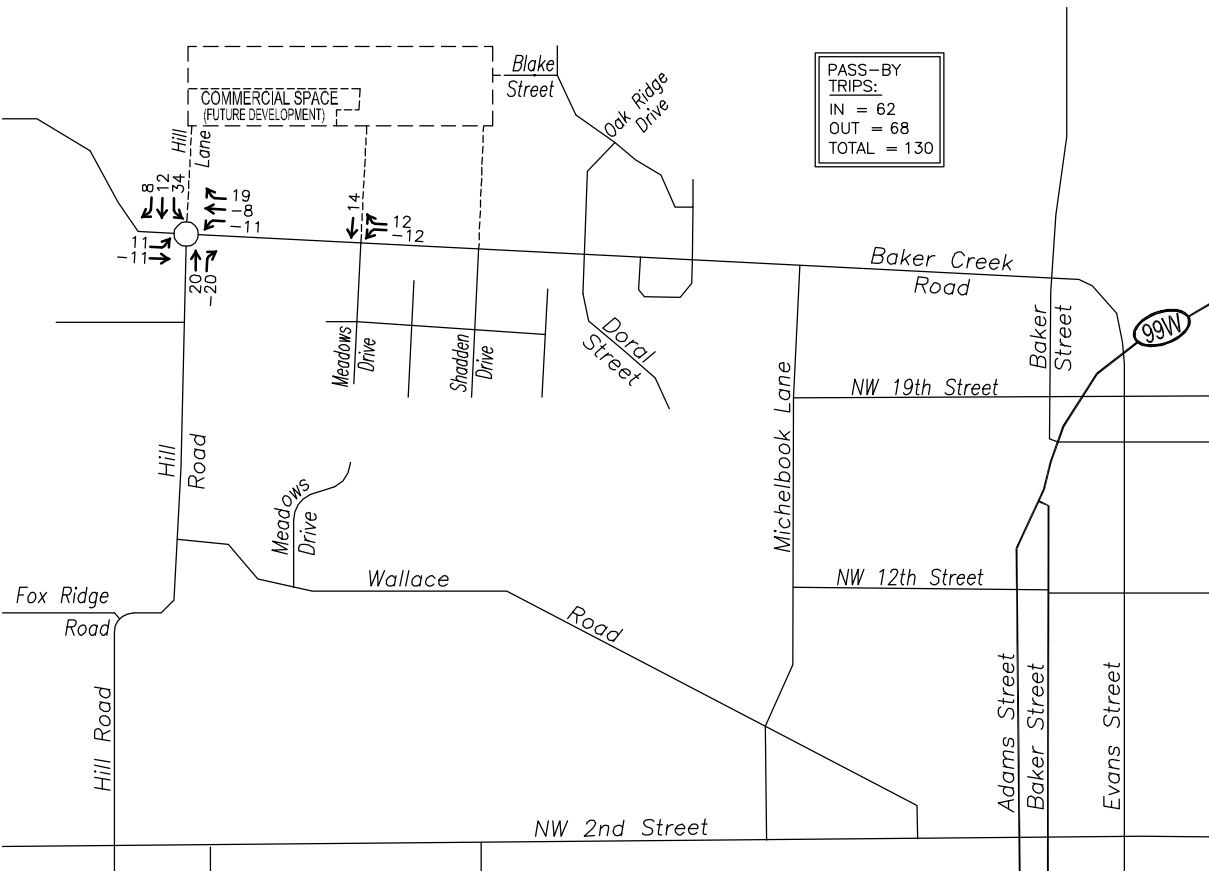
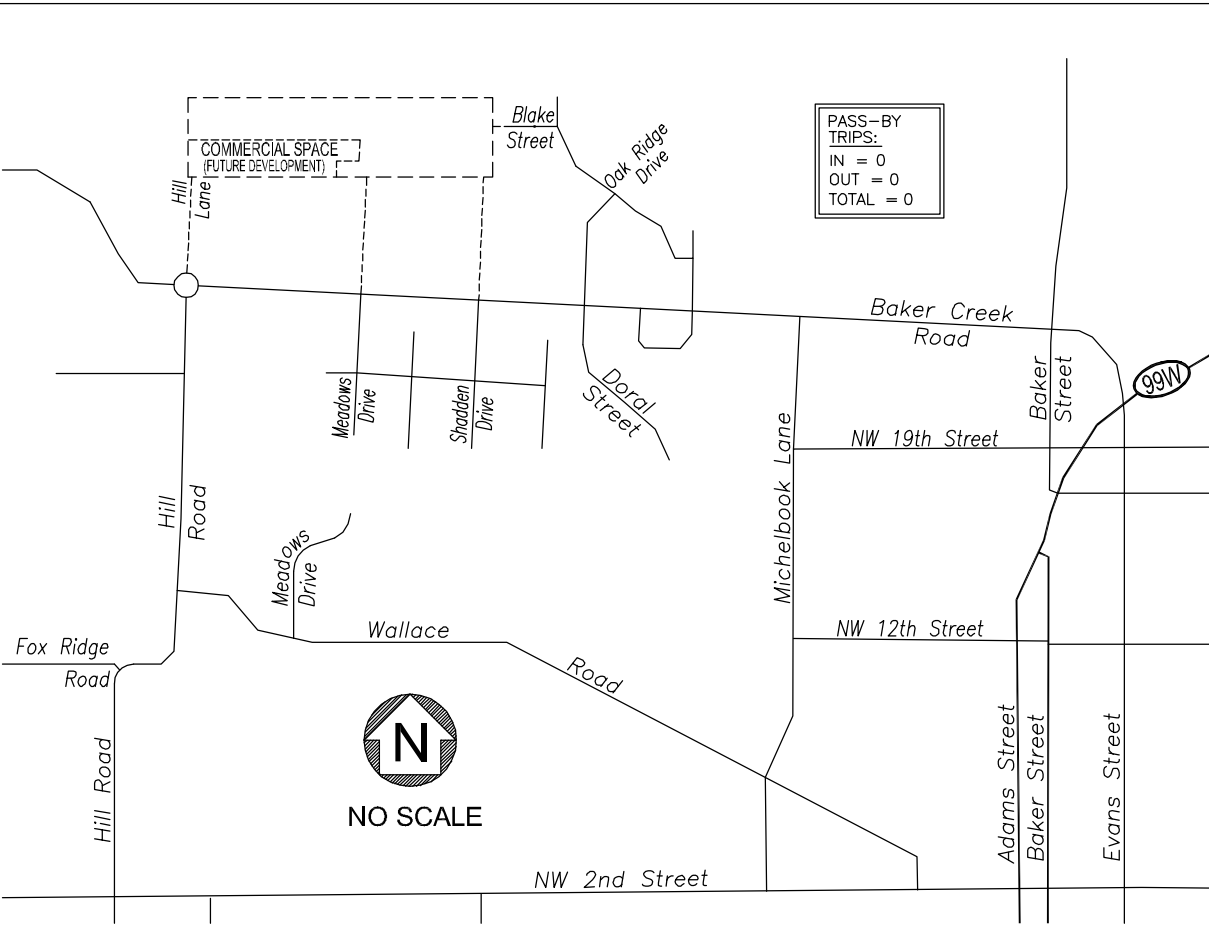
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PASS-BY
TRIPS:
IN = 0
OUT = 0
TOTAL = 0

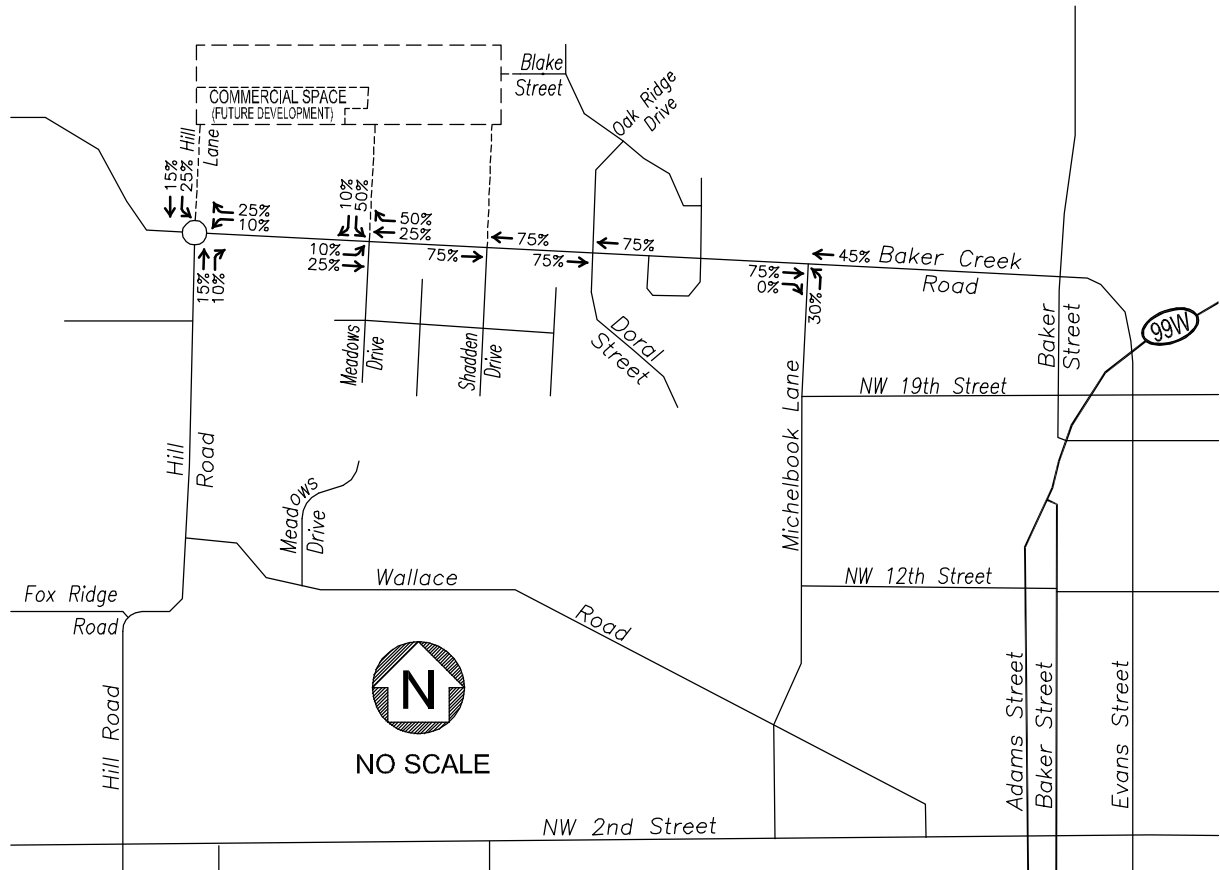
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PASS-BY
TRIPS:
IN = 62
OUT = 68
TOTAL = 130



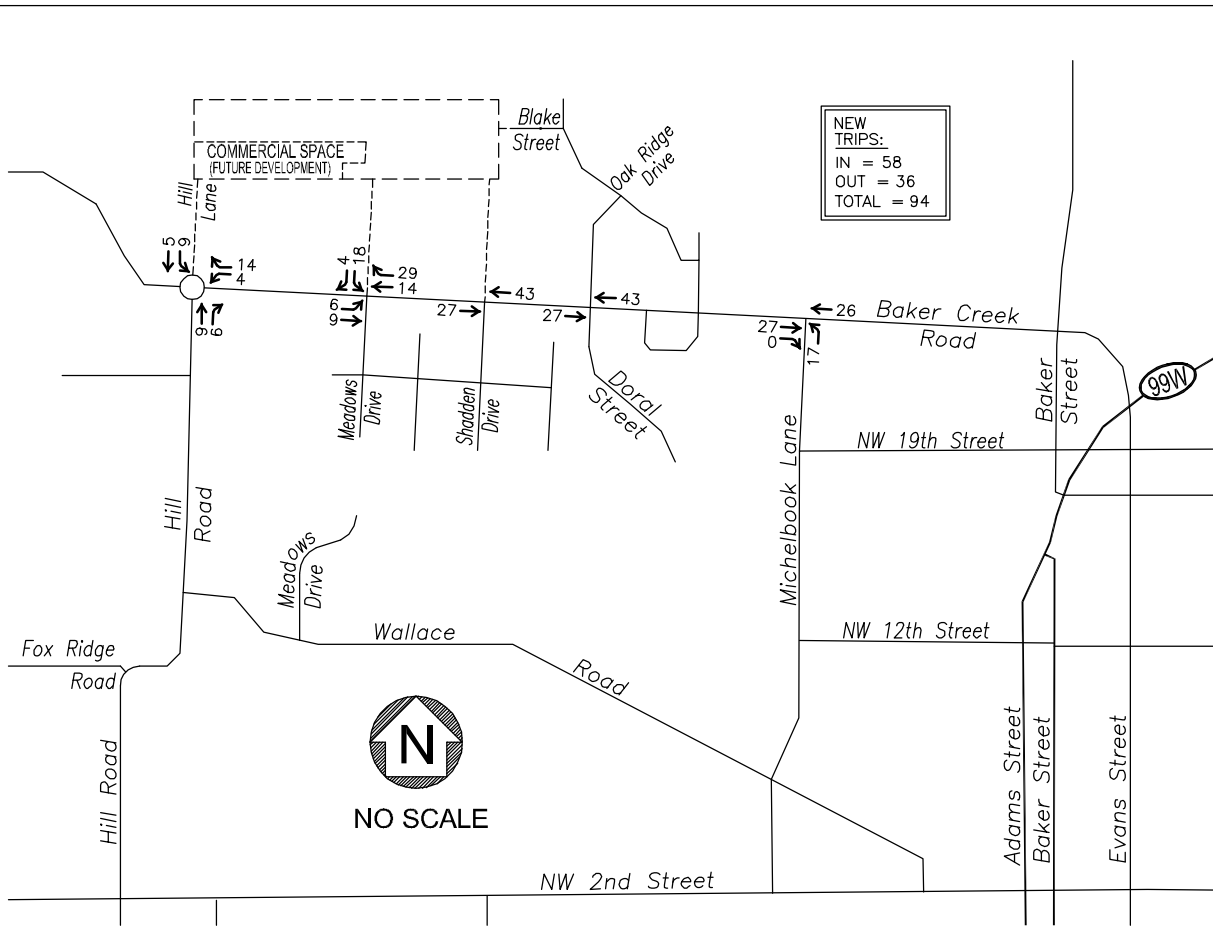
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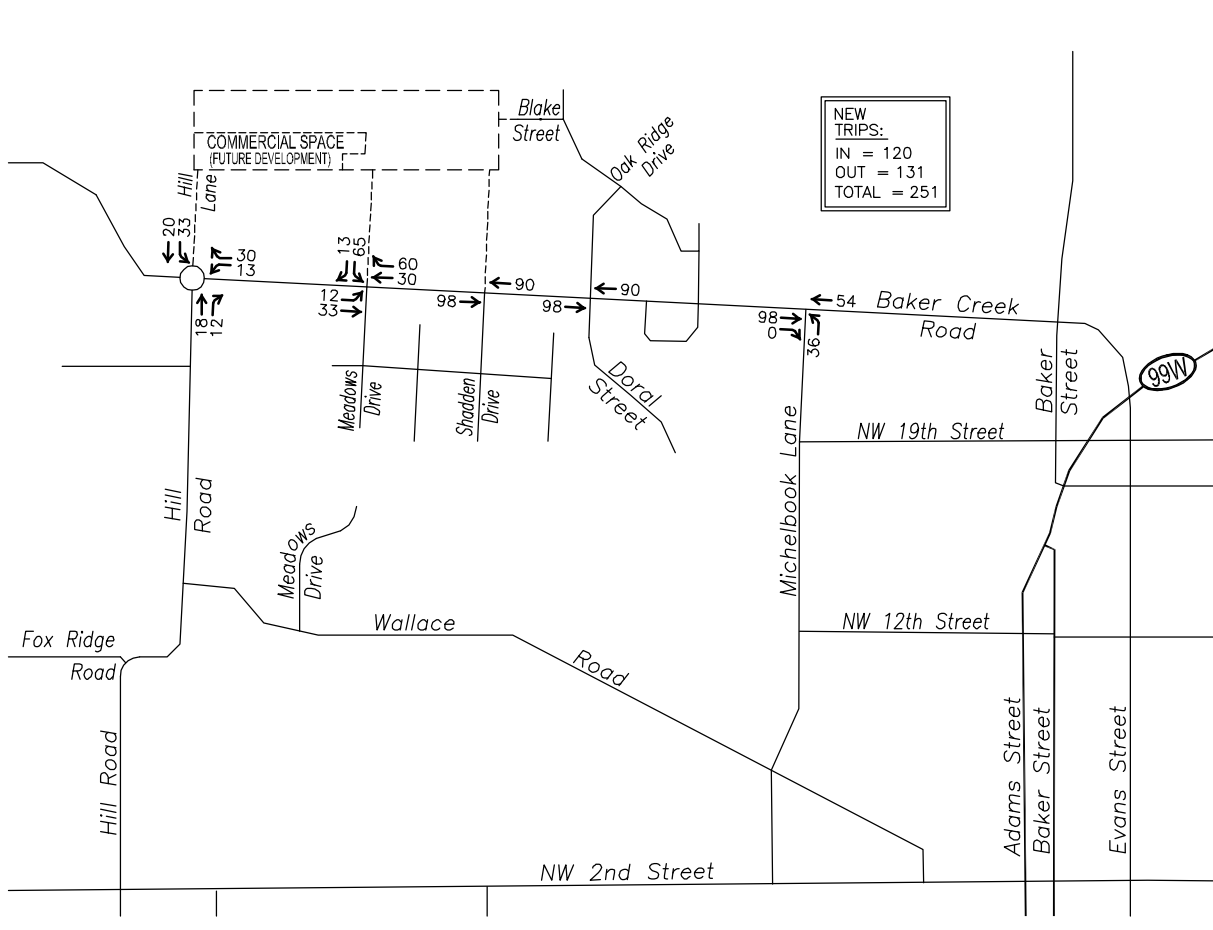


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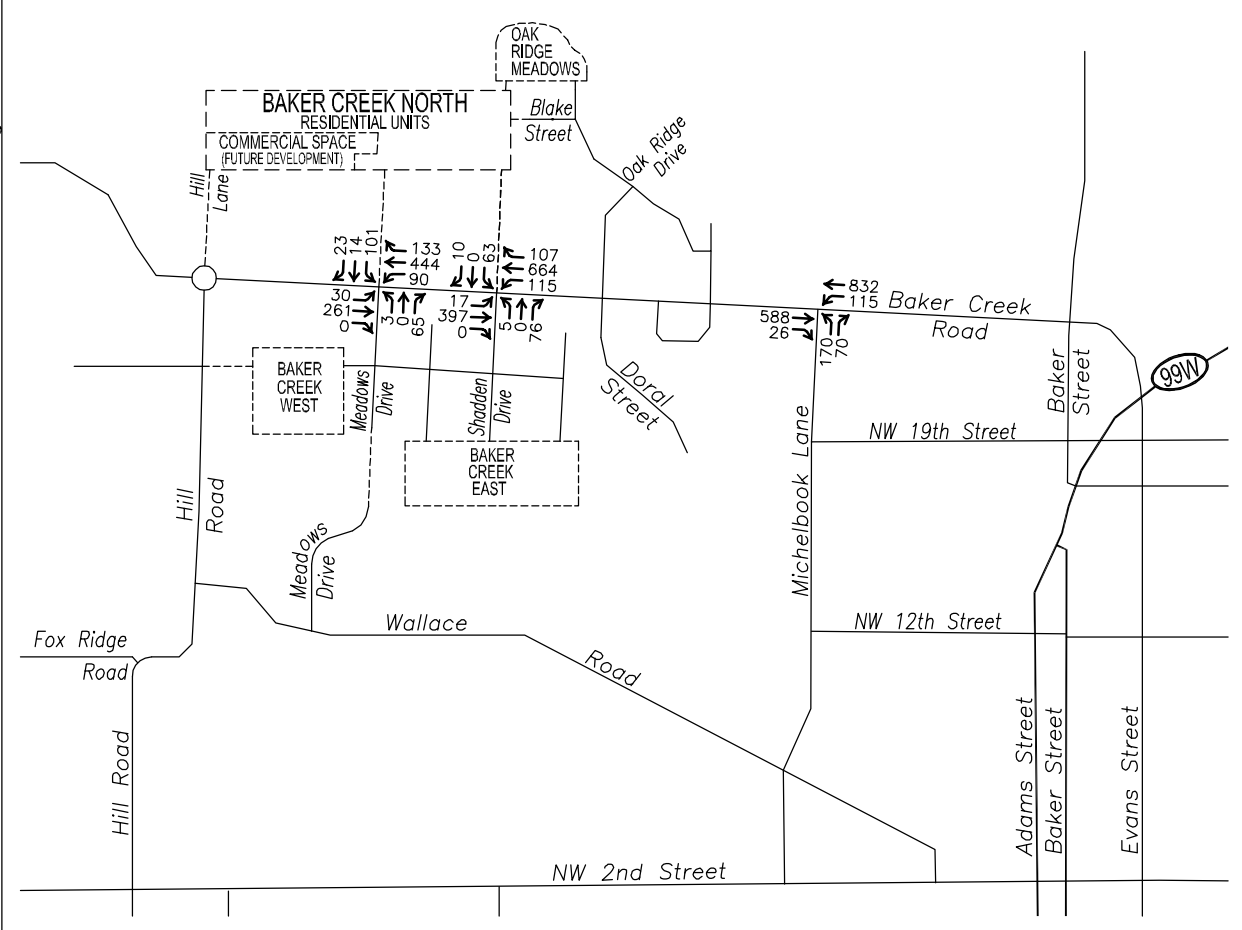
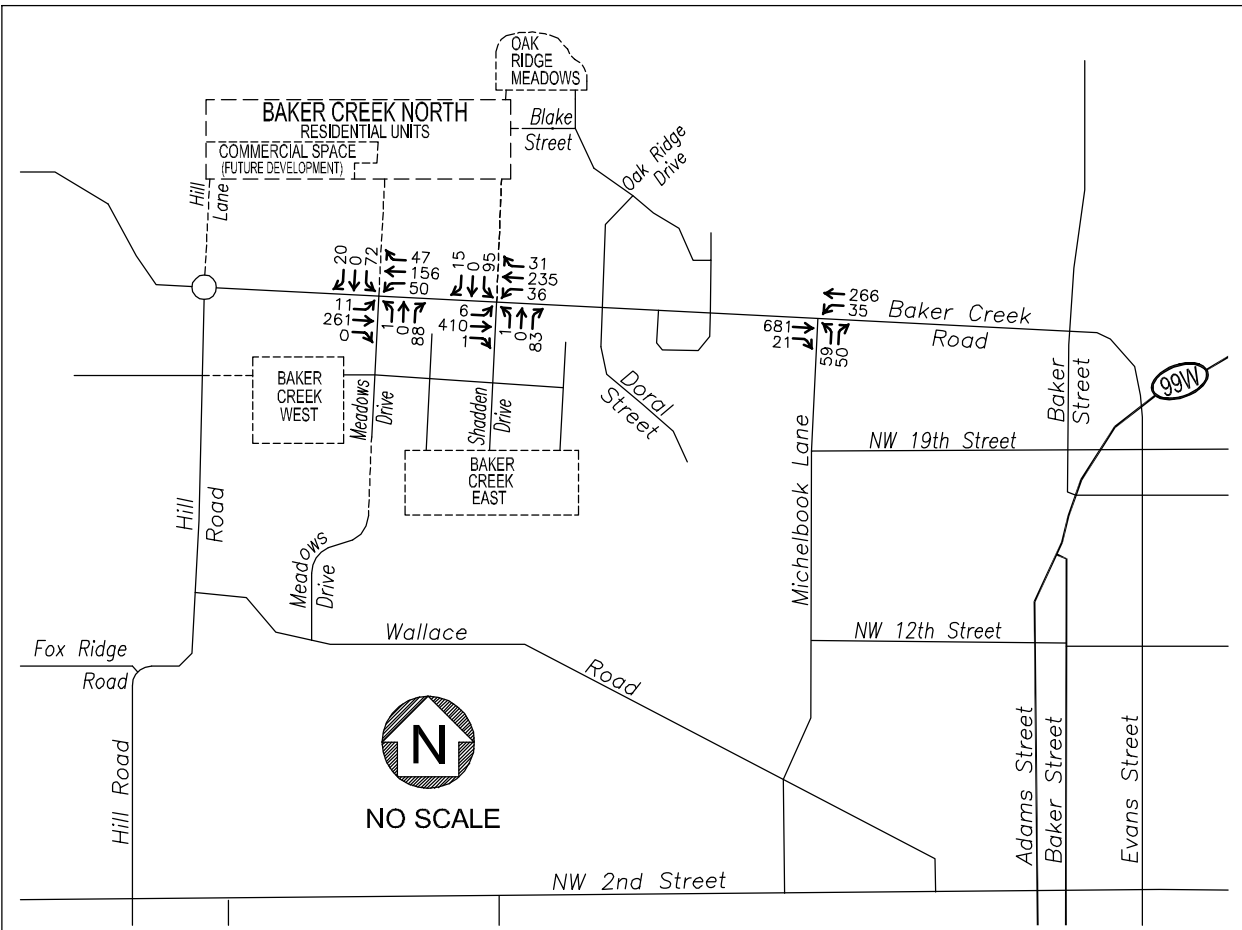
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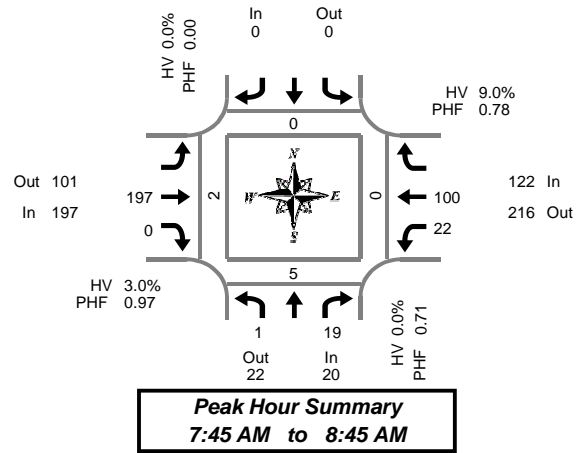
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Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Meadows Dr & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes		L	T	Bikes			North	South	East	West
7:00 AM	0	9	0				0		30	1	0		3	14	0		0	2	0	0	
7:15 AM	0	9	0				0		35	1	0		0	15	0		0	2	0	0	
7:30 AM	1	6	0				0		50	0	0		3	19	0		0	5	0	0	
7:45 AM	0	6	0				0		51	0	0		5	34	0		0	0	0	0	
8:00 AM	0	3	0				0		50	0	0		9	18	0		0	1	0	0	
8:15 AM	0	4	0				0		45	0	0		4	23	0		0	2	0	0	
8:30 AM	1	6	0				0		51	0	0		4	25	0		0	2	0	2	
8:45 AM	1	6	0				0		33	0	0		4	32	0		0	1	0	0	
Total Survey	3	49	0				0		345	2	0		32	180	0		0	15	0	2	

Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	20	22	42	0	0	0	0	0	197	101	298	0	122	216	338	0	339	0	5	0	2
%HV	0.0%				0.0%				3.0%				9.0%				5.0%				
PHF	0.71				0.00				0.97				0.78				0.88				

By Movement	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total
	L	R	Total	Bikes			Total	Bikes	T	R	Total	Bikes	L	T	Total	Bikes	
Volume	1	19	20	0	NA	NA	NA	0	197	0	197	0	22	100	122	0	339
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	3.0%	0.0%	3.0%	9.1%	9.0%	NA	9.0%	5.0%
PHF	0.25	0.79	0.71					0.00	0.97	0.00	0.97		0.61	0.74		0.78	0.88

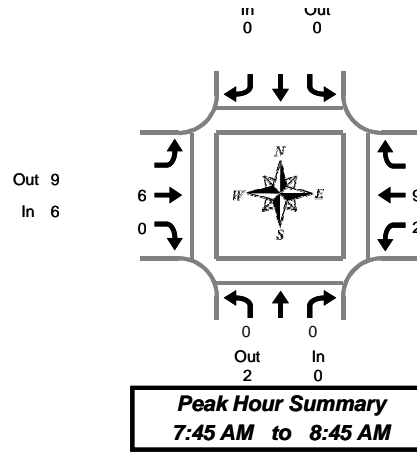
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes		L	T	Bikes			North	South	East	West
7:00 AM	1	30	0				0		166	2	0		11	82	0		0	9	0	0	
7:15 AM	1	24	0				0		186	1	0		17	86	0		0	8	0	0	
7:30 AM	1	19	0				0		196	0	0		21	94	0		0	8	0	0	
7:45 AM	1	19	0				0		197	0	0		22	100	0		0	5	0	2	
8:00 AM	2	19	0				0		179	0	0		21	98	0		0	6	0	2	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Meadows Dr & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	0	0	0	1	0	1	1
7:15 AM	0	0	0			0	1	0	1	0	2	2	3
7:30 AM	0	0	0			0	0	0	0	0	0	0	0
7:45 AM	0	0	0			0	0	0	0	0	4	4	4
8:00 AM	0	0	0			0	4	0	4	1	1	2	6
8:15 AM	0	0	0			0	0	0	0	1	3	4	4
8:30 AM	0	0	0			0	2	0	2	0	1	1	3
8:45 AM	0	0	0			0	1	0	1	0	4	4	5
Total Survey	0	0	0			0	8	0	8	3	15	18	26

Heavy Vehicle Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	2	2	0	0	0	6	9	15	11	6	17	17
PHF	0.00			0.00			0.25			0.28			0.30

By Movement	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	0	0			0	6	0	6	2	9	11	17
PHF	0.00	0.00	0.00			0.00	0.25	0.00	0.25	0.25	0.28	0.28	0.30

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	1	0	1	1	6	7	8
7:15 AM	0	0	0			0	5	0	5	1	7	8	13
7:30 AM	0	0	0			0	4	0	4	2	8	10	14
7:45 AM	0	0	0			0	6	0	6	2	9	11	17
8:00 AM	0	0	0			0	7	0	7	2	9	11	18

Peak Hour Summary



Clay Carney
(503) 833-2740

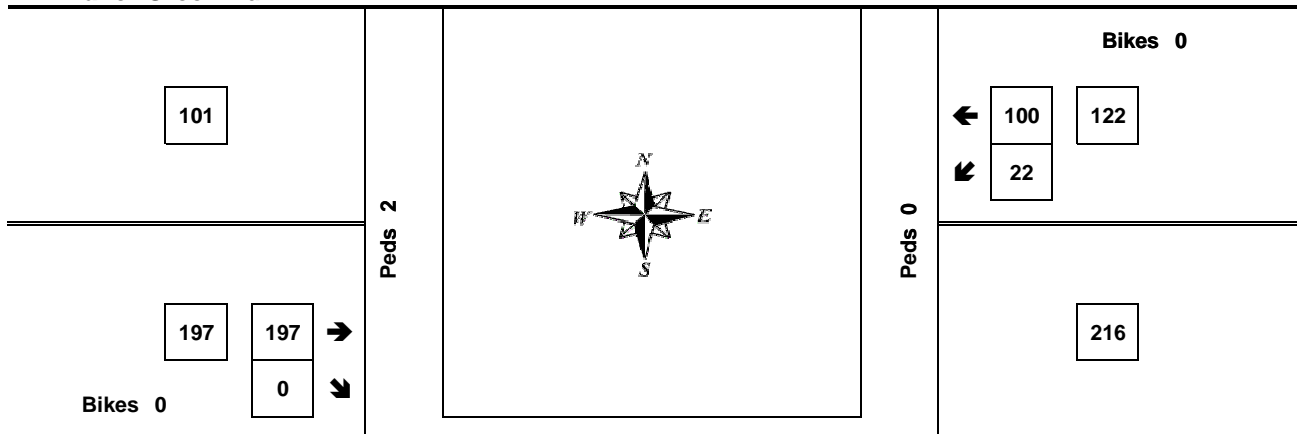
NW Meadows Dr & NW Baker Creek Rd

7:45 AM to 8:45 AM
Wednesday, July 10, 2019

Bikes
0

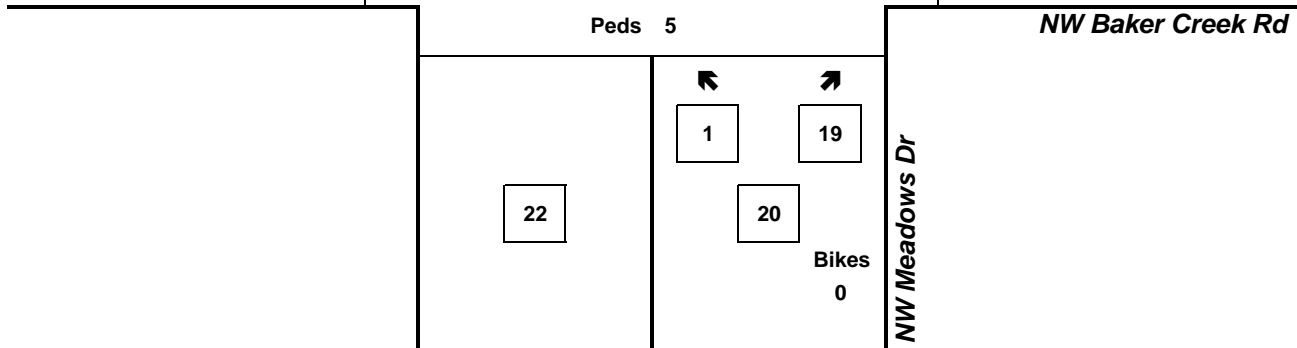
NW Baker Creek Rd

Peds 0



Peds 5

NW Baker Creek Rd



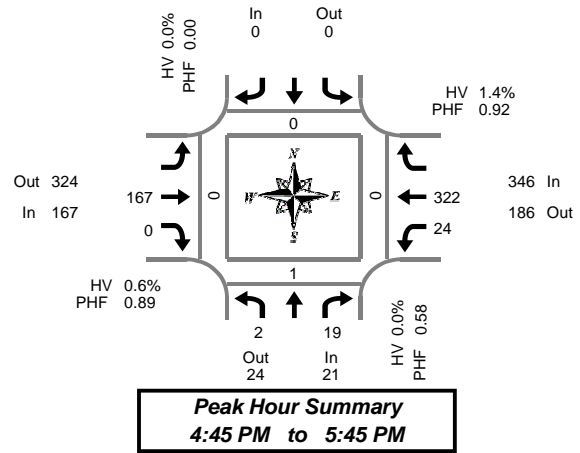
Approach	PHF	HV%	Volume
EB	0.97	3.0%	197
WB	0.78	9.0%	122
NB	0.71	0.0%	20
SB	0.00	0.0%	0
Intersection	0.88	5.0%	339

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Meadows Dr & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	0		3	0				0	38	3	0	8	60		0	112	0	0	0	0
4:15 PM	0		6	0				0	52	0	0	7	70		0	135	0	2	0	0
4:30 PM	2		4	0				0	44	1	0	3	62		0	116	0	0	0	0
4:45 PM	1		8	0				0	47	0	0	5	76		0	137	0	1	0	0
5:00 PM	0		3	0				0	41	0	0	4	90		0	138	0	0	0	0
5:15 PM	0		4	0				0	39	0	0	8	82		0	133	0	0	0	0
5:30 PM	1		4	0				0	40	0	0	7	74		0	126	0	0	0	0
5:45 PM	0		6	0				0	39	1	0	11	80		0	137	0	0	0	0
Total Survey	4		38	0				0	340	5	0	53	594		0	1,034	0	3	0	0

Peak Hour Summary 4:45 PM to 5:45 PM

By Approach	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	21	24	45	0	0	0	0	0	167	324	491	0	346	186	532	0	534	0	1	0	0
%HV	0.0%				0.0%				0.6%				1.4%				1.1%				
PHF	0.58				0.00				0.89				0.92				0.97				

By Movement	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Total
	L		R	Total				Total	T	R	Total	L	T		Total	
Volume	2		19	21				0	167	0	167	24	322		346	534
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	0.6%	0.0%	0.6%	0.0%	1.6%	1.4%	1.1%
PHF	0.50		0.59	0.58				0.00	0.89	0.00	0.89	0.75	0.89		0.92	0.97

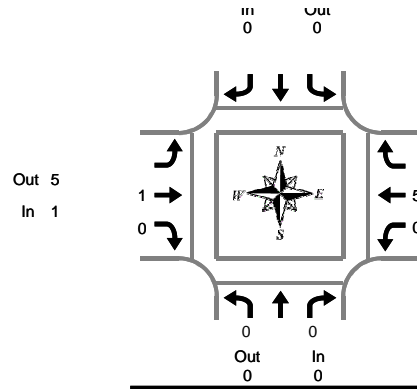
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Meadows Dr				Southbound NW Meadows Dr				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	3		21	0				0	181	4	0	23	268		0	500	0	3	0	0
4:15 PM	3		21	0				0	184	1	0	19	298		0	526	0	3	0	0
4:30 PM	3		19	0				0	171	1	0	20	310		0	524	0	1	0	0
4:45 PM	2		19	0				0	167	0	0	24	322		0	534	0	1	0	0
5:00 PM	1		17	0				0	159	1	0	30	326		0	534	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Meadows Dr & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	1	0	1	0	0	0	1
4:15 PM	0	0	0			0	3	0	3	0	1	1	4
4:30 PM	0	0	0			0	1	0	1	0	0	0	1
4:45 PM	0	0	0			0	1	0	1	0	4	4	5
5:00 PM	0	0	0			0	0	0	0	0	0	0	0
5:15 PM	0	0	0			0	0	0	0	0	0	0	0
5:30 PM	0	0	0			0	0	0	0	0	1	1	1
5:45 PM	0	0	0			0	0	0	0	0	0	0	0
Total Survey	0	0	0			0	6	0	6	0	6	6	12

Heavy Vehicle Peak Hour Summary 4:45 PM to 5:45 PM

By Approach	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	1	5	6	5	1	6	6
PHF	0.00			0.00			0.05			0.25			0.15

By Movement	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	0	0			0	1	0	1	0	5	5	6
PHF	0.00	0.00	0.00			0.00	0.05	0.00	0.05	0.00	0.25	0.25	0.15

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Meadows Dr			Southbound NW Meadows Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	6	0	6	0	5	5	11
4:15 PM	0	0	0			0	5	0	5	0	5	5	10
4:30 PM	0	0	0			0	2	0	2	0	4	4	6
4:45 PM	0	0	0			0	1	0	1	0	5	5	6
5:00 PM	0	0	0			0	0	0	0	0	1	1	1

Peak Hour Summary



Clay Carney
(503) 833-2740

NW Meadows Dr & NW Baker Creek Rd

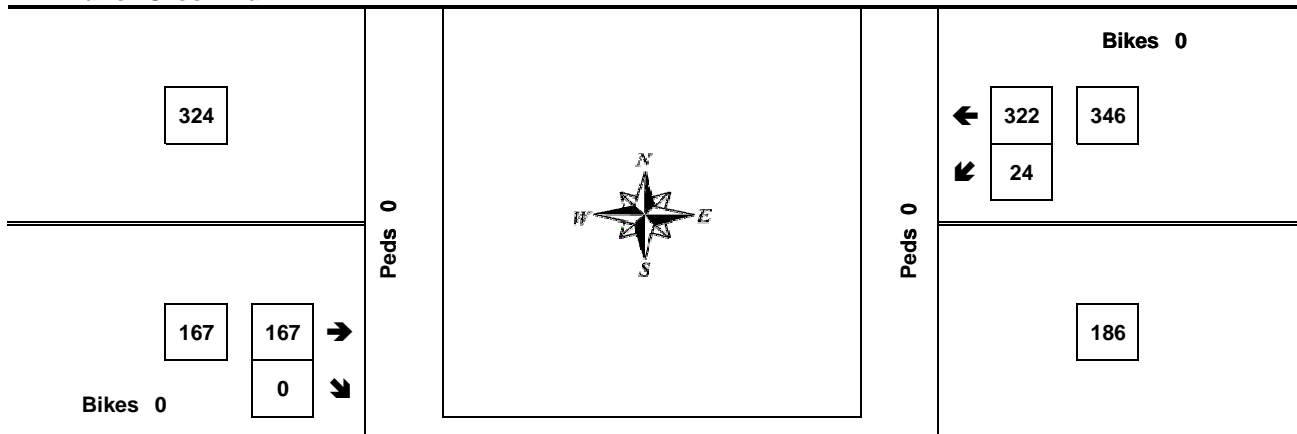
4:45 PM to 5:45 PM

Tuesday, July 09, 2019

Bikes
0

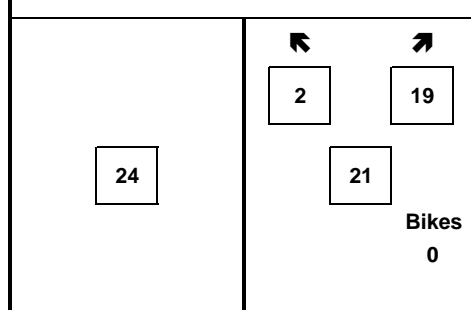
NW Baker Creek Rd

Peds 0



Peds 1

NW Baker Creek Rd



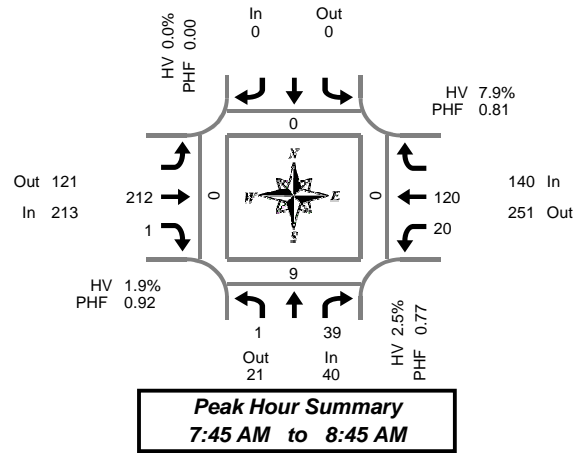
Approach	PHF	HV%	Volume
EB	0.89	0.6%	167
WB	0.92	1.4%	346
NB	0.58	0.0%	21
SB	0.00	0.0%	0
Intersection	0.97	1.1%	534

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Shadden Dr & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes			North	South	East	West
7:00 AM	0	5	0				0		40	0	0	3	17	0	65	0	3	0	0	
7:15 AM	0	11	0				0		45	0	0	6	15	0	77	0	2	0	0	
7:30 AM	0	12	0				0		55	0	0	2	22	0	91	0	5	0	0	
7:45 AM	0	10	0				0		58	0	0	5	38	0	111	0	4	0	0	
8:00 AM	0	8	0				0		53	0	0	5	28	0	94	0	3	0	0	
8:15 AM	0	13	0				0		47	1	0	5	27	0	93	0	0	0	0	
8:30 AM	1	8	0				0		54	0	0	5	27	1	95	0	2	0	0	
8:45 AM	0	6	0				0		42	0	0	3	36	0	87	0	2	1	0	
Total Survey	1	73	0				0		394	1	0	34	210	1	713	0	21	1	0	

Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	40	21	61	0	0	0	0	0	213	121	334	0	140	251	391	1	393	0	9	0	0
%HV	2.5%				0.0%				1.9%				7.9%				4.1%				
PHF	0.77				0.00				0.92				0.81				0.89				

By Movement	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total				
	L	R	Total	Bikes			Total	Bikes	T	R	Total	Bikes	L	T	Total	Bikes					
Volume	1	39	40	0	NA	NA	0	0	212	1	213	0	20	120	140	1	393				
%HV	0.0%	2.6%	2.5%		NA	NA	0.0%		1.9%	0.0%	1.9%		5.0%	8.3%	7.9%		4.1%				
PHF	0.25	0.75	0.77				0.00		0.91	0.25	0.92		1.00	0.79	0.81		0.89				

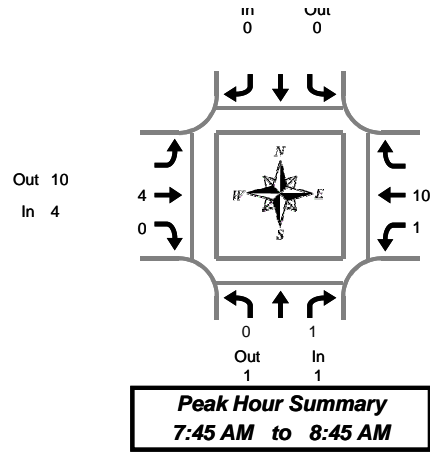
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes			North	South	East	West
7:00 AM	0	38	0				0		198	0	0	16	92	0	344	0	14	0	0	
7:15 AM	0	41	0				0		211	0	0	18	103	0	373	0	14	0	0	
7:30 AM	0	43	0				0		213	1	0	17	115	0	389	0	12	0	0	
7:45 AM	1	39	0				0		212	1	0	20	120	1	393	0	9	0	0	
8:00 AM	1	35	0				0		196	1	0	18	118	1	369	0	7	1	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Shadden Dr & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	0	0	0	2	1	3	3
7:15 AM	0	1	1			0	1	0	1	1	2	3	5
7:30 AM	0	0	0			0	0	0	0	0	0	0	0
7:45 AM	0	0	0			0	0	0	0	0	3	3	3
8:00 AM	0	0	0			0	3	0	3	0	2	2	5
8:15 AM	0	0	0			0	0	0	0	1	4	5	5
8:30 AM	0	1	1			0	1	0	1	0	1	1	3
8:45 AM	0	1	1			0	1	0	1	0	5	5	7
Total Survey	0	3	3			0	6	0	6	4	18	22	31

Heavy Vehicle Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	1	2	0	0	0	4	10	14	11	5	16	16
PHF	0.13			0.00			0.25			0.25			0.27

By Movement	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	1	1			0	4	0	4	1	10	11	16
PHF	0.00	0.13	0.13			0.00	0.25	0.00	0.25	0.08	0.25	0.25	0.27

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	1	1			0	1	0	1	3	6	9	11
7:15 AM	0	1	1			0	4	0	4	1	7	8	13
7:30 AM	0	0	0			0	3	0	3	1	9	10	13
7:45 AM	0	1	1			0	4	0	4	1	10	11	16
8:00 AM	0	2	2			0	5	0	5	1	12	13	20

Peak Hour Summary



Clay Carney
(503) 833-2740

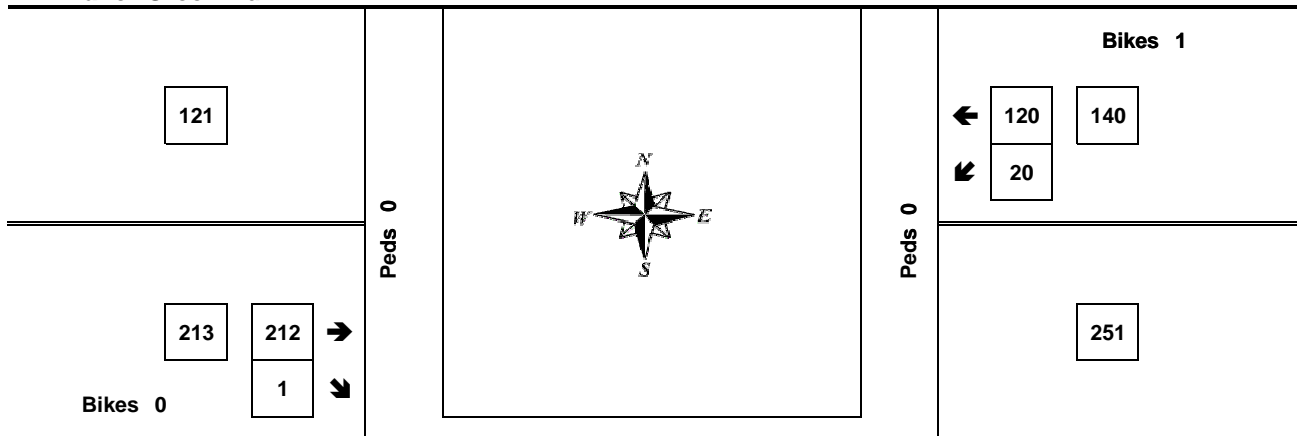
NW Shadden Dr & NW Baker Creek Rd

7:45 AM to 8:45 AM
Wednesday, July 10, 2019

Bikes
0

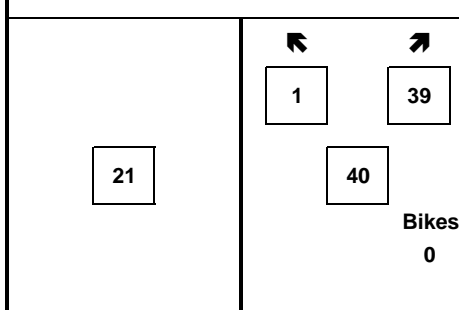
NW Baker Creek Rd

Peds 0



Peds 9

NW Baker Creek Rd



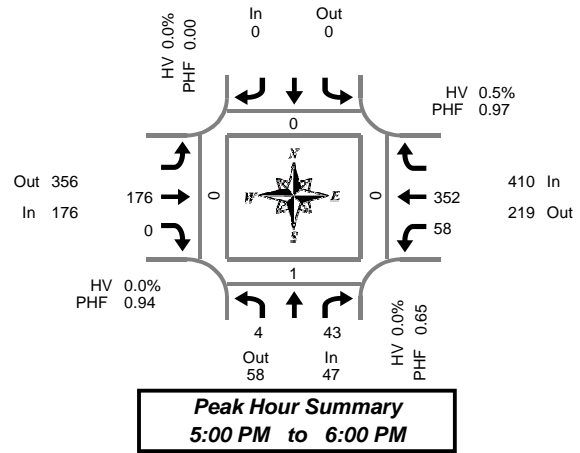
Approach	PHF	HV%	Volume
EB	0.92	1.9%	213
WB	0.81	7.9%	140
NB	0.77	2.5%	40
SB	0.00	0.0%	0
Intersection	0.89	4.1%	393

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Shadden Dr & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes	North	South		East	West		
4:00 PM	0	12	0				0		42	0	0	15	67	0	0	0	0	0	0		
4:15 PM	1	9	0				0		58	0	0	20	77	0	0	0	0	0	0		
4:30 PM	0	7	0				0		50	0	0	15	64	0	0	0	0	0	0		
4:45 PM	0	9	0				0		56	1	0	14	81	1	0	0	0	0	0		
5:00 PM	0	11	0				0		43	0	0	12	94	0	0	0	0	0	0		
5:15 PM	2	10	0				0		41	0	0	12	87	0	0	0	0	0	0		
5:30 PM	1	5	0				0		47	0	0	19	81	0	0	0	0	0	0		
5:45 PM	1	17	0				0		45	0	0	15	90	0	0	0	0	0	0		
Total Survey	5	80	0				0		382	1	0	122	641	1	0	0	0	0	0		

Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	47	58	105	0	0	0	0	0	176	356	532	0	410	219	629	0	0	1	0	0	0
%HV	0.0%				0.0%				0.0%				0.5%				0.3%				
PHF	0.65				0.00				0.94				0.97				0.94				

By Movement	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total
	L	R	Total	Bikes			Total	Bikes	T	R	Total	L	T	Total	Bikes		
Volume	4	43	47	0			0	0	176	0	176	58	352	410	633		
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	0.0%	0.0%	0.0%	0.6%	NA	0.3%		
PHF	0.50	0.63	0.65				0.00		0.94	0.00	0.94	0.76	0.94	0.97	0.94		

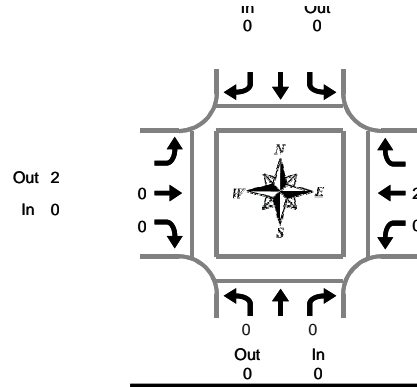
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Shadden Dr				Southbound NW Shadden Dr				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes	North	South		East	West		
4:00 PM	1	37	0				0		206	1	0	64	289	1	598	0	4	0	0		
4:15 PM	1	36	0				0		207	1	0	61	316	1	622	0	4	0	0		
4:30 PM	2	37	0				0		190	1	0	53	326	1	609	0	4	0	0		
4:45 PM	3	35	0				0		187	1	0	57	343	1	626	0	2	0	0		
5:00 PM	4	43	0				0		176	0	0	58	352	0	633	0	1	0	0		

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
5:00 PM to 6:00 PM

NW Shadden Dr & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	1	0	1	0	0	0	1
4:15 PM	0	0	0			0	3	0	3	0	1	1	4
4:30 PM	0	0	0			0	1	0	1	0	0	0	1
4:45 PM	0	0	0			0	1	0	1	0	4	4	5
5:00 PM	0	0	0			0	0	0	0	0	0	0	0
5:15 PM	0	0	0			0	0	0	0	0	0	0	0
5:30 PM	0	0	0			0	0	0	0	0	2	2	2
5:45 PM	0	0	0			0	0	0	0	0	0	0	0
Total Survey	0	0	0			0	6	0	6	0	7	7	13

Heavy Vehicle Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total	
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		
Volume	0	0	0	0	0	0	0	2	2	2	0	2	2	2
PHF	0.00			0.00			0.00	0.00	0.00	0.00	0.10			0.05

By Movement	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	0	0			0	0	0	0	0	2	2	2
PHF	0.00	0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.05

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Shadden Dr			Southbound NW Shadden Dr			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	6	0	6	0	5	5	11
4:15 PM	0	0	0			0	5	0	5	0	5	5	10
4:30 PM	0	0	0			0	2	0	2	0	4	4	6
4:45 PM	0	0	0			0	1	0	1	0	6	6	7
5:00 PM	0	0	0			0	0	0	0	0	2	2	2

Peak Hour Summary



Clay Carney
(503) 833-2740

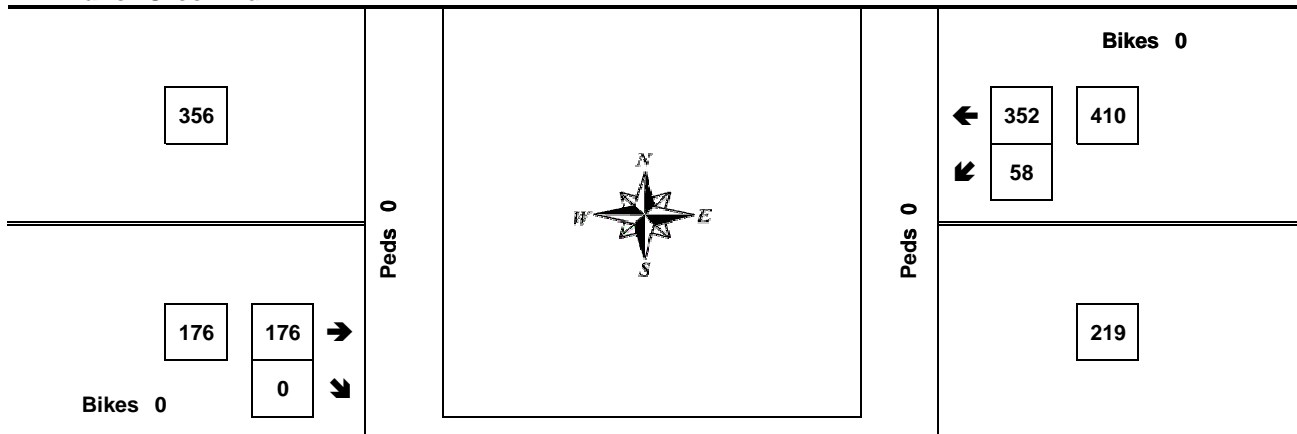
NW Shadden Dr & NW Baker Creek Rd

5:00 PM to 6:00 PM
Tuesday, July 09, 2019

Bikes
0

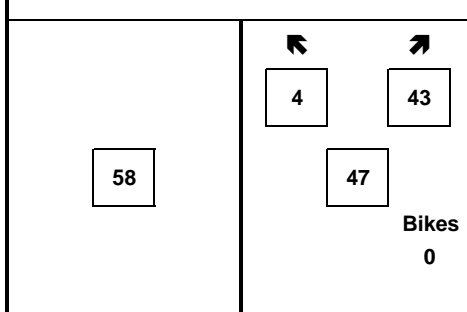
NW Baker Creek Rd

Peds 0



NW Baker Creek Rd

Peds 1



NW Baker Creek Rd

NW Shadden Dr

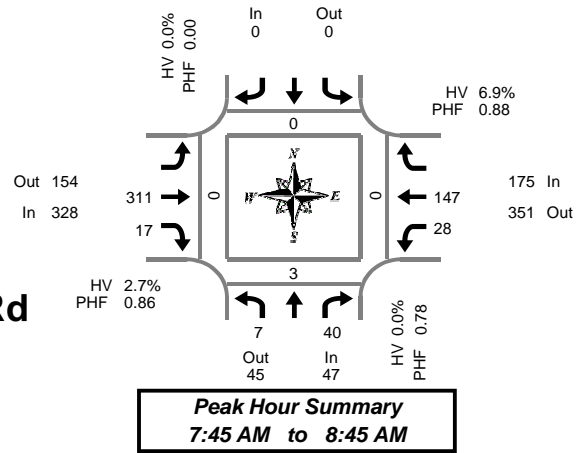
Approach	PHF	HV%	Volume
EB	0.94	0.0%	176
WB	0.97	0.5%	410
NB	0.65	0.0%	47
SB	0.00	0.0%	0
Intersection	0.94	0.3%	633

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Michelbrock Ln & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Michelbrock Ln				Southbound NW Michelbrock Ln				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	3	7	0				0		54	1	0	2	19		0	0	0	0	0	
7:15 AM	0	7	0				0		61	3	0	5	22		0	0	0	0	0	
7:30 AM	0	8	0				0		68	3	0	5	28		0	4	0	0	0	
7:45 AM	0	13	0				0		91	4	0	3	42		0	0	0	0	0	
8:00 AM	3	8	0				0		65	4	0	8	35		0	2	0	0	0	
8:15 AM	2	6	0				0		73	3	0	7	30		0	0	0	0	0	
8:30 AM	2	13	0				0		82	6	0	10	40		0	1	0	0	0	
8:45 AM	2	12	0				0		60	8	0	4	46		0	2	0	0	0	
Total Survey	12	74	0				0		554	32	0	44	262		0	0	11	0	0	

Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Michelbrock Ln				Southbound NW Michelbrock Ln				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	47	45	92	0	0	0	0	0	328	154	482	0	175	351	526	0	0	3	0	0	0
%HV	0.0%				0.0%				2.7%				6.9%				3.8%				
PHF	0.78				0.00				0.86				0.88				0.90				

By Movement	Northbound NW Michelbrock Ln				Southbound NW Michelbrock Ln				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Total			
	L	R	Total	Bikes				Total	T	R	Total	L	T		Total				
Volume	7	40	47	0	NA	NA	NA	0	311	17	328	28	147	NA	175				
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	2.6%	5.9%	2.7%	10.7%	6.1%	NA	6.9%	3.8%		
PHF	0.58	0.77	0.78					0.00	0.85	0.71	0.86	0.70	0.88		0.88	0.90			

Rolling Hour Summary 7:00 AM to 9:00 AM

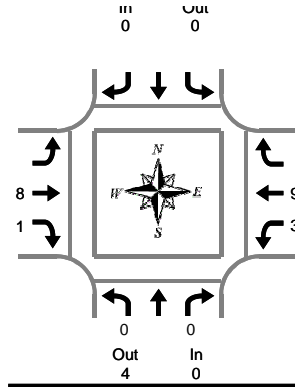
Interval Start Time	Northbound NW Michelbrock Ln				Southbound NW Michelbrock Ln				Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T		Bikes		North	South	East	West
7:00 AM	3	35	0				0		274	11	0	15	111		0	0	6	0	0	
7:15 AM	3	36	0				0		285	14	0	21	127		0	0	8	0	0	
7:30 AM	5	35	0				0		297	14	0	23	135		0	0	6	0	0	
7:45 AM	7	40	0				0		311	17	0	28	147		0	0	3	0	0	
8:00 AM	9	39	0				0		280	21	0	29	151		0	0	5	0	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740

Out 9
In 9



NW Michelbrook Ln & NW Baker Creek Rd

Wednesday, July 10, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	0	0	0	0	3	3	3
7:15 AM	0	1	1			0	2	0	2	0	2	2	5
7:30 AM	0	1	1			0	1	0	1	1	0	1	3
7:45 AM	0	0	0			0	0	0	0	1	2	3	3
8:00 AM	0	0	0			0	6	0	6	0	3	3	9
8:15 AM	0	0	0			0	0	0	0	1	3	4	4
8:30 AM	0	0	0			0	2	1	3	1	1	2	5
8:45 AM	0	0	0			0	3	1	4	0	4	4	8
Total Survey	0	2	2			0	14	2	16	4	18	22	40

Heavy Vehicle Peak Hour Summary 7:45 AM to 8:45 AM

By Approach	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	4	4	0	0	0	9	9	18	12	8	20	21
PHF	0.00			0.00			0.25			0.30			0.29

By Movement	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	0	0			0	8	1	9	3	9	12	21
PHF	0.00	0.00	0.00			0.00	0.25	0.13	0.25	0.38	0.28	0.30	0.29

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	2	2			0	3	0	3	2	7	9	14
7:15 AM	0	2	2			0	9	0	9	2	7	9	20
7:30 AM	0	1	1			0	7	0	7	3	8	11	19
7:45 AM	0	0	0			0	8	1	9	3	9	12	21
8:00 AM	0	0	0			0	11	2	13	2	11	13	26

Peak Hour Summary



Clay Carney
(503) 833-2740

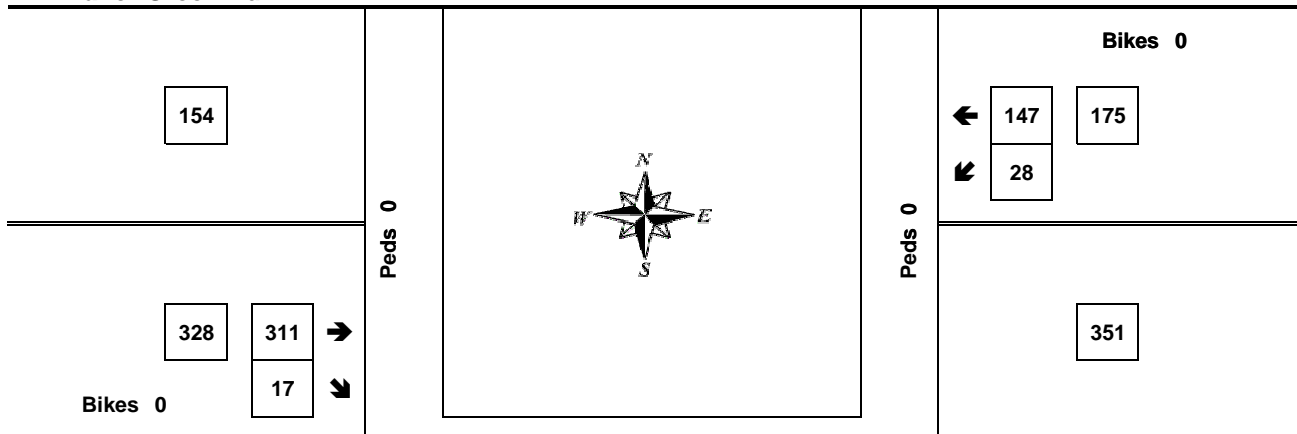
NW Michelbrook Ln & NW Baker Creek Rd

7:45 AM to 8:45 AM
Wednesday, July 10, 2019

Bikes
0

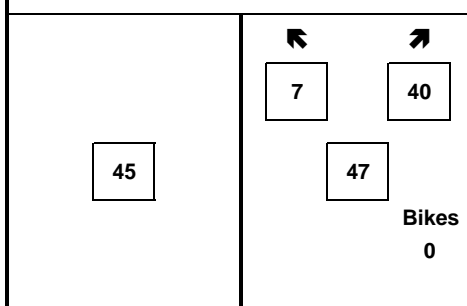
NW Baker Creek Rd

Peds 0



Peds 3

NW Baker Creek Rd



NW Michelbrook Ln

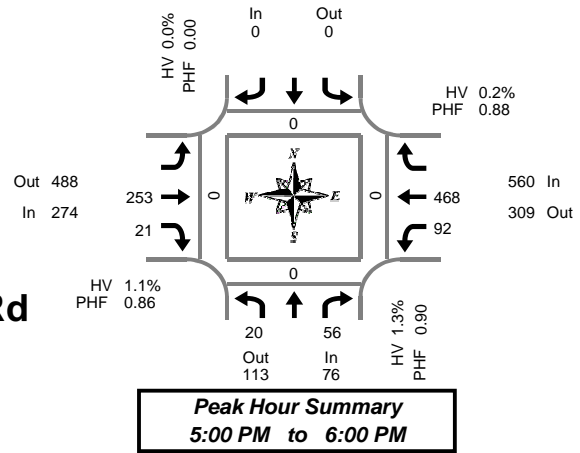
Approach	PHF	HV%	Volume
EB	0.86	2.7%	328
WB	0.88	6.9%	175
NB	0.78	0.0%	47
SB	0.00	0.0%	0
Intersection	0.90	3.8%	550

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Michelbrook Ln & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Michelbrook Ln				Southbound NW Michelbrook Ln				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes		L	T	Bikes			North	South	East	West
4:00 PM	7	14	0				0		67	5	0		22	88	0		0	0	0	0	
4:15 PM	7	15	0				0		64	3	0		16	108	0		0	0	0	0	
4:30 PM	8	15	0				0		63	3	0		19	93	0		0	0	0	0	
4:45 PM	1	20	1				0		67	6	0		24	114	0		0	1	0	0	
5:00 PM	3	16	1				0		56	6	0		28	131	0		0	0	0	0	
5:15 PM	4	13	0				0		59	5	0		25	107	0		0	0	0	0	
5:30 PM	9	12	0				0		62	6	0		20	107	0		0	0	0	0	
5:45 PM	4	15	1				0		76	4	0		19	123	0		0	0	0	0	
Total Survey	43	120	3				0		514	38	0		173	871	0		0	1	0	0	

Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NW Michelbrook Ln				Southbound NW Michelbrook Ln				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	76	113	189	2	0	0	0	0	274	488	762	0	560	309	869	0	0	0	0	0	
%HV	1.3%				0.0%				1.1%				0.2%				0.5%				
PHF	0.90				0.00				0.86				0.88				0.94				

By Movement	Northbound NW Michelbrook Ln				Southbound NW Michelbrook Ln				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Total
	L	R	Total				Total		T	R	Total		L	T	Total		
Volume	20	56	76				0		253	21	274		92	468	560		
%HV	0.0%	NA	1.8%	1.3%	NA	NA	NA	0.0%	NA	1.2%	0.0%	1.1%	1.1%	0.0%	NA	0.2%	0.5%
PHF	0.56		0.88	0.90			0.00		0.83	0.88	0.86		0.82	0.89	0.88	0.94	

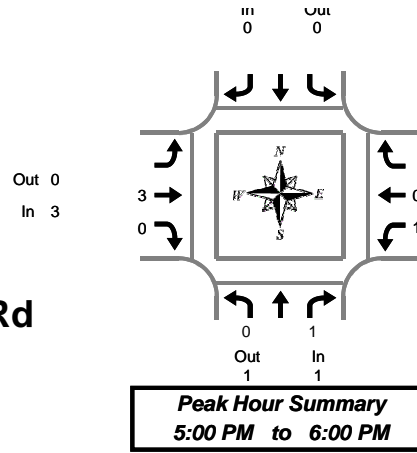
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Michelbrook Ln				Southbound NW Michelbrook Ln				Eastbound NW Baker Creek Rd				Westbound NW Baker Creek Rd				Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes		L	T	Bikes			North	South	East	West
4:00 PM	23	64	1				0		261	17	0		81	403	0		0	1	0	0	
4:15 PM	19	66	2				0		250	18	0		87	446	0		0	1	0	0	
4:30 PM	16	64	2				0		245	20	0		96	445	0		0	1	0	0	
4:45 PM	17	61	2				0		244	23	0		97	459	0		0	1	0	0	
5:00 PM	20	56	2				0		253	21	0		92	468	0		0	0	0	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Michelbrook Ln & NW Baker Creek Rd

Tuesday, July 09, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	2	1	3	0	0	0	3
4:15 PM	0	0	0			0	2	0	2	0	1	1	3
4:30 PM	0	0	0			0	1	0	1	0	0	0	1
4:45 PM	0	0	0			0	1	0	1	0	2	2	3
5:00 PM	0	1	1			0	0	0	0	0	0	0	1
5:15 PM	0	0	0			0	1	0	1	1	0	1	2
5:30 PM	0	0	0			0	0	0	0	0	0	0	0
5:45 PM	0	0	0			0	2	0	2	0	0	0	2
Total Survey	0	1	1			0	9	1	10	1	3	4	15

Heavy Vehicle Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	1	2	0	0	0	3	0	3	1	4	5	5
PHF	0.25			0.00			0.13			0.08			0.18

By Movement	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	1	1			0	3	0	3	1	0	1	5
PHF	0.00	0.25	0.25			0.00	0.15	0.00	0.13	0.25	0.00	0.08	0.18

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Michelbrook Ln			Southbound NW Michelbrook Ln			Eastbound NW Baker Creek Rd			Westbound NW Baker Creek Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	6	1	7	0	3	3	10
4:15 PM	0	1	1			0	4	0	4	0	3	3	8
4:30 PM	0	1	1			0	3	0	3	1	2	3	7
4:45 PM	0	1	1			0	2	0	2	1	2	3	6
5:00 PM	0	1	1			0	3	0	3	1	0	1	5

Peak Hour Summary



Clay Carney
(503) 833-2740

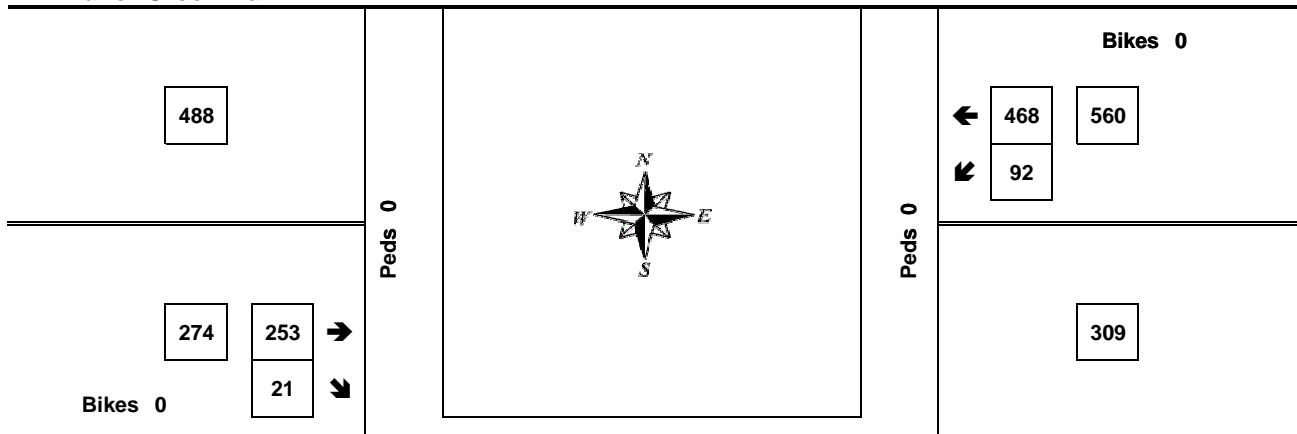
NW Michelbrook Ln & NW Baker Creek Rd

5:00 PM to 6:00 PM
Tuesday, July 09, 2019

Bikes
0

NW Baker Creek Rd

Peds 0



NW Baker Creek Rd

Peds 0

NW Michelbrook Ln

Approach	PHF	HV%	Volume
EB	0.86	1.1%	274
WB	0.88	0.2%	560
NB	0.90	1.3%	76
SB	0.00	0.0%	0
Intersection	0.94	0.5%	910

Count Period: 4:00 PM to 6:00 PM

AM
in 20
out 60

PM
in 67
out 40

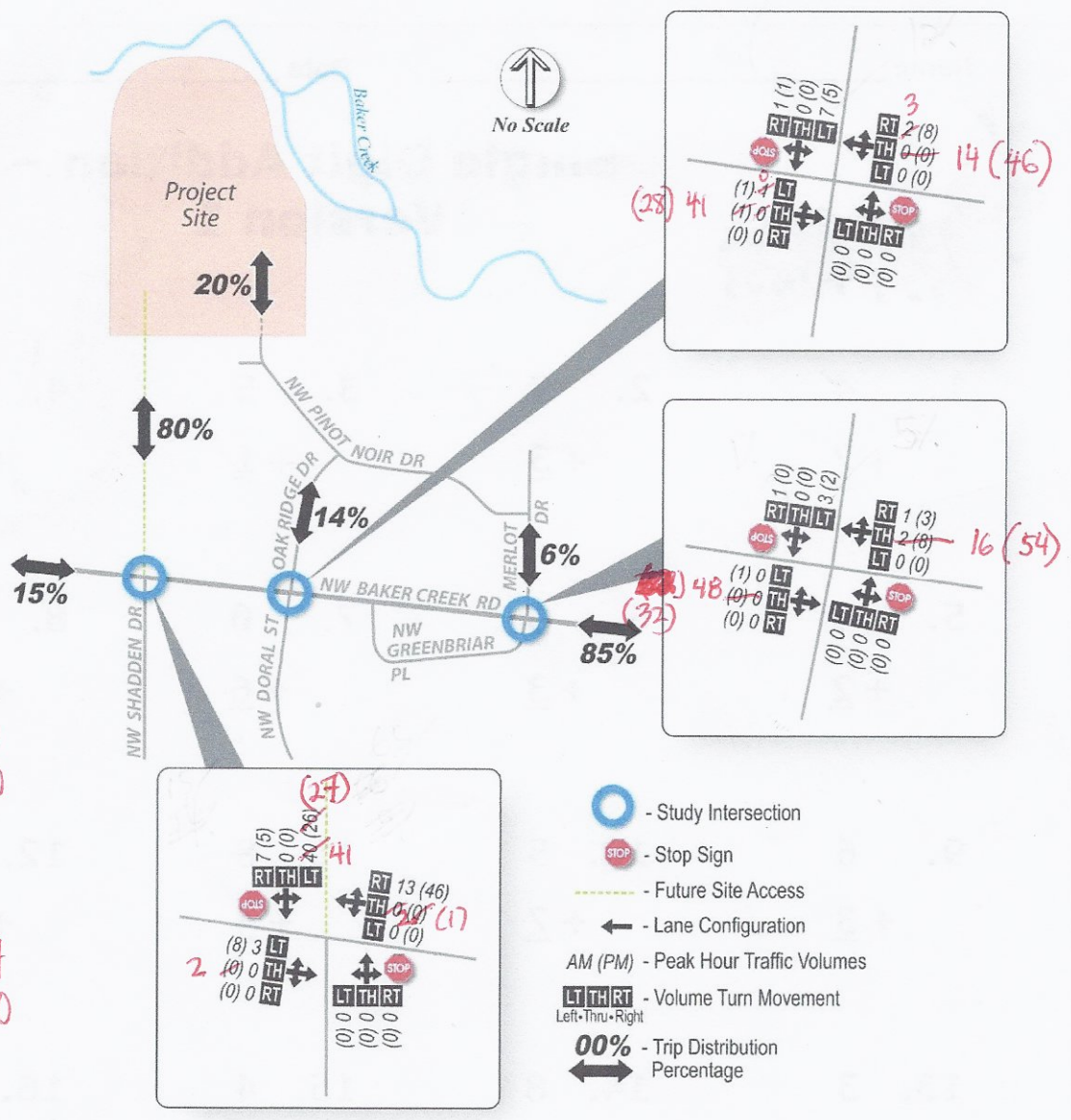


Figure 4: Final Build Trip Distribution and Project Trips

Interim Build Traffic Volumes and Operating Conditions

Future operating conditions were analyzed at the study intersections for the interim build scenario (without the NW Shadden Drive connection). Interim build traffic volumes at the study intersection are the sum of the existing traffic volumes and the project trips. The interim build traffic volumes are shown in Figure 5.

Table 1. Projected trip generation for Baker Creek East.

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
<i>Single-Family (#210)</i>	61							
Generation Rate ¹		9.44	0.74	25%	75%	0.99	63%	37%
Site Trips		576	45	11	34	60	38	22

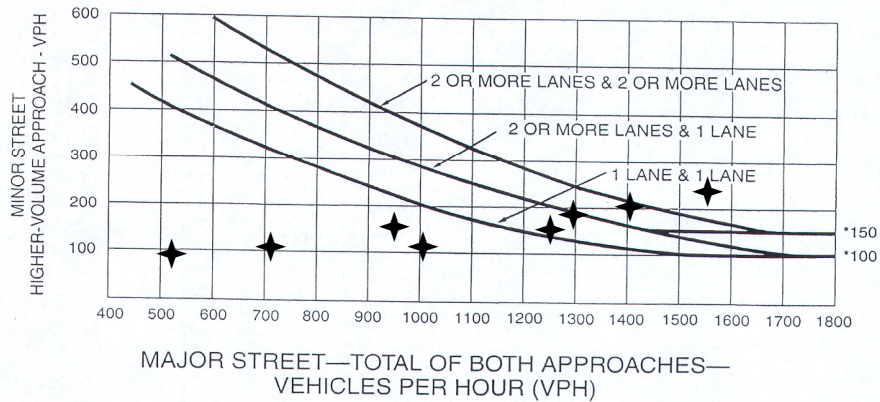
¹ Source: *Trip Generation*, 10th Edition, ITE, 2017, average rates.

Table 1. Projected trip generation for Baker Creek West.

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
<i>Single-Family (#210)</i>	111							
Generation Rate ¹		9.44	0.74	25%	75%	0.99	63%	37%
Site Trips		1,048	82	21	61	110	69	41
<i>Apartment (#220)</i>	70							
Generation Rate ¹		7.32	0.46	23%	77%	0.56	63%	37%
Site Trips		512	32	7	25	39	25	14
Total Trips		1,560	114	28	86	149	94	55

¹ Source: *Trip Generation*, 10th Edition, ITE, 2017, average rates.

Figure 4C-3. Warrant 3, Peak Hour

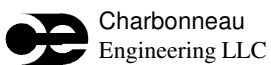


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak hour volume warrant for signalization data.

Intersection	Analysis Period	Major Street Speed (mph)	Major Street		Minor Street High Volume Approach		Signal Warranted?
			Volume (vph)	Lanes (#)	Volume (vph)	Lanes (#)	
Meadows Drive and Baker Creek Drive	2029 Total Traffic - AM Peak	35	525	2	92	1	No
	2029 Total Traffic - PM Peak		958		155		No
Shadden Lane and Baker Creek Drive	2029 Total Traffic - AM Peak	35	719	2	110	1	No
	2029 Total Traffic - PM Peak		1,300		81		No
Michelbook Lane and Baker Creek Drive	2029 Total Traffic - AM Peak	30	1,003	2	109	2	No
	2029 Total Traffic - PM Peak		1,561		240		Yes
	2029 Bkgd Traffic - PM Peak		1,254		151		No
	2029 Total Traffic (no Retail) - PM Peak		1,409		204		No

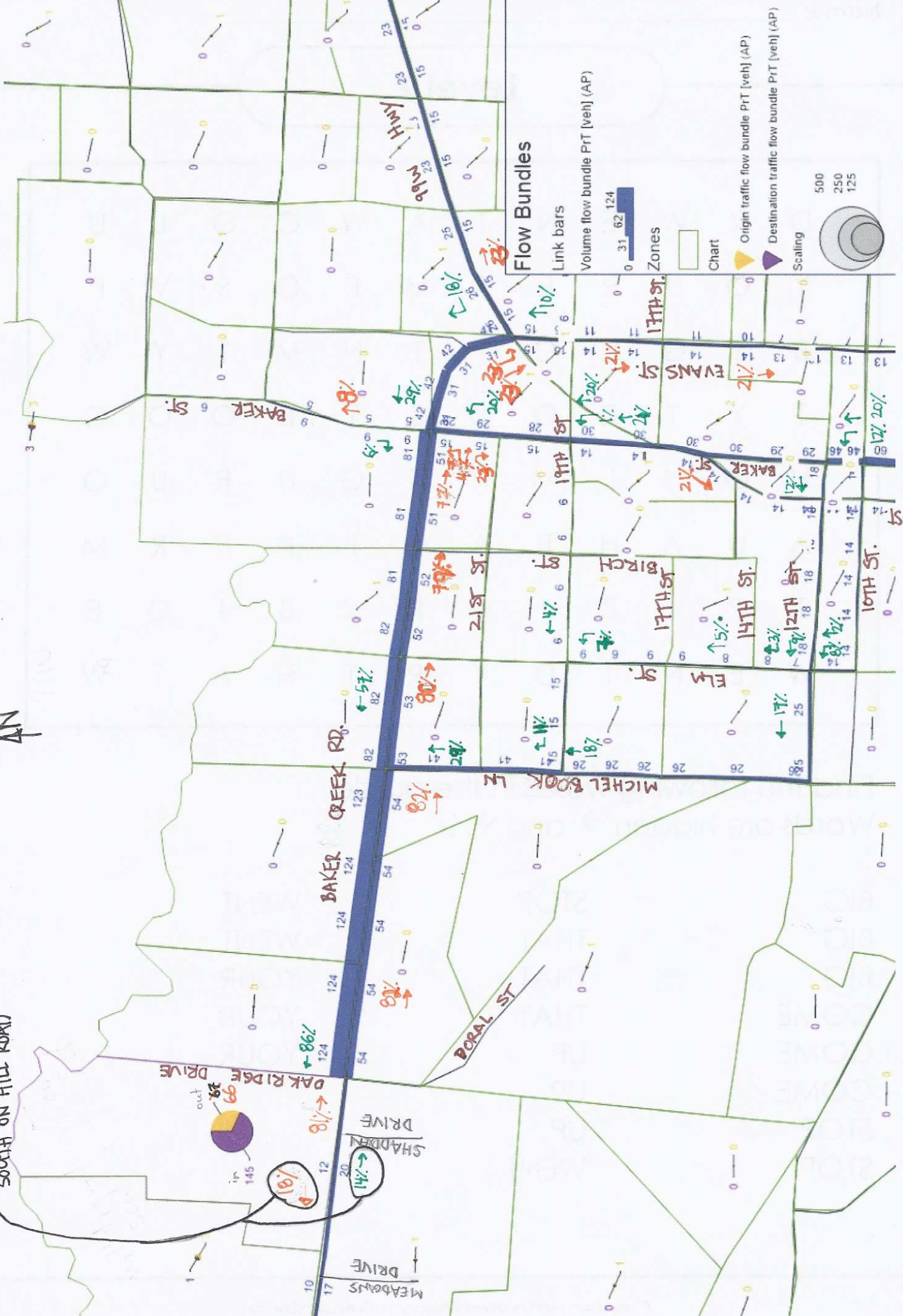
Source: Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition.



Charbonneau Engineering LLC

WILL TRAVEL TO FROM SOUTH ON HILL ROAD

AN



Flow Bundles

Link bars

Volume flow bundle PRT [veh] (AP)



Zones

Chart

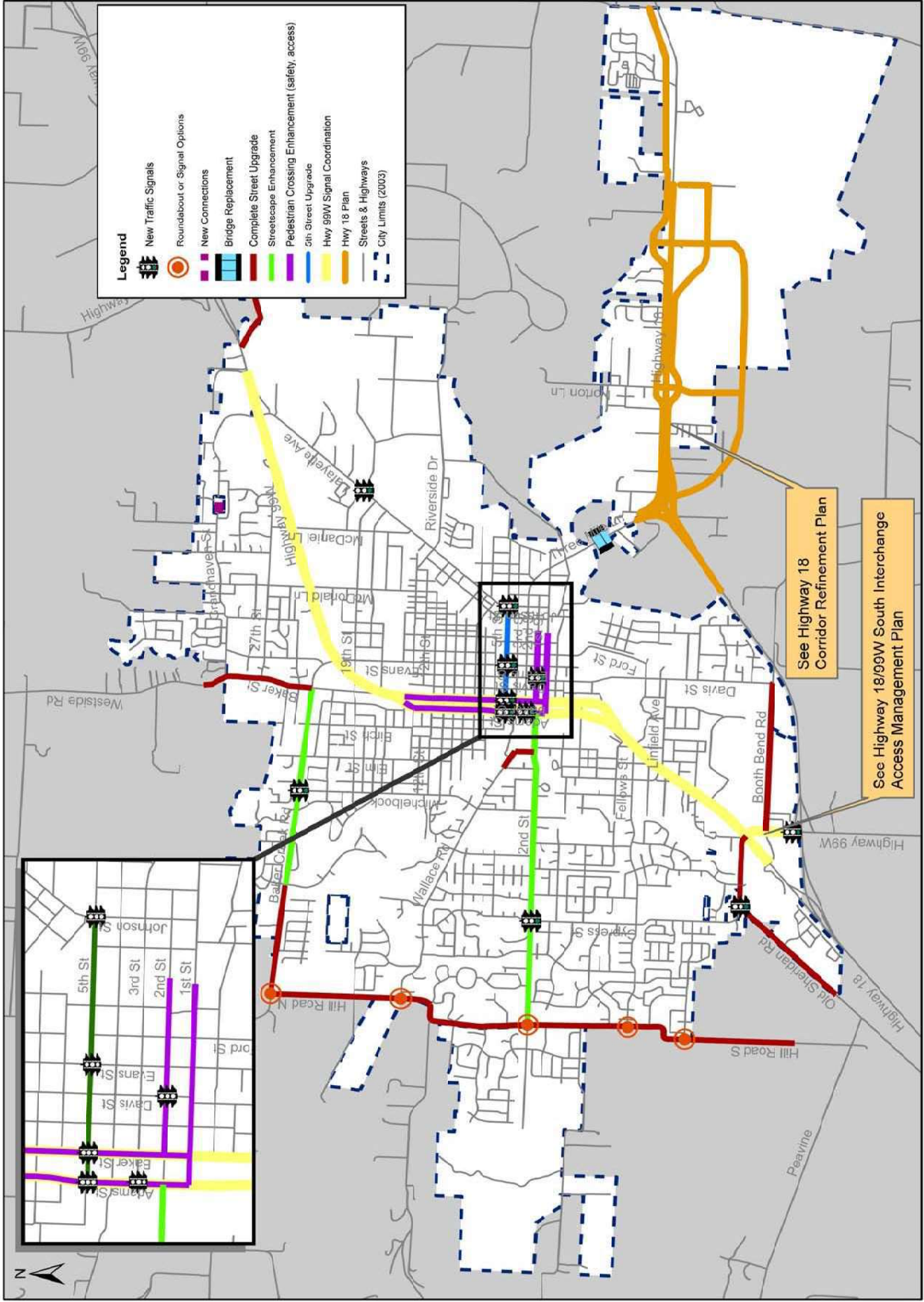
Origin traffic flow bundle PRT [veh] (AP)

Destination traffic flow bundle PRT [veh] (AP)

Scaling



500
250
125



Legend

- New Traffic Signals
- Roundabout or Signal Options
- New Connections
- Bridge Replacement
- Complete Street Upgrade
- Streetscape Enhancement
- Pedestrian Crossing Enhancement (safety, access)
- 5th Street Upgrade
- Hwy 99W Signal Coordination
- Hwy 18 Plan
- Streets & Highways
- City Limits (2003)

See Highway 18
Corridor Refinement Plan

See Highway 18/99W South Interchange
Access Management Plan

Transportation System Management

Transportation System Management (TSM) programs are designed to increase the usefulness and efficiency of existing facilities and systems through low cost improvements. TSM programs fitting McMinnville's needs include: traffic signal timing and coordination projects and neighborhood traffic calming program. Each TSM measure or program is discussed in this section.

Traffic Signal Timing and Coordination

Traffic signal systems must be retimed or upgraded periodically as growth occurs to ensure optimal operations at intersections, improve safety, meet city standards, and refresh or replace software.

In partial response to higher accident rates on Highway 99W at the McDonald Street and McDaniel Lane intersections, ODOT has programmed in its Statewide Transportation Improvement Program (STIP) for year 2010 the installation of median traffic separators and traffic signal interconnect equipment to better coordinate the two existing traffic signals. The City of McMinnville is also underway with re-designing the 3rd Street/Johnson Street traffic signal to better accommodate emerging traffic trends.

The City should coordinate with ODOT and encourage State assistance in the expansion of ODOT's new signal interconnect system for Highway 99W in the following sections:

- **One-way couplet** section along Adams and Baker Streets, between 2nd Street and 12th Street; *integrated with the City's downtown street signals on 3rd Street and new signals proposed on 5th Street (at Adams, Baker and Lafayette) and 2nd Street (at Davis)*
- **South McMinnville** – between new signal at the Highway 18 off-ramp to Fellows Drive

The City and ODOT should conduct further assessment to determine if these signal systems best work independently or as a single system.

The signal system upgrades and re-timings will help reduce traffic delay, improve operations, and increase safety for motorists and pedestrians. Reduced delay will also save motorists time, reduce fuel consumption, and reduce pollution and harmful particulate matter. Improvements to the communication equipment will aid traffic operations and vehicle detection.



Traffic Signal at 3rd & Johnson

The City of McMinnville should continue to coordinate with ODOT and review signals and signal timing plans and put in place a plan whereby signals are evaluated on a regular basis.

Intersection & Signal Improvements

Some of McMinnville's street corridors require minor improvements with new traffic signal control to help reduce congestion and vehicle emissions and increase safety. Intersection improvements can help reduce traffic delay at major cross-streets and relieve street system queuing and vehicle emissions, and improve pedestrian access.

Based on continued city-wide traffic growth, new traffic signals are either already warranted or likely to meet future warrants at the following intersections:

- Lafayette / Orchard (planned for completion in 2009)
- 5th Street at Adams (2010) and Baker (2010)
- 2nd Street / Davis Street (2013)
- Baker Creek Rd at Michelbook (2023) and Hill Rd (2023)
- Wallace Rd / Hill Rd (2023)
- West 2nd Street at Hill Rd (2023) and Cypress (2023)

Lanes, Volumes, Timings
 1: Meadows Drive & Baker Creek Road

2019 Existing Traffic, AM Peak Hour
 07/20/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	197	0	22	100	1	19
Future Volume (vph)	197	0	22	100	1	19
Confl. Peds. (#/hr)		5	5		2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	9%	9%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 27.5% ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	197	0	22	100	1	19
Future Vol, veh/h	197	0	22	100	1	19
Conflicting Peds, #/hr	0	5	5	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	9	9	0	0
Mvmt Flow	224	0	25	114	1	22

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	229	0	395
Stage 1	-	-	-	-	229
Stage 2	-	-	-	-	166
Critical Hdwy	-	-	4.19	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.281	-	3.5
Pot Cap-1 Maneuver	-	-	1299	-	614
Stage 1	-	-	-	-	814
Stage 2	-	-	-	-	868
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1293	-	598
Mov Cap-2 Maneuver	-	-	-	-	651
Stage 1	-	-	-	-	810
Stage 2	-	-	-	-	850

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	801	-	-	1293	-
HCM Lane V/C Ratio	0.028	-	-	0.019	-
HCM Control Delay (s)	9.6	-	-	7.8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lanes, Volumes, Timings
 2: Shadden Drive & Baker Creek Road

2019 Existing Traffic, AM Peak Hour
 07/20/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	212	1	20	120	1	39
Future Volume (vph)	212	1	20	120	1	39
Confl. Peds. (#/hr)		9	9			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	8%	8%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 26.6% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	212	1	20	120	1	39
Future Vol, veh/h	212	1	20	120	1	39
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	8	8	3	3
Mvmt Flow	238	1	22	135	1	44

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	248	0	427
Stage 1	-	-	-	-	248
Stage 2	-	-	-	-	179
Critical Hdwy	-	-	4.18	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.272	-	3.527
Pot Cap-1 Maneuver	-	-	1283	-	583
Stage 1	-	-	-	-	791
Stage 2	-	-	-	-	850
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1272	-	568
Mov Cap-2 Maneuver	-	-	-	-	628
Stage 1	-	-	-	-	784
Stage 2	-	-	-	-	836

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	776	-	-	1272	-
HCM Lane V/C Ratio	0.058	-	-	0.018	-
HCM Control Delay (s)	9.9	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2019 Existing Traffic, AM Peak Hour
 07/20/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	311	17	28	147	7	40
Future Volume (vph)	311	17	28	147	7	40
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	7%	7%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 33.3% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	311	17	28	147	7	40
Future Vol, veh/h	311	17	28	147	7	40
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	7	7	0	0
Mvmt Flow	346	19	31	163	8	44

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	368	0	584
Stage 1	-	-	-	-	359
Stage 2	-	-	-	-	225
Critical Hdwy	-	-	4.17	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.263	-	3.5
Pot Cap-1 Maneuver	-	-	1163	-	477
Stage 1	-	-	-	-	711
Stage 2	-	-	-	-	817
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1160	-	463
Mov Cap-2 Maneuver	-	-	-	-	552
Stage 1	-	-	-	-	709
Stage 2	-	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	664	-	-	1160	-
HCM Lane V/C Ratio	0.079	-	-	0.027	-
HCM Control Delay (s)	10.9	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Lanes, Volumes, Timings
 1: Meadows Drive & Baker Creek Road

2019 Existing Traffic, PM Peak Hour
 07/21/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	167	0	24	322	2	19
Future Volume (vph)	167	0	24	322	2	19
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free		Free		Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	26.9% ICU Level of Service A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	167	0	24	322	2	19
Future Vol, veh/h	167	0	24	322	2	19
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	172	0	25	332	2	20

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	173	0	555
Stage 1	-	-	-	-	173
Stage 2	-	-	-	-	382
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1410	-	496
Stage 1	-	-	-	-	862
Stage 2	-	-	-	-	694
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1409	-	487
Mov Cap-2 Maneuver	-	-	-	-	562
Stage 1	-	-	-	-	861
Stage 2	-	-	-	-	682

Approach

	EB	WB	NB
HCM Control Delay, s	0	0.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	831	-	-	1409	-
HCM Lane V/C Ratio	0.026	-	-	0.018	-
HCM Control Delay (s)	9.4	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lanes, Volumes, Timings
 2: Shadden Drive & Baker Creek Road

2019 Existing Traffic, PM Peak Hour
 07/21/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	176	0	58	352	4	43
Future Volume (vph)	176	0	58	352	4	43
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	28.5% ICU Level of Service A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	176	0	58	352	4	43
Future Vol, veh/h	176	0	58	352	4	43
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	187	0	62	374	4	46

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	188	0	686
Stage 1	-	-	-	-	188
Stage 2	-	-	-	-	498
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1392	-	416
Stage 1	-	-	-	-	849
Stage 2	-	-	-	-	615
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1391	-	397
Mov Cap-2 Maneuver	-	-	-	-	484
Stage 1	-	-	-	-	848
Stage 2	-	-	-	-	587

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	805	-	-	1391	-
HCM Lane V/C Ratio	0.062	-	-	0.044	-
HCM Control Delay (s)	9.8	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2019 Existing Traffic, PM Peak Hour
 07/21/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	253	21	92	468	20	56
Future Volume (vph)	253	21	92	468	20	56
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Shared Lane Traffic (%)						
Sign Control	Free		Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 35.9% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	253	21	92	468	20	56
Future Vol, veh/h	253	21	92	468	20	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	269	22	98	498	21	60

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	291	0	974 280
Stage 1	-	-	-	-	280 -
Stage 2	-	-	-	-	694 -
Critical Hdwy	-	-	4.1	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	2.2	-	3.509 3.309
Pot Cap-1 Maneuver	-	-	1282	-	280 761
Stage 1	-	-	-	-	770 -
Stage 2	-	-	-	-	498 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1282	-	259 761
Mov Cap-2 Maneuver	-	-	-	-	368 -
Stage 1	-	-	-	-	770 -
Stage 2	-	-	-	-	460 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	-	-	1282	-
HCM Lane V/C Ratio	0.136	-	-	0.076	-
HCM Control Delay (s)	12	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Lanes, Volumes, Timings
 1: Meadows Drive & Baker Creek Road

2029 Background Traffic, AM Peak Hour
 07/26/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	249	0	50	134	1	88
Future Volume (vph)	249	0	50	134	1	88
Confl. Peds. (#/hr)		5	5		2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	9%	9%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 32.0% ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	249	0	50	134	1	88
Future Vol, veh/h	249	0	50	134	1	88
Conflicting Peds, #/hr	0	5	5	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	9	9	0	0
Mvmt Flow	283	0	57	152	1	100

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	288	0	556
Stage 1	-	-	-	-	288
Stage 2	-	-	-	-	268
Critical Hdwy	-	-	4.19	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.281	-	3.5
Pot Cap-1 Maneuver	-	-	1235	-	496
Stage 1	-	-	-	-	766
Stage 2	-	-	-	-	782
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1229	-	470
Mov Cap-2 Maneuver	-	-	-	-	558
Stage 1	-	-	-	-	762
Stage 2	-	-	-	-	744

Approach

	EB	WB	NB
HCM Control Delay, s	0	2.2	10.6
HCM LOS			B

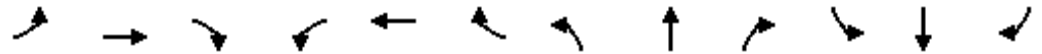
Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	749	-	-	1229	-
HCM Lane V/C Ratio	0.135	-	-	0.046	-
HCM Control Delay (s)	10.6	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Lanes, Volumes, Timings
 2: Shadden Drive & Baker Creek Road

2029 Background Traffic, AM Peak Hour

07/26/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	3	329	1	36	174	13	1	0	83	41	0	7
Future Volume (vph)	3	329	1	36	174	13	1	0	83	41	0	7
Confl. Peds. (#/hr)			9	9								
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 40.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	329	1	36	174	13	1	0	83	41	0	7
Future Vol, veh/h	3	329	1	36	174	13	1	0	83	41	0	7
Conflicting Peds, #/hr	0	0	9	9	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	8	8	8	3	3	3	2	2	2
Mvmt Flow	3	370	1	40	196	15	1	0	93	46	0	8

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	211	0	0	380	0	0	674	677	380	707	670	204
Stage 1	-	-	-	-	-	-	386	386	-	284	284	-
Stage 2	-	-	-	-	-	-	288	291	-	423	386	-
Critical Hdwy	4.12	-	-	4.18	-	-	7.13	6.53	6.23	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.272	-	-	3.527	4.027	3.327	3.518	4.018	3.318
Pot Cap-1 Maneuver	1360	-	-	1146	-	-	367	373	665	350	378	837
Stage 1	-	-	-	-	-	-	635	608	-	723	676	-
Stage 2	-	-	-	-	-	-	717	670	-	609	610	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1360	-	-	1136	-	-	350	356	659	292	361	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	356	-	292	361	-
Stage 1	-	-	-	-	-	-	628	601	-	722	652	-
Stage 2	-	-	-	-	-	-	685	647	-	522	603	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.3	11.5	18.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	652	1360	-	-	1136	-	-	323
HCM Lane V/C Ratio	0.145	0.002	-	-	0.036	-	-	0.167
HCM Control Delay (s)	11.5	7.7	-	-	8.3	-	-	18.4
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.6



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	538	21	35	217	26	50
Future Volume (vph)	538	21	35	217	26	50
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	7%	7%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 40.8% ICU Level of Service A

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	538	21	35	217	26	50
Future Vol, veh/h	538	21	35	217	26	50
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	7	7	0	0
Mvmt Flow	598	23	39	241	29	56

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	624	0	932 613
Stage 1	-	-	-	-	613 -
Stage 2	-	-	-	-	319 -
Critical Hdwy	-	-	4.17	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.263	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	933	-	298 496
Stage 1	-	-	-	-	544 -
Stage 2	-	-	-	-	741 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	930	-	285 495
Mov Cap-2 Maneuver	-	-	-	-	285 -
Stage 1	-	-	-	-	542 -
Stage 2	-	-	-	-	710 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	-	-	930	-
HCM Lane V/C Ratio	0.214	-	-	0.042	-
HCM Control Delay (s)	16.6	-	-	9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Lanes, Volumes, Timings
3: Michelbook Lane & Baker Creek Road

2029 Background Traffic, AM Peak Hour

07/26/2019

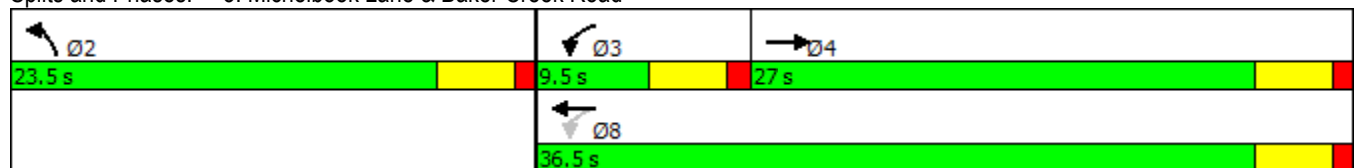


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Volume (vph)	538	21	35	217	26	50
Future Volume (vph)	538	21	35	217	26	50
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	7%	7%	0%	0%
Shared Lane Traffic (%)						
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases			8			
Detector Phase	4		3	8	2	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	22.5	
Total Split (s)	27.0		9.5	36.5	23.5	
Total Split (%)	45.0%		15.8%	60.8%	39.2%	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	
Act Effct Green (s)	18.8		21.7	21.7	6.8	
Actuated g/C Ratio	0.49		0.57	0.57	0.18	
v/c Ratio	0.68		0.10	0.24	0.24	
Control Delay	14.1		3.7	4.4	10.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	14.1		3.7	4.4	10.8	
LOS	B		A	A	B	
Approach Delay	14.1			4.3	10.8	
Approach LOS	B			A	B	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 38
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 11.0
 Intersection LOS: B
 Intersection Capacity Utilization 41.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Michelbook Lane & Baker Creek Road



	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↗		↖	↗	↖	↖		
Traffic Volume (veh/h)	538	21	35	217	26	50		
Future Volume (veh/h)	538	21	35	217	26	50		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1900	1776	1776	1900	1900		
Adj Flow Rate, veh/h	598	23	39	241	29	56		
Adj No. of Lanes	1	0	1	1	0	0		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	3	3	7	7	0	0		
Cap, veh/h	793	30	400	1096	77	149		
Arrive On Green	0.45	0.45	0.04	0.62	0.14	0.14		
Sat Flow, veh/h	1765	68	1691	1776	566	1093		
Grp Volume(v), veh/h	0	621	39	241	86	0		
Grp Sat Flow(s),veh/h/ln	0	1832	1691	1776	1679	0		
Q Serve(g_s), s	0.0	10.3	0.4	2.2	1.7	0.0		
Cycle Q Clear(g_c), s	0.0	10.3	0.4	2.2	1.7	0.0		
Prop In Lane		0.04	1.00		0.34	0.65		
Lane Grp Cap(c), veh/h	0	823	400	1096	230	0		
V/C Ratio(X)	0.00	0.75	0.10	0.22	0.37	0.00		
Avail Cap(c_a), veh/h	0	1127	555	1554	872	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	8.4	6.0	3.1	14.4	0.0		
Incr Delay (d2), s/veh	0.0	1.9	0.1	0.1	1.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	5.6	0.2	1.1	0.9	0.0		
LnGrp Delay(d),s/veh	0.0	10.3	6.1	3.2	15.4	0.0		
LnGrp LOS		B	A	A	B			
Approach Vol, veh/h	621			280	86			
Approach Delay, s/veh	10.3			3.6	15.4			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		9.5	6.1	20.9				27.1
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.0	5.0	22.5				32.0
Max Q Clear Time (g_c+l1), s		3.7	2.4	12.3				4.2
Green Ext Time (p_c), s		0.2	0.0	4.1				6.4
Intersection Summary								
HCM 2010 Ctrl Delay			8.9					
HCM 2010 LOS			A					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	219	0	102	409	3	65
Future Volume (vph)	219	0	102	409	3	65
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free		Free		Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	32.4% ICU Level of Service A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	219	0	102	409	3	65
Future Vol, veh/h	219	0	102	409	3	65
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	226	0	105	422	3	67

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	227	0	859
Stage 1	-	-	-	-	227
Stage 2	-	-	-	-	632
Critical Hdwy	-	-	4.11	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-	3.5
Pot Cap-1 Maneuver	-	-	1347	-	329
Stage 1	-	-	-	-	815
Stage 2	-	-	-	-	534
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1346	-	303
Mov Cap-2 Maneuver	-	-	-	-	403
Stage 1	-	-	-	-	814
Stage 2	-	-	-	-	492

Approach

	EB	WB	NB
HCM Control Delay, s	0	1.6	10.1
HCM LOS			B




















Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	781	-	-	1346	-
HCM Lane V/C Ratio	0.09	-	-	0.078	-
HCM Control Delay (s)	10.1	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-

Lanes, Volumes, Timings
2: Shadden Drive & Baker Creek Road

2029 Background Traffic, PM Peak Hour

07/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	263	0	115	513	46	5	0	76	27	0	5
Future Volume (vph)	8	263	0	115	513	46	5	0	76	27	0	5
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	51.6% ICU Level of Service A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	8	263	0	115	513	46	5	0	76	27	0	5
Future Vol, veh/h	8	263	0	115	513	46	5	0	76	27	0	5
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	2	2	2
Mvmt Flow	9	280	0	122	546	49	5	0	81	29	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	595	0	0	281	0	0	1116	1138	281	1154	1114	571
Stage 1	-	-	-	-	-	-	299	299	-	815	815	-
Stage 2	-	-	-	-	-	-	817	839	-	339	299	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	991	-	-	1287	-	-	187	203	763	174	208	520
Stage 1	-	-	-	-	-	-	714	670	-	371	391	-
Stage 2	-	-	-	-	-	-	373	384	-	676	666	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	991	-	-	1286	-	-	170	182	762	143	186	520
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	182	-	143	186	-
Stage 1	-	-	-	-	-	-	707	663	-	368	354	-
Stage 2	-	-	-	-	-	-	334	348	-	599	659	-

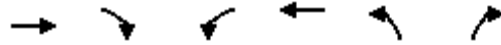
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			1.4			11.7			33.3		
HCM LOS							B			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	627	991	-	-	1286	-	-	161
HCM Lane V/C Ratio	0.137	0.009	-	-	0.095	-	-	0.211
HCM Control Delay (s)	11.7	8.7	-	-	8.1	-	-	33.3
HCM Lane LOS	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0.8

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2029 Background Traffic, PM Peak Hour

07/26/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	413	26	115	700	81	70
Future Volume (vph)	413	26	115	700	81	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 52.3% ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 7.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	
Traffic Vol, veh/h	413	26	115	700	81	70
Future Vol, veh/h	413	26	115	700	81	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	439	28	122	745	86	74

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	467
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1105
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1105
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	65.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	206	-	-	1105	-
HCM Lane V/C Ratio	0.78	-	-	0.111	-
HCM Control Delay (s)	65.6	-	-	8.7	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	5.4	-	-	0.4	-

Lanes, Volumes, Timings
3: Michelbook Lane & Baker Creek Road

2029 Background Traffic, PM Peak Hour
07/26/2019

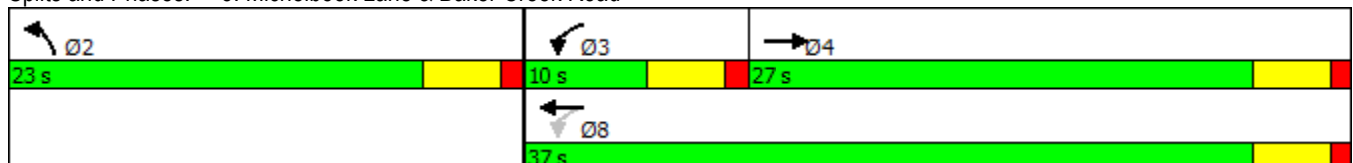


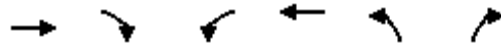
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (vph)	413	26	115	700	81	70
Future Volume (vph)	413	26	115	700	81	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Shared Lane Traffic (%)						
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases			8			
Detector Phase	4		3	8	2	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	22.5	
Total Split (s)	27.0		10.0	37.0	23.0	
Total Split (%)	45.0%		16.7%	61.7%	38.3%	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	
Act Effct Green (s)	16.4		23.8	23.8	8.1	
Actuated g/C Ratio	0.40		0.57	0.57	0.20	
v/c Ratio	0.63		0.25	0.68	0.40	
Control Delay	15.6		5.3	10.0	13.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	15.6		5.3	10.0	13.5	
LOS	B		A	A	B	
Approach Delay	15.6			9.3	13.5	
Approach LOS	B			A	B	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 41.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 11.7
 Intersection LOS: B
 Intersection Capacity Utilization 53.1%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Michelbook Lane & Baker Creek Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	413	26	115	700	81	70		
Future Volume (veh/h)	413	26	115	700	81	70		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1900		
Adj Flow Rate, veh/h	439	28	122	745	86	74		
Adj No. of Lanes	1	0	1	1	0	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	1	1	0	0	0	0		
Cap, veh/h	726	46	558	1183	135	116		
Arrive On Green	0.41	0.41	0.09	0.62	0.15	0.15		
Sat Flow, veh/h	1750	112	1810	1900	907	780		
Grp Volume(v), veh/h	0	467	122	745	161	0		
Grp Sat Flow(s),veh/h/ln	0	1861	1810	1900	1698	0		
Q Serve(g_s), s	0.0	7.7	1.3	9.6	3.5	0.0		
Cycle Q Clear(g_c), s	0.0	7.7	1.3	9.6	3.5	0.0		
Prop In Lane		0.06	1.00		0.53	0.46		
Lane Grp Cap(c), veh/h	0	772	558	1183	253	0		
V/C Ratio(X)	0.00	0.60	0.22	0.63	0.64	0.00		
Avail Cap(c_a), veh/h	0	1063	641	1567	797	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	9.0	5.5	4.6	15.8	0.0		
Incr Delay (d2), s/veh	0.0	0.8	0.2	0.6	2.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.6	4.9	1.8	0.0		
LnGrp Delay(d),s/veh	0.0	9.8	5.7	5.2	18.4	0.0		
LnGrp LOS		A	A	A	B			
Approach Vol, veh/h	467			867	161			
Approach Delay, s/veh	9.8			5.2	18.4			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		10.4	8.2	20.9				29.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.5	5.5	22.5				32.5
Max Q Clear Time (g_c+l1), s		5.5	3.3	9.7				11.6
Green Ext Time (p_c), s		0.4	0.1	6.6				8.8
Intersection Summary								
HCM 2010 Ctrl Delay			8.1					
HCM 2010 LOS			A					

Lanes, Volumes, Timings
 1: Meadows Drive & Baker Creek Road

2029 Total Traffic, AM Peak Hour
 07/26/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	261	0	50	156	47	1	0	88	72	0	20
Future Volume (vph)	11	261	0	50	156	47	1	0	88	72	0	20
Confl. Peds. (#/hr)			5	5			2					2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 37.9%	ICU Level of Service A	
Analysis Period (min) 15		

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Vol, veh/h	11	261	0	50	156	47	1	0	88	72	0	20
Future Vol, veh/h	11	261	0	50	156	47	1	0	88	72	0	20
Conflicting Peds, #/hr	0	0	5	5	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	9	9	9	0	0	0	2	2	2
Mvmt Flow	13	297	0	57	177	53	1	0	100	82	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	302	0	0	659	672	302	691	646	206
Stage 1	-	-	-	-	-	-	328	328	-	318	318	-
Stage 2	-	-	-	-	-	-	331	344	-	373	328	-
Critical Hdwy	4.13	-	-	4.19	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.281	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	1332	-	-	1220	-	-	380	380	742	359	390	835
Stage 1	-	-	-	-	-	-	689	651	-	693	654	-
Stage 2	-	-	-	-	-	-	687	640	-	648	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1332	-	-	1214	-	-	352	357	738	297	366	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	357	-	297	366	-
Stage 1	-	-	-	-	-	-	679	641	-	686	623	-
Stage 2	-	-	-	-	-	-	636	610	-	555	637	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	10.7	19
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	729	1332	-	-	1214	-	-	297	833
HCM Lane V/C Ratio	0.139	0.009	-	-	0.047	-	-	0.275	0.027
HCM Control Delay (s)	10.7	7.7	-	-	8.1	-	-	21.7	9.4
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	1.1	0.1

Lanes, Volumes, Timings
 2: Shadden Drive & Baker Creek Road

2029 Total Traffic, AM Peak Hour
 07/26/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	410	1	36	235	31	1	0	83	95	0	15
Future Volume (vph)	6	410	1	36	235	31	1	0	83	95	0	15
Confl. Peds. (#/hr)			9	9								
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 46.9%	ICU Level of Service A	
Analysis Period (min) 15		

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Vol, veh/h	6	410	1	36	235	31	1	0	83	95	0	15
Future Vol, veh/h	6	410	1	36	235	31	1	0	83	95	0	15
Conflicting Peds, #/hr	0	0	9	9	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	8	8	8	3	3	3	2	2	2
Mvmt Flow	7	461	1	40	264	35	1	0	93	107	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	299	0	0	471	0	0	855	864	471	884	847	282
Stage 1	-	-	-	-	-	-	485	485	-	362	362	-
Stage 2	-	-	-	-	-	-	370	379	-	522	485	-
Critical Hdwy	4.12	-	-	4.18	-	-	7.13	6.53	6.23	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.272	-	-	3.527	4.027	3.327	3.518	4.018	3.318
Pot Cap-1 Maneuver	1262	-	-	1060	-	-	277	291	591	266	299	757
Stage 1	-	-	-	-	-	-	561	550	-	657	625	-
Stage 2	-	-	-	-	-	-	648	613	-	538	552	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1262	-	-	1051	-	-	260	276	586	216	283	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	260	276	-	216	283	-
Stage 1	-	-	-	-	-	-	553	542	-	653	601	-
Stage 2	-	-	-	-	-	-	609	590	-	450	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1	12.5	33.2
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	577	1262	-	-	1051	-	-	216	757
HCM Lane V/C Ratio	0.164	0.005	-	-	0.038	-	-	0.494	0.022
HCM Control Delay (s)	12.5	7.9	-	-	8.6	-	-	36.9	9.9
HCM Lane LOS	B	A	-	-	A	-	-	E	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	2.5	0.1

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, AM Peak Hour
 07/26/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	681	21	35	266	59	50
Future Volume (vph)	681	21	35	266	59	50
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	7%	7%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized	
Intersection Capacity Utilization 50.1%	ICU Level of Service A
Analysis Period (min) 15	

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	681	21	35	266	59	50
Future Vol, veh/h	681	21	35	266	59	50
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	7	7	0	0
Mvmt Flow	757	23	39	296	66	56

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	783	0	1146
Stage 1	-	-	-	-	772
Stage 2	-	-	-	-	374
Critical Hdwy	-	-	4.17	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.263	-	3.5
Pot Cap-1 Maneuver	-	-	813	-	222
Stage 1	-	-	-	-	459
Stage 2	-	-	-	-	700
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	811	-	211
Mov Cap-2 Maneuver	-	-	-	-	211
Stage 1	-	-	-	-	458
Stage 2	-	-	-	-	666

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	28.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	270	-	-	811	-
HCM Lane V/C Ratio	0.449	-	-	0.048	-
HCM Control Delay (s)	28.7	-	-	9.7	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	2.2	-	-	0.2	-

Lanes, Volumes, Timings
3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, AM Peak Hour
07/26/2019

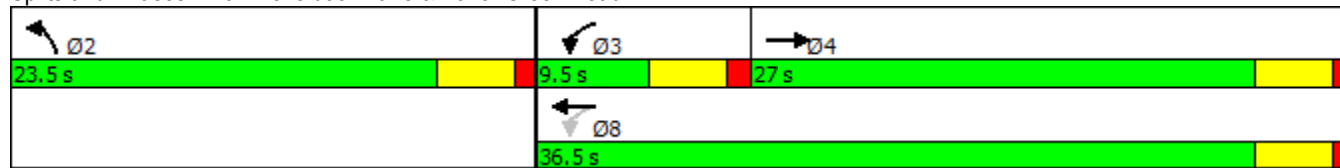


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Volume (vph)	681	21	35	266	59	50
Future Volume (vph)	681	21	35	266	59	50
Confl. Peds. (#/hr)		3	3			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	7%	7%	0%	0%
Shared Lane Traffic (%)						
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases			8			
Detector Phase	4		3	8	2	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	22.5	
Total Split (s)	27.0		9.5	36.5	23.5	
Total Split (%)	45.0%		15.8%	60.8%	39.2%	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	
Act Effct Green (s)	23.0		26.2	26.2	7.3	
Actuated g/C Ratio	0.54		0.61	0.61	0.17	
v/c Ratio	0.79		0.12	0.27	0.35	
Control Delay	20.0		4.3	4.8	13.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	20.0		4.3	4.8	13.7	
LOS	C		A	A	B	
Approach Delay	20.0			4.7	13.7	
Approach LOS	C			A	B	

Intersection Summary












Cycle Length: 60
 Actuated Cycle Length: 42.7
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 51.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Michelbook Lane & Baker Creek Road



HCM 2010 Signalized Intersection Summary
3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, AM Peak Hour
07/26/2019

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	681	21	35	266	59	50		
Future Volume (veh/h)	681	21	35	266	59	50		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1900	1776	1776	1900	1900		
Adj Flow Rate, veh/h	757	23	39	296	66	56		
Adj No. of Lanes	1	0	1	1	0	0		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	3	3	7	7	0	0		
Cap, veh/h	890	27	337	1162	114	96		
Arrive On Green	0.50	0.50	0.04	0.65	0.12	0.12		
Sat Flow, veh/h	1781	54	1691	1776	921	781		
Grp Volume(v), veh/h	0	780	39	296	123	0		
Grp Sat Flow(s),veh/h/ln	0	1835	1691	1776	1716	0		
Q Serve(g_s), s	0.0	15.0	0.4	2.8	2.7	0.0		
Cycle Q Clear(g_c), s	0.0	15.0	0.4	2.8	2.7	0.0		
Prop In Lane		0.03	1.00		0.54	0.46		
Lane Grp Cap(c), veh/h	0	917	337	1162	212	0		
V/C Ratio(X)	0.00	0.85	0.12	0.25	0.58	0.00		
Avail Cap(c_a), veh/h	0	1019	471	1402	805	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	8.8	7.2	2.9	16.8	0.0		
Incr Delay (d2), s/veh	0.0	6.5	0.2	0.1	2.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	9.0	0.2	1.4	1.4	0.0		
LnGrp Delay(d),s/veh	0.0	15.3	7.4	3.0	19.3	0.0		
LnGrp LOS		B	A	A	B			
Approach Vol, veh/h	780			335	123			
Approach Delay, s/veh	15.3			3.5	19.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		9.5	6.3	24.7				31.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.0	5.0	22.5				32.0
Max Q Clear Time (g_c+l1), s		4.7	2.4	17.0				4.8
Green Ext Time (p_c), s		0.3	0.0	3.2				8.7
Intersection Summary								
HCM 2010 Ctrl Delay			12.5					
HCM 2010 LOS			B					

Lanes, Volumes, Timings
 1: Meadows Drive & Baker Creek Road

2029 Total Traffic, PM Peak Hour
 07/26/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	261	0	90	444	133	3	0	65	101	14	23
Future Volume (vph)	30	261	0	90	444	133	3	0	65	101	14	23
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary		
Control Type:	Unsignalized	
Intersection Capacity Utilization	57.8%	ICU Level of Service B
Analysis Period (min)	15	

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↔			↖	↗
Traffic Vol, veh/h	30	261	0	90	444	133	3	0	65	101	14	23
Future Vol, veh/h	30	261	0	90	444	133	3	0	65	101	14	23
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	2	2	2
Mvmt Flow	31	269	0	93	458	137	3	0	67	104	14	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	595	0	0	270	0	0	1064	1113	270	1078	1045	527
Stage 1	-	-	-	-	-	-	332	332	-	713	713	-
Stage 2	-	-	-	-	-	-	732	781	-	365	332	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	986	-	-	1299	-	-	202	210	774	196	229	551
Stage 1	-	-	-	-	-	-	686	648	-	423	435	-
Stage 2	-	-	-	-	-	-	416	408	-	654	644	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	986	-	-	1298	-	-	169	189	773	165	206	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	169	189	-	165	206	-
Stage 1	-	-	-	-	-	-	664	627	-	410	404	-
Stage 2	-	-	-	-	-	-	356	379	-	579	623	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			1.1			11			56.2		
HCM LOS							B			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	668	986	-	-	1298	-	-	169	551
HCM Lane V/C Ratio	0.105	0.031	-	-	0.071	-	-	0.702	0.043
HCM Control Delay (s)	11	8.8	-	-	8	-	-	65.1	11.8
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.2	-	-	4.2	0.1

Lanes, Volumes, Timings
 2: Shadden Drive & Baker Creek Road

2029 Total Traffic, PM Peak Hour
 07/26/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	397	0	115	664	107	5	0	76	63	0	10
Future Volume (vph)	17	397	0	115	664	107	5	0	76	63	0	10
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 64.9%	ICU Level of Service C	
Analysis Period (min) 15		

Intersection												
Int Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↖	↗
Traffic Vol, veh/h	17	397	0	115	664	107	5	0	76	63	0	10
Future Vol, veh/h	17	397	0	115	664	107	5	0	76	63	0	10
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	2	2	2
Mvmt Flow	18	422	0	122	706	114	5	0	81	67	0	11

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	820	0	0	423	0	0	1472	1523	423	1506	1466	763
Stage 1	-	-	-	-	-	-	459	459	-	1007	1007	-
Stage 2	-	-	-	-	-	-	1013	1064	-	499	459	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.5	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.52	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	818	-	-	1142	-	-	106	119	635	99	128	404
Stage 1	-	-	-	-	-	-	586	570	-	290	319	-
Stage 2	-	-	-	-	-	-	291	302	-	554	566	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	818	-	-	1141	-	-	93	104	634	78	112	404
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	104	-	78	112	-
Stage 1	-	-	-	-	-	-	573	557	-	284	285	-
Stage 2	-	-	-	-	-	-	253	270	-	473	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	14.5	137.3
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	466	818	-	-	1141	-	-	78	404
HCM Lane V/C Ratio	0.185	0.022	-	-	0.107	-	-	0.859	0.026
HCM Control Delay (s)	14.5	9.5	-	-	8.5	-	-	156.8	14.2
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.4	-	-	4.4	0.1

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, PM Peak Hour
 07/26/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	588	26	115	832	170	70
Future Volume (vph)	588	26	115	832	170	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 64.2% ICU Level of Service C

Analysis Period (min) 15

Intersection						
Int Delay, s/veh	97.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	↔
Traffic Vol, veh/h	588	26	115	832	170	70
Future Vol, veh/h	588	26	115	832	170	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	626	28	122	885	181	74

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	654	0	1769 640
Stage 1	-	-	-	-	640 -
Stage 2	-	-	-	-	1129 -
Critical Hdwy	-	-	4.1	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	2.2	-	3.509 3.309
Pot Cap-1 Maneuver	-	-	943	-	~ 92 477
Stage 1	-	-	-	-	527 -
Stage 2	-	-	-	-	310 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	943	-	~ 80 477
Mov Cap-2 Maneuver	-	-	-	-	~ 80 -
Stage 1	-	-	-	-	527 -
Stage 2	-	-	-	-	270 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	\$ 726.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	106	-	-	943	-
HCM Lane V/C Ratio	2.409	-	-	0.13	-
HCM Control Delay (s)	\$ 726.4	-	-	9.4	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	22.9	-	-	0.4	-

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

Lanes, Volumes, Timings
 3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, PM Peak Hour
 07/26/2019

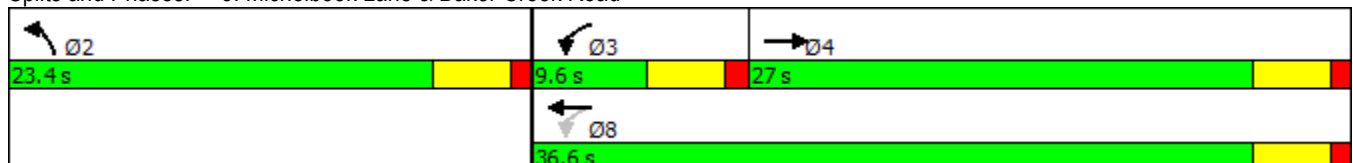


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Volume (vph)	588	26	115	832	170	70
Future Volume (vph)	588	26	115	832	170	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Shared Lane Traffic (%)						
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	4		3	8	2	
Permitted Phases			8			
Detector Phase	4		3	8	2	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	22.5		9.5	22.5	22.5	
Total Split (s)	27.0		9.6	36.6	23.4	
Total Split (%)	45.0%		16.0%	61.0%	39.0%	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	4.5	4.5	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	
Act Effect Green (s)	21.9		29.0	29.0	11.8	
Actuated g/C Ratio	0.44		0.58	0.58	0.24	
v/c Ratio	0.80		0.37	0.81	0.58	
Control Delay	24.7		8.8	17.2	21.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	24.7		8.8	17.2	21.0	
LOS	C		A	B	C	
Approach Delay	24.7			16.2	21.0	
Approach LOS	C			B	C	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 50.2
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 19.8
 Intersection Capacity Utilization 65.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Michelbook Lane & Baker Creek Road



HCM 2010 Signalized Intersection Summary
 3: Michelbook Lane & Baker Creek Road

2029 Total Traffic, PM Peak Hour
 07/26/2019

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↗		↖	↖	↗	↗		
Traffic Volume (veh/h)	588	26	115	832	170	70		
Future Volume (veh/h)	588	26	115	832	170	70		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1881	1900	1900	1900	1881	1900		
Adj Flow Rate, veh/h	626	28	122	885	181	74		
Adj No. of Lanes	1	0	1	1	0	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	1	1	0	0	0	0		
Cap, veh/h	786	35	412	1174	237	97		
Arrive On Green	0.44	0.44	0.08	0.62	0.19	0.19		
Sat Flow, veh/h	1787	80	1810	1900	1224	501		
Grp Volume(v), veh/h	0	654	122	885	256	0		
Grp Sat Flow(s),veh/h/ln	0	1867	1810	1900	1732	0		
Q Serve(g_s), s	0.0	14.4	1.5	15.9	6.7	0.0		
Cycle Q Clear(g_c), s	0.0	14.4	1.5	15.9	6.7	0.0		
Prop In Lane		0.04	1.00		0.71	0.29		
Lane Grp Cap(c), veh/h	0	821	412	1174	335	0		
V/C Ratio(X)	0.00	0.80	0.30	0.75	0.76	0.00		
Avail Cap(c_a), veh/h	0	879	453	1276	685	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	11.5	8.2	6.5	18.2	0.0		
Incr Delay (d2), s/veh	0.0	4.9	0.4	2.4	3.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	8.4	0.8	8.9	3.5	0.0		
LnGrp Delay(d),s/veh	0.0	16.4	8.6	8.9	21.9	0.0		
LnGrp LOS		B	A	A	C			
Approach Vol, veh/h	654			1007	256			
Approach Delay, s/veh	16.4			8.9	21.9			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		13.8	8.5	25.5				34.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.9	5.1	22.5				32.1
Max Q Clear Time (g_c+l1), s		8.7	3.5	16.4				17.9
Green Ext Time (p_c), s		0.6	0.0	4.6				9.1
Intersection Summary								
HCM 2010 Ctrl Delay			13.2					
HCM 2010 LOS			B					