TRAFFIC IMPACT STUDY

For

Owl Place Commercial
El Paso County, Colorado
PCD File No. CR221

June 2022
Revised:
September 2022

Prepared for:

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Engineer in Responsible Charge:
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22-051673

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

_____ _____

Fred Lantz, P.E. #23410 Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

_____ _____

Brian Zurek Date
First Cup
106 S Kyrene Road, Suite 2
Chandler, AZ 85226

Complete / sign statements.

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I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Owl Place Commercial.

This traffic impact study has been revised to address County review comments made to the June 2022 version of the traffic impact study regarding inclusion of additional analyses and recommendations with corresponding revisions to figures and tables pursuant to the latest conceptual site plan.

This proposed commercial development consists of various potential uses including a gas station convenience store, coffee/donut shop with drive-through window, automated car wash, and quick-serve restaurants. The development is located at the southwest corner of the intersection of Meridian Road with Owl Place in El Paso County, Colorado.

Study Area

The study area to be examined in this analysis encompasses Meridian Road between the intersections of Bent Grass Meadows Drive and E Woodmen Road.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently occupied by a single-family dwelling unit and is surrounded by a mix of residential, commercial, and open space land uses.

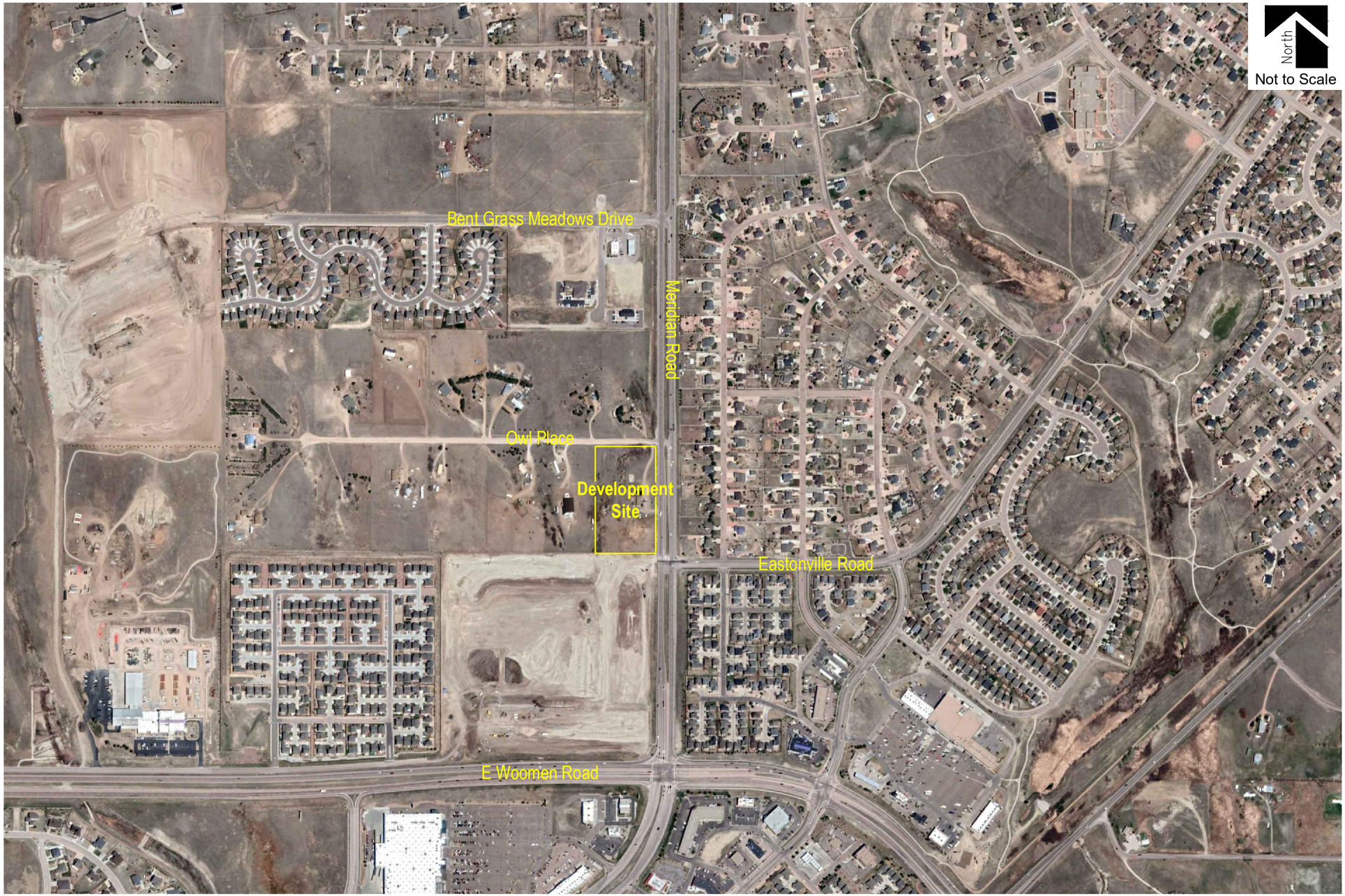
The proposed development is conceptual and no specific land uses have been determined. However, for purposes of this analysis, there is assumed to be construction for an approximate 5,300 square foot gas station convenience store supporting up to 12 vehicle fueling positions, an approximate 2,000 square foot coffee/donut shop with drive-through window, a 4,170 square foot automated car wash with one wash tunnel, and an approximate 3,420 square foot high-turnover quick-serve restaurant.

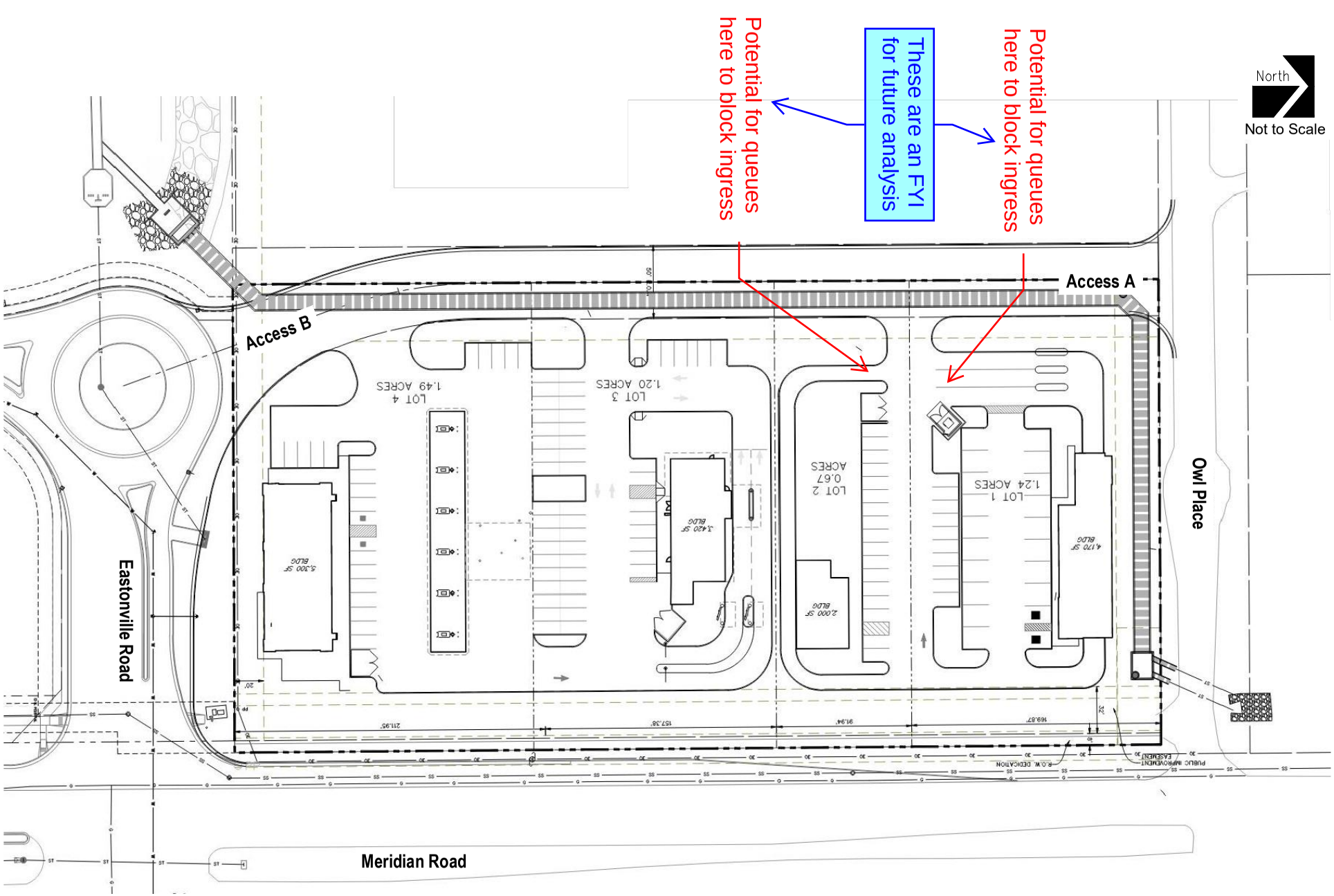
Proposed access to the development is provided at the following locations: one full-movement access onto Owl Place (referred to as Access A), and one full-movement access onto Eastonville Road as an extension of Falcon Market Place (referred to as Access B). For analysis purposes and given the conceptual nature of proposed land uses, proposed accesses are considered to be internal to the overall development area and are not specifically analyzed. Access operations are generally considered to be comparable to or better than that of the closest major intersection.

(To be clear, access will be to the extension of Falcon Market Place/Meridian Park Drive, a public non-residential collector connecting to the roads stated.)

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2024. General site and access locations are shown on Figure 1.

A conceptual site plan, as prepared by Baseline Engineering Corporation, is shown on Figure 2. This plan is provided for illustrative purposes only.


North
Not to Scale
Bent Grass Meadows Drive
Meridian Road
Owl Place
Development Site
Eastonville Road
E Woomen Road


Potential for queues here to block ingress
These are an FYI for future analysis
Potential for queues here to block ingress
North
Not to Scale
Access A
Access B
Owl Place
Eastonville Road
Meridian Road
LOT 4
1.49 ACRES
LOT 3
1.20 ACRES
LOT 2
0.67 ACRES
LOT 1
1.24 ACRES

Recommend adding "(interim)" since it will be closed at some point.

Existing and Committed Surface Transportation Network

Within the study area, Meridian Road is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include E Woodmen Road, Eastonville Road, Owl Place, and Bent Grass Meadows Drive. A brief description of each roadway, based on the County's 2040 Major Transportation Corridors Plan (MTCP)[1] and Engineering Criteria Manual (ECM)[2], is provided below:

Meridian Road is a north-south principal arterial roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersections within the study area. Meridian Road provides a posted speed limit of 55 MPH.

E Woodmen Road is an east-west principal arterial roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersection within the study area. E Woodmen Road provides a posted speed limit of 55 MPH.

Eastonville Road is an east-west arterial roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersection within the study area. Eastonville Road provides a posted speed limit of 35 MPH.

clarify where

Owl Place is an east-west unpaved roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Owl Place is unclassified in County's MTCP. However, per Standard Drawing 2-10 of County ECM and the roadway's estimated ROW width, Owl Place is assumed to be classified as a local roadway and provides a posted speed limit of 30 MPH.

Bent Grass Meadows Drive is an east-west collector roadway having two through lanes (one lanes in each direction) with exclusive turn lanes at the intersections within the study area. Bent Grass Meadows Drive provides a posted speed limit of 35 MPH.

The study intersections of Meridian Road with E Woodmen Road, Eastonville Road, and Bent Grass Meadows Drive are signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

[1] El Paso County 2016 Major Transportation Corridors Plan Update, Felsburg Holt & Ullevig, December 2016.
[2] El Paso County Engineering Criteria Manual, El Paso County, December 2016.

It is however noted that signal installation at Eastonville Road and Meridian Road is a recent occurrence with associated extension of Eastonville Road west of Meridian Road. Due to the ongoing development within the area, the newly constructed west leg of the study intersection was observed to experience low volumes associated with construction traffic only. Therefore, for analysis purposes, the study intersection was assumed to not currently operate at its anticipated capacity and was considered as a three-leg stop-controlled intersection for existing conditions only.

In reference to the County's MTCP, E Woodmen Road is planned to become a six-lane, expressway by Year 2040. The remaining study area roadways appear to be built to their ultimate cross-sections excluding potential improvements required due to the proposed development.

Although Woodmen Rd from Marksheffel Rd to Banning Lewis Pkwy is anticipated to be widened to 6 lanes per MTCP Table 4, this widening does not extend east to Meridian Rd and should not be relied upon in the TIS.

Meridian Road is anticipated to be widened to a 6-Lane Principal Arterial from Woodmen to Stapleton Road also in the 2060 Corridor Preservation Plan.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of Meridian Road with E Woodmen Road, Eastonville Road, and Owl Place. Counts were collected on June 1, 2022, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

Peak hour traffic counts and 24-hour traffic volumes shown for Meridian Road and the intersection of Meridian Road with Bent Grass Meadows Drive were obtained from a previous traffic study[3]. Referenced counts were collected on March 29, 2022.

Newly collected and referenced counts representing existing traffic volumes, as well as existing intersection geometries, are shown on Figure 3.

Existing signal timing parameters for the intersections of Meridian Road with E Woodmen Road and Bent Grass Meadows Drive were obtained from County Staff and used throughout this study to the best extent possible in order to remain consistent with existing signal coordination plans. City signal timing information received is included for reference in Appendix A.

We assume that the timing data were provided by the County, not the City.

For reference, the timing reports are at:
https://epcdevplanstorage.blob.core.windows.net/project/2cf7accf-06f2-481b-afe8-e33ec291437c/5dccdfed-ae85-423c-acd9-1b79a1acb22c.pdf

and

https://epcdevplanstorage.blob.core.windows.net/project/2cf7accf-06f2-481b-afe8-e33ec291437c/c3d76724-8861-4122-9f05-2b2a889d6039.pdf

[3] Bent Grass Dunkin' Donuts, SM ROCHA, LLC, April 2022.

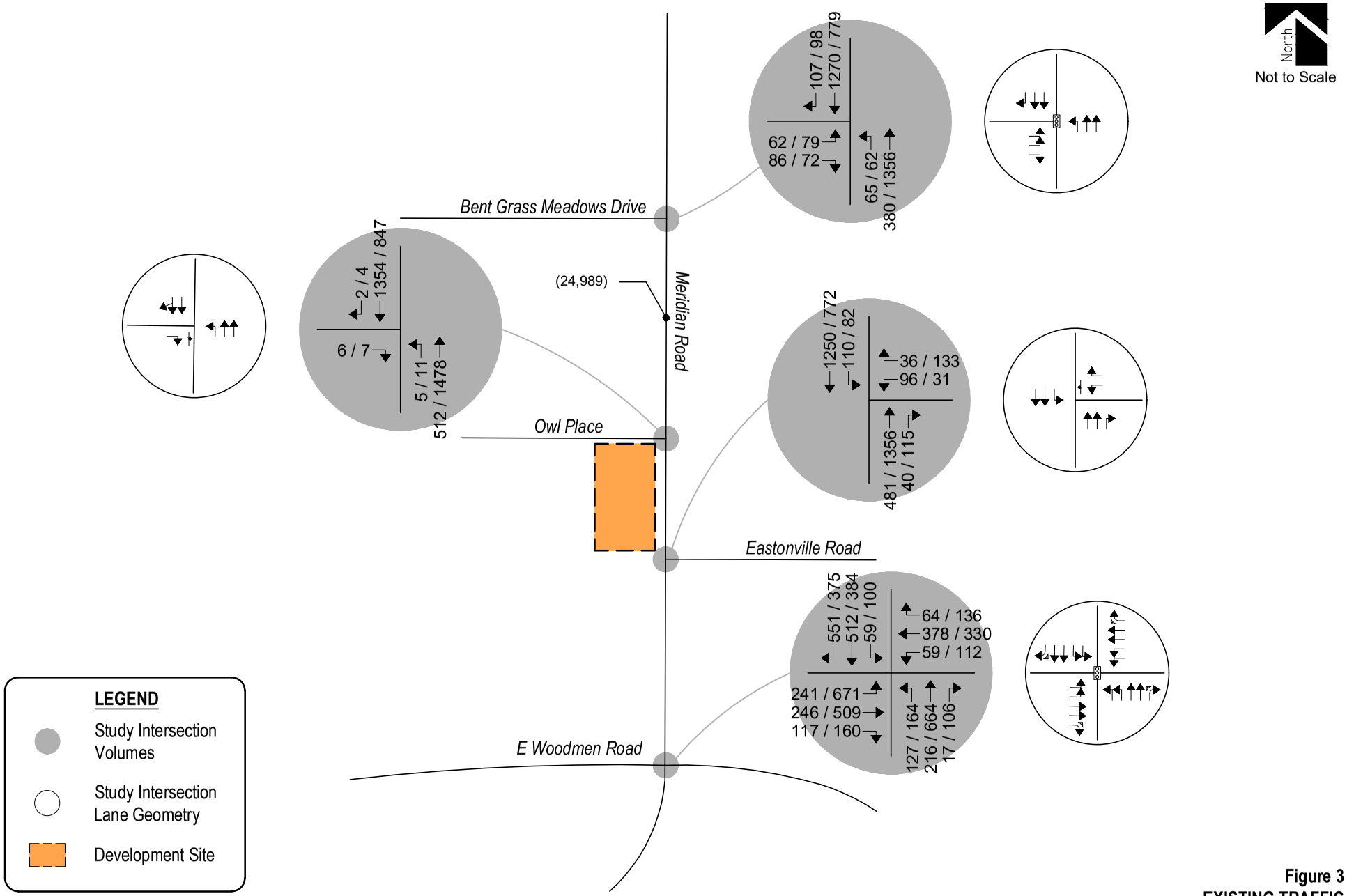


Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 6th Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing and future traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (30.5)	D (37.8)
Meridian Road / Bent Grass Meadows Drive (Signalized)	A (9.9)	A (7.6)
Meridian Road / Eastonville Road (Stop-Controlled)		
Westbound Left	B	F
Westbound Right	A	B
Southbound Left	A	B
Meridian Road / Owl Place (Stop-Controlled)		
Eastbound Right	B	A
Northbound Left	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS A during both the morning and afternoon peak traffic hours.

The unsignalized intersection of Meridian Road with Eastonville Road has turning movement operations at or better than LOS B during either peak traffic hour. Exceptions would include the westbound left turning movement which operates at LOS F during the PM peak traffic hour. The LOS F operation is attributed to the high through traffic volumes along Meridian Road and the stop-controlled nature of the intersection. However, as previously discussed, given the recent signalization of the study intersection, actual operations are expected to be better than shown.

The unsignalized intersection of Meridian Road with Owl Place has turning movement operations at or better than LOS B during the morning peak traffic hour and LOS A during the afternoon peak traffic hour.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2024 and 2040, a compounded annual growth rate was determined using population growth estimates provided by the Pikes Peak Area Council of Governments' (PPACG) 2045 Long Range Transportation Plan[4] which anticipates a 20-year growth rate of less than two percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes.

To account for projected traffic from adjacent developments not yet built, trip generations from the previously prepared Falcon Marketplace Traffic Impact Analysis[5], provided by the County's Electronic Development Application Review Program (EDARP), were added to background traffic volumes.

Pursuant to the proposed and committed area roadway improvements discussed in Section I, Year 2024 and Year 2040 background traffic conditions assume the completion of the Eastonville Road extension west of Meridian Road and the improvement of the intersection including signalization. Year 2040 also assumes signal timing parameters for the Meridian Road intersections with optimized intersection splits in effort to better long-term intersection performance.

Projected background traffic volumes and intersection geometry for Years 2024 and 2040 are shown on Figure 4 and Figure 5, respectively.

Address the traffic assumptions for the rezone of the 3 surrounding parcels. Coordinate with that traffic study and ensure that the background traffic and total traffic reflects this.

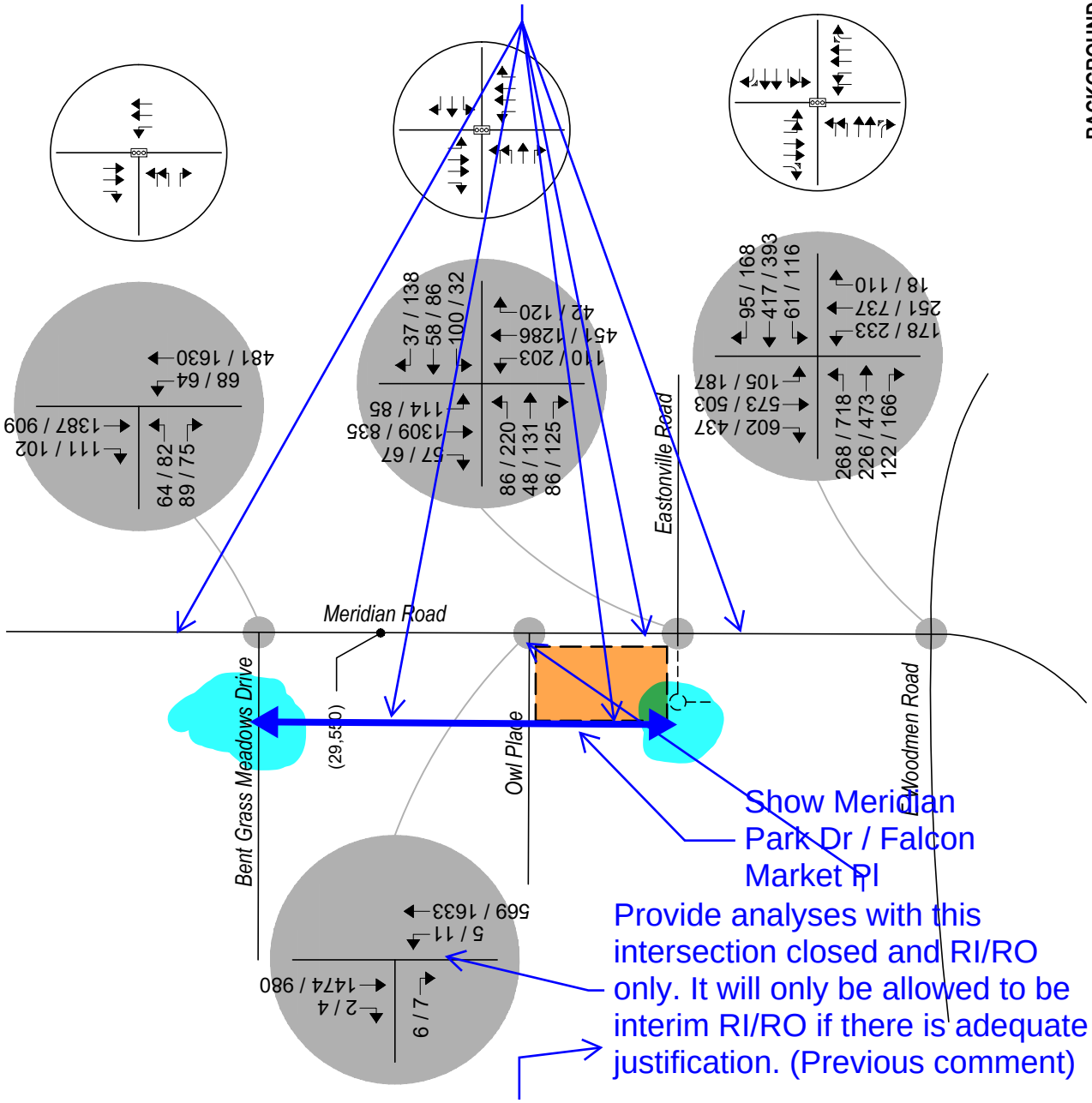
Please see PCD project file CS224 for the TIS that was recently submitted.

https://epcdevplanreview.com/Public/ProjectDetails/183464

[4] Moving Forward 2045: Pikes Peak Area Regional Transportation Plan, PPACG, January 2020.
[5] Falcon Marketplace Traffic Impact Analysis, LSC Transportation Consultants Inc., September 2018.

Not to Scale

All figures: Show Link ADT at these locations.
Provide Link ADT for both closure and RI/RO options on Falcon Market Pl and Meridian View Dr.



Show Meridian Park Dr / Falcon Market Pl

Provide analyses with this intersection closed and RI/RO only. It will only be allowed to be interim RI/RO if there is adequate justification. (Previous comment)

* Reasoning for this requirement was requested in your response to redlines; There are several reasons including the following:
- Meridian Road is a Principal Arterial, with corresponding access criteria
- Meridian Road will be widened to 6 lanes and EPC does not want another signalized intersection or left turns across it
- This has been planned for approximately 15 years when the area was studied in the Latigo Business area TIS that planned for the Meridian Park Drive/Falcon Market Place road connection in coordination with County staff. https://epcdevplanstorage.blob.core.windows.net/project/6c24fa94-807a-44ab-8c84-219d53371153/892aad51-92e1-458b-9d1d-c8223df8d55c.TIF
- See EA-21-191 notes

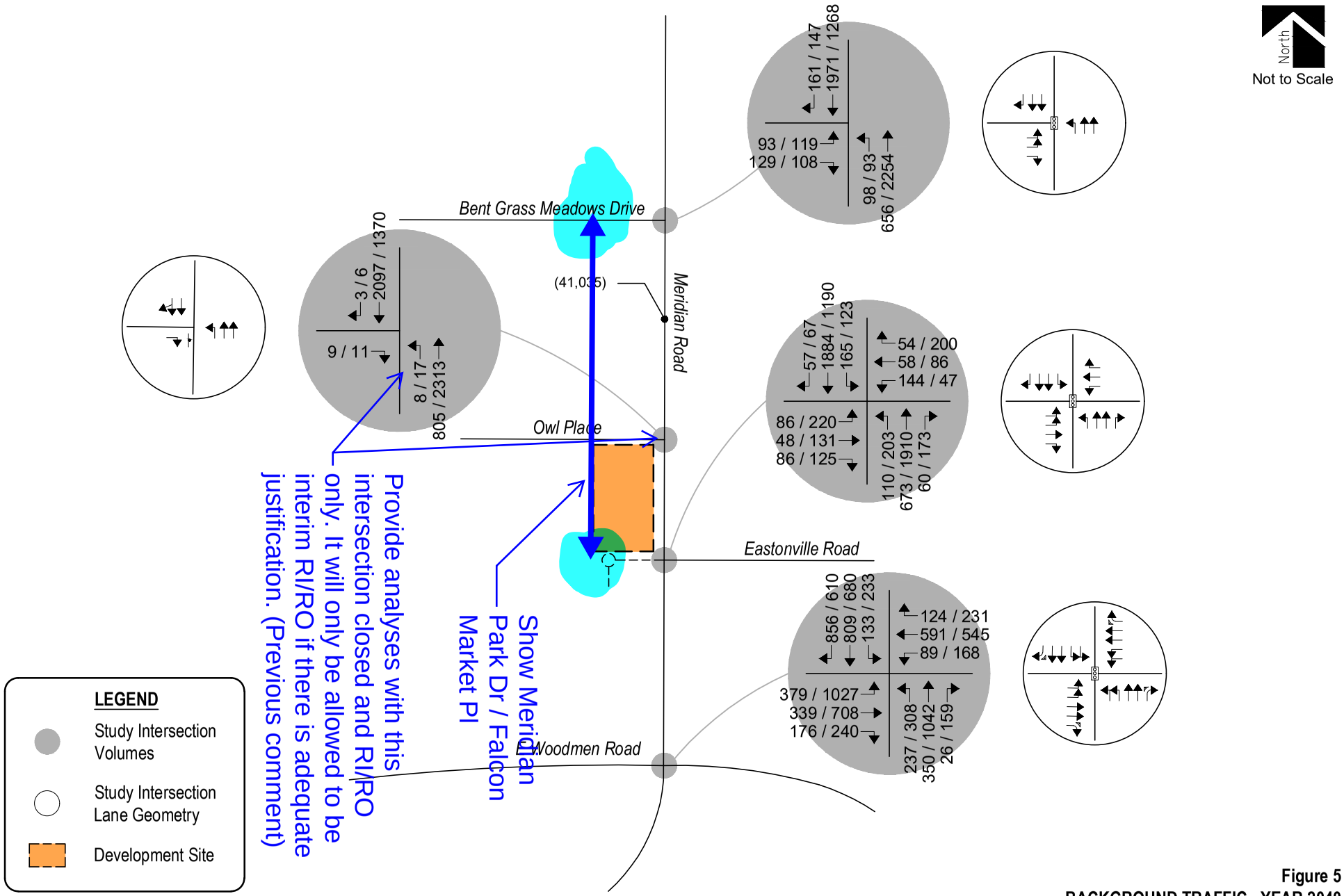


Figure 5
BACKGROUND TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2024 are listed in Table 2. Year 2040 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Analyze the intersections on Meridian Park Drive /Falcon Market Place: Eastonville, Bent Grass Meadows, Owl Pl

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (31.6)	D (45.1)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (10.2)	A (5.9)
Meridian Road / Eastonville Road (Signalized)	D (35.3)	C (23.2)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right Northbound Left	 B B	 B A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Unresolved previous comment - analyze only as right-in/right-out and closed for all horizons except existing.

Background Traffic Analysis Results – Year 2024

Year 2024 background traffic analysis indicates that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the AM peak traffic hour and LOS D during the PM peak traffic hour.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS B during the AM peak traffic hour and LOS A during the PM peak traffic hour.

The signalized intersection of Meridian Road with Eastonville Road has overall operations at LOS D during the AM peak traffic hour and LOS C during the PM peak traffic hour.

The unsignalized intersection of Meridian Road with Owl Place operates at or better than LOS B during both AM and PM peak traffic periods.

Analyze the intersections on Meridian Park Drive /Falcon Market Place: Eastonville, Bent Grass Meadows, Owl Pl

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	D (39.0)	F (86.8)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (19.6)	B (11.9)
Meridian Road / Eastonville Road (Signalized)	D (38.6)	C (30.6)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right Northbound Left	 C C	 B A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Unresolved previous comment - analyze only as right-in/right-out and closed for all horizons except existing.

Background Traffic Analysis Results – Year 2040

By Year 2040 and without the proposed development, the study intersection of Meridian Road with E Woodmen Road experiences LOS D operations during the AM peak traffic hour and LOS F during the PM peak traffic hour. The LOS F operation is primarily attributed to the high eastbound, northbound and southbound left turning volumes. In order to provide mitigation to the poor overall operation and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand. It is noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

See previous comment regarding the future Woodmen Road cross-section.

The study intersection of Meridian Road with Bent Grass Meadows Drive experiences LOS B operations during both the AM and PM peak traffic hours.

The study intersection of Meridian Road with Eastonville Road experiences LOS D operations during the AM peak traffic hour and LOS C operations during the PM peak traffic hour.

The study intersection of Meridian Road with Owl Place experiences LOS C operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour.

It is not recommended that access onto Meridian Road from Owl Place be more limited than that already existing. Limited access will interfere with the existing and proposed developments' ability to equally distribute traffic within the site and out to available roadways, thus impacting existing and future traffic in the surrounding area and potentially cause the adjacent roadway network to be used in a manner not intended or cause additional delay that could impact emergency response times.

That's fine to recommend but provide the analyses for RI/RO only and closed. The focus needs to be on Meridian Park Drive/Falcon Market Place and the downstream intersections.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 934 (Fast-Food Restaurant with Drive-Through Window), 937 (Coffee/Donut Shop with Drive-Through Window), 945 (Convenience Store/Gas Station), and 948 (Automated Car Wash) were used for estimating trip generation because of their conservative rates and best fit to the anticipated land use descriptions.

As actual land uses, densities or site plans within the Owl Place Commercial development area become defined over time, it is expected that traffic generation characteristics considered within this study will need to be updated by more specific traffic analyses or studies to help assess if transportation improvements are needed to mitigate potential traffic impacts.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

			TRIP GENERATION RATES						
			24	AM PEAK HOUR			PM PEAK HOUR		
ITE CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
934	Fast-Food Restaurant w/DTW	KSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
937	Coffee/Donut Shop w/DTW	KSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
945	Convenience Store/Gas Station	KSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52
948	Automated Car Wash	CWT	775.00	*	*	*	38.75	38.75	77.50

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.
* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).
Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

The planned development following the rezone will include a service station, three quick-service restaurants, and one car wash. These will be accessible by a road branching north from the

Verify consistency between the TIS and Letter of Intent. Revise one or the other as appropriate. (If the TIS is conservative that's fine.)

Table 5 – Trip Generation Summary

ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
934	Fast-Food Restaurant w/DTW	3.4 KSF	1,599	78	75	153	59	54	113
937	Coffee/Donut Shop w/DTW	2.0 KSF	1,067	88	84	172	39	39	78
945	Convenience Store/Gas Station	5.3 KSF	3,712	150	150	300	144	144	289
948	Automated Car Wash	1 CWT	775	*	*	*	39	39	78
	Proposed Total:		*7,153*	*315*	*309*	*624*	*281*	*276*	*557*

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.
* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 7,153 daily vehicle trips with 624 of those occurring during the morning peak hour and 557 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is likely to attract pass-by trips from the adjacent roadway system. ITE defines a pass-by trip as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Due to this behavior, pass-by trips are not considered as "new" traffic generated by the development since the trips are already present on the roadway network enroute to their primary destination.

Pass-by trips are especially common to fast-food restaurant, coffee/donut shop, and gas station land uses given the convenience provided by these businesses on the way to another primary destination such as a place of work or home. As example, published ITE pass-by and diverted link trip data indicates an average trip generation reduction rate of 49 percent during the AM peak traffic hour and 50 percent during the PM peak traffic hour as typical to fast-food restaurants with drive-through window.

It is also considered likely that a mixed-use development of this type will attract trips from within area land uses as well as from the adjacent Falcon Marketplace development. However, due to the conceptual nature of proposed land uses, specific internal capture rates can only be assumed. Therefore, no trip reduction was taken in this analysis This assumption provides for a conservative analysis.

Upon consideration of the proposed land use, reductions were applied pursuant to ITE average data to the proposed land use in order to account for the high probability of pass-by trip generation. ITE average pass-by trip percentages used are presented in Table 6.

Table 6 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out with reductions applied due to pass-by trips. Average daily (24-Hour) pass-by trip percentages were estimated as the average between the AM and PM peak hour rates indicated by ITE.

Table 6 – Trip Generation Summary with Pass-By Trip Reductions

ITE CODE	LAND USE	SIZE	TOTAL NEW TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
	Pass-By Trip Reduction:		*50%*	*49%*	*49%*	*49%*	*50%*	*50%*	*50%*
934	Fast-Food Restaurant w/DTW	3.4 KSF	807	40	38	78	29	27	56
	Pass-By Trip Reduction:		*60%*	*60%*	*60%*	*60%*	*60%*	*60%*	*60%*
937	Coffee/Donut Shop w/DTW	2.0 KSF	427	35	34	69	16	16	31
	Pass-By Trip Reduction:		*59%*	*62%*	*62%*	*62%*	*56%*	*56%*	*56%*
945	Convenience Store/Gas Station	5.3 KSF	1,522	57	57	114	64	64	127
	Pass-By Trip Reduction:		*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
948	Automated Car Wash	1.0 CWT	775	*	*	*	39	39	78
	Proposed Total:		*3,531*	*132*	*129*	*260*	*147*	*145*	*292*

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.
* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out and with consideration for pass-by trip reductions, Table 6 illustrates that the proposed development has the potential to generate approximately 3,531 new daily trips with 260 of those occurring during the morning peak hour and 292 during the afternoon peak hour.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, assumptions made for previous studies within the area, and in reference to distribution patterns of existing traffic count data.

Additional pass-by trip distribution is assumed to include vehicle routes heading north-south along Meridian Road. Distribution percentages utilized for pass-by trips are anticipated to be 50 percent from the north and south.

Overall trip distribution patterns for the development are shown on Figure 6.

Trip Assignment

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

It is to be noted that the overall site-generated trip assignments shown on Figure 6 represent the combination of both primary trip generation and pass-by trips. Due to the application of pass-by trips, some negative site-generated trips are shown at the study intersections. These negative trips are the result of redistributing existing through volumes along Meridian Road to site-generated ingress volumes.

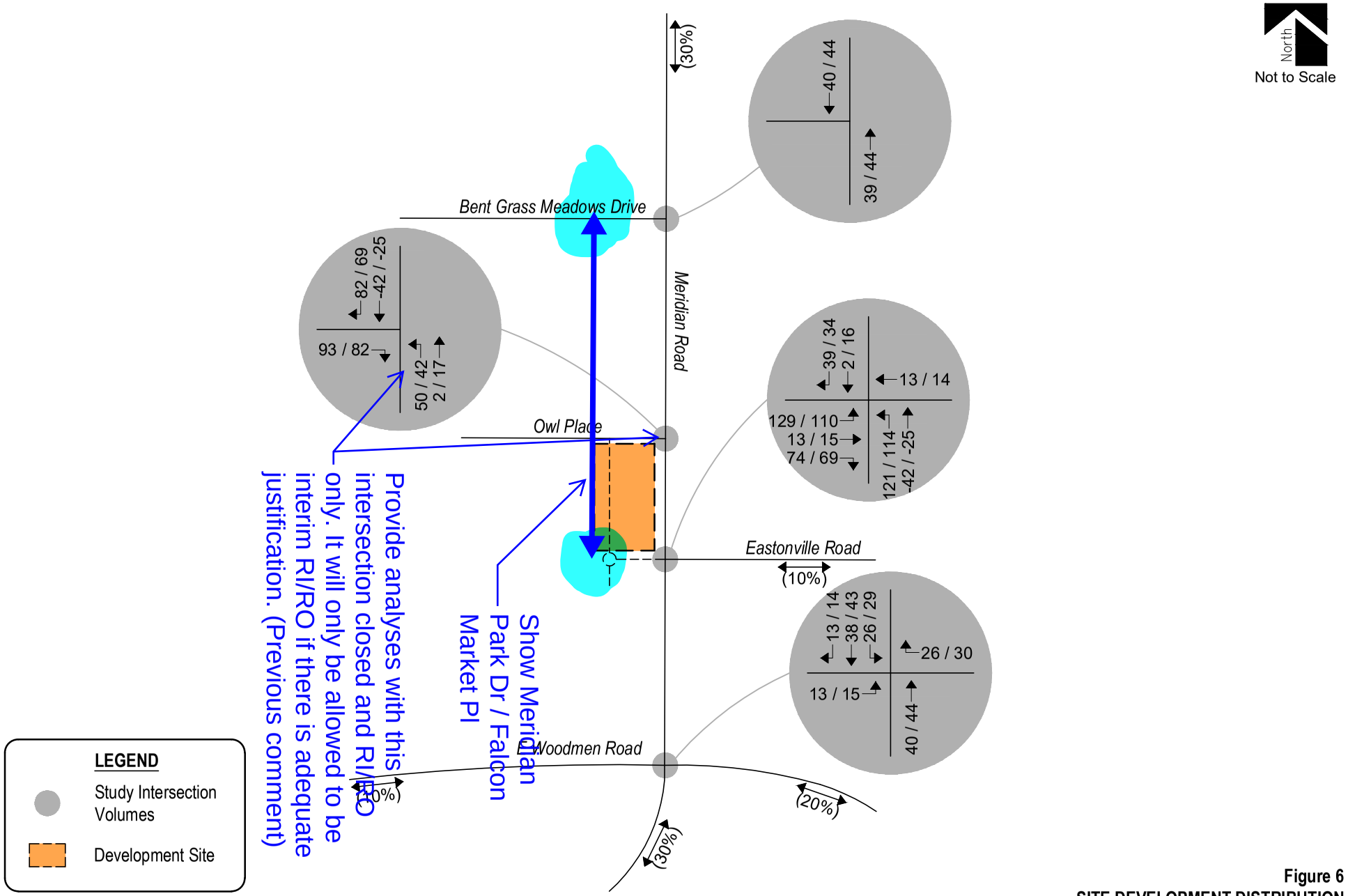


Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED
AM / PM Peak Hour

V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2024 and 2040 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2024.

Pursuant to area roadway improvement discussions provided in Section III, Year 2024 and Year 2040 total traffic conditions assume no additional roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency. This is anticipated to include the paving of Owl Place along the property frontage and installation of exclusive turn lanes at site accesses as needed.

Projected Year 2024 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2040.

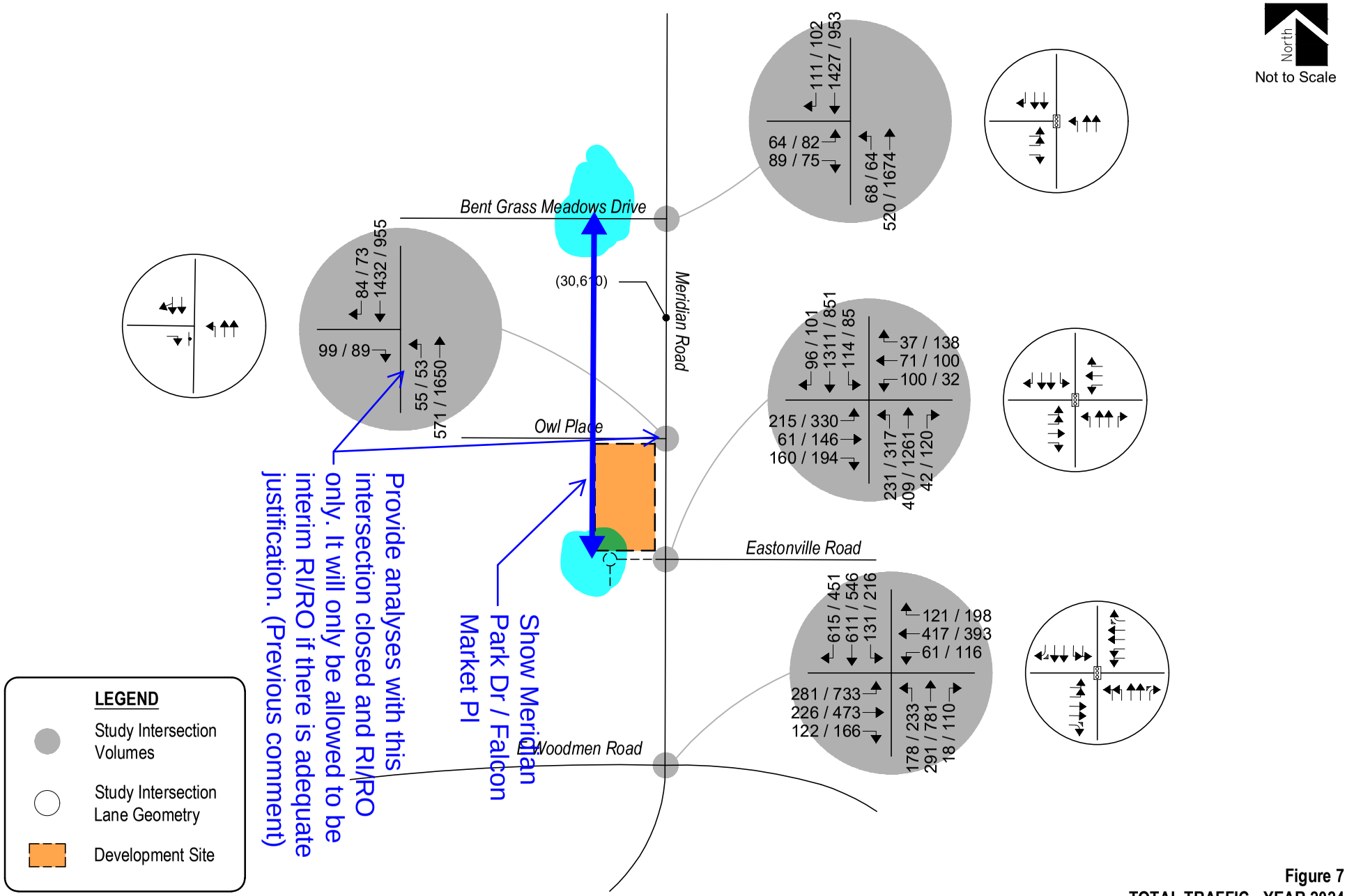


Figure 7
TOTAL TRAFFIC - YEAR 2024
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Figure 8
TOTAL TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

OWL PLACE COMMERCIAL
Traffic Impact Study

SM ROCHA, LLC
Traffic and Transportation Consultants

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2024 and 2040 are summarized in Table 7 and Table 8, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Analyze the intersections on Meridian Park Drive /Falcon Market Place: Eastonville, Bent Grass Meadows, Owl Pl

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (32.5)	D (46.0)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (10.5)	A (5.9)
Meridian Road / Eastonville Road (Signalized)	D (41.9)	C (27.8)
Meridian Road / Owl Place (Stop-Controlled)		
Eastbound Right	B	B
Northbound Left	B	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Table 8 – Intersection Capacity Analysis Summary – Total Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	D (39.9)	F (94.0)
Meridian Road / Bent Grass Meadows Drive (Signalized)	C (20.5)	B (11.2)
Meridian Road / Eastonville Road (Signalized)	E (59.3)	D (44.3)
Meridian Road / Owl Place (Stop-Controlled)		
Eastbound Right	D	B
Northbound Left	C	B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 8 illustrates how, by Year 2040 and upon development build-out, the signalized intersection of Meridian Road with E Woodmen Road shows an overall LOS D operation during both the morning peak traffic hour and LOS F during the afternoon peak traffic hour. Compared to the background traffic analysis, the traffic generated by the proposed development is not expected to significantly change the operations of the study intersection and is noted to increase overall intersection delay by approximately seven seconds which is considered minor. The LOS F operation anticipated during the afternoon peak traffic period continues to be primarily attributed to the eastbound, northbound and southbound turning movements. As with background traffic conditions, in order to provide mitigation to the poor overall operation and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand. It is also noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

See previous comment regarding the future Woodmen Road cross-section.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive is projected to have morning and afternoon peak traffic hour operations at LOS C and B, respectively.

The signalized intersection of Meridian Road with Eastonville Road is projected to have morning peak traffic hour operations at LOS E and LOS D during the afternoon peak traffic hour. The LOS E operation anticipated during the morning peak traffic period continues to be attributed to the high southbound through volumes. To mitigate the anticipated LOS E operation, it is recommended increasing northbound and southbound signal split timing by taking away from eastbound and westbound signal split timing. However, this may result in increased vehicle queues along Eastonville Road. Alternatively, restriping of the existing northbound left-turn lane to accommodate dual northbound lefts allowing additional signal split timing to be provided to other movements would provide improved operations. As site plan development continues to occur, it is anticipated that additional analysis may be needed in order to determine when such improvements are necessary.

The stop-controlled intersection of Meridian Road with Owl Place is projected to have turning movement operations at LOS D or better for the morning peak traffic hour and LOS B for the afternoon peak traffic hour.

Address both analyses for closure and RI/RO

Auxiliary Lane Analysis

Auxiliary lanes for site development intersections are to be based on County's ECM.

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 2.3.7(D), of the County's ECM, reveals that exclusive left-turn and right-turn deceleration lanes are required at all study intersections along Meridian Road due to its roadway classification and corresponding CDOT State Highway Access Code (SHAC) designation. It is anticipated that auxiliary lanes at internal site accesses will include a left-turn westbound deceleration lane along Owl Place at Access A due to the high left-turn ingress volumes.

Define WB LT lane length at Access A to ensure that it does not extend to Meridian Rd.

An evaluation of auxiliary requirements also indicates that a southbound acceleration lane at Owl Place along Meridian Road would be required since projected egress turning volumes are expected to exceed CDOT SHAC volume thresholds.

Define SB accel lane length at Owl Place and ensure that it does not extend to Eastonville Rd.

State that site design will need to account for the accel lane width when Meridian Road is expanded to 6 lanes unless the access is closed at that time.

Queue Length Analysis

Queue lengths for study intersections were analyzed using Year 2040 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

Some queueing at the site access intersections of Meridian Road with Eastonville Road and Owl Place were indicated. The greatest on-site queue length anticipated occurs during the afternoon peak hour at the Eastonville Road intersection. The queue length is approximately 253 feet or between ten and eleven vehicles for the eastbound approach, assuming a typical vehicle length of 25 feet.

If queue blockages are forecasted to occur, they should be mitigated

It is however noted that comparable queueing is shown to occur under Year 2040 background conditions without the proposed development. With the addition of site generated traffic, queue lengths are shown to increase by approximately one to two vehicles. This queue length can generally be accommodated within the available roadway length, however some blocking of the northbound movement at the adjacent roundabout intersection may occur during peak periods. However, this is not expected to interfere with vehicles entering the development area from Meridian Road. Additionally, the upstream signal control on Meridian Road will tend to create additional gaps in the traffic stream for turning movements at the Falcon Market Place roundabout and will most likely provide mitigation to vehicle queues projected during the afternoon peak traffic hour.

It is noted that provision for dual northbound left turn lanes on Meridian Road as previously discussed would also allow additional signal timing for the eastbound movement reducing vehicle queues and improving overall intersection operations. To prevent vehicle stacking within the intersection, additional mitigation measures may include conversion of the existing roundabout to a two-way stop-controlled intersection.

If progression is being relied upon for mitigation, provide progression results in TIS

Make mitigation recommendation

Address queue lengths for the intersections on Meridian Park Drive /Falcon Market Place: Eastonville, Bent Grass Meadows, Owl Pl, with the two required options for Owl/Meridian

Pedestrian Circulation & Safety Analysis

Pedestrian and bicycle connectivity should be planned for, including connection to the MTCP's proposed bicycle route along Meridian Blvd.

In accordance with Section B.2.4.B of the County's ECM, an assessment to pedestrian connectivity and safety was considered. However, it is emphasized that the sketch plan analyzed throughout this study is conceptual and details of pedestrian circulation and connectivity have not been determined. As actual site plans within the overall development become defined over time, it is assumed that an evaluation of pedestrian circulation and connectivity may be necessary.

With the assumption that future site plans are designed per the County's ECM, and pursuant to the Federal Highway Administration's (FHWA) Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations[6], pedestrian safety is not expected to be of concern. Moreover, traffic calming, and pedestrian crossing treatments, are not applicable, and traffic calming is not recommended for the proposed conditions.

Transportation Demand Management Plan

Pursuant to Section B.2.4.B of the County's ECM, a Transportation Demand Management (TDM) Plan for the proposed development was prepared in order to identify features, measures, and strategies designed to reduce single-occupant vehicle (SOV) trips and maximize the use of alternate modes of transportation. As it relates to this development site and the overall area, these alternate modes of transportation include, but may not be limited to, public bus routes, shuttles, car-pooling, bicycling, scooters, and walking. This is consistent with transportation facilities and services described within the County's MTCP and the Pikes Peak Area Council of Governments (PPACG) 2045 Regional Transportation Plan – Transit[7].

One method includes the availability of public bus routes. The City of Colorado Springs provides the Mountain Metropolitan Transit (MMT). While MMT currently does not provide service in unincorporated areas of El Paso County. Additional transit services for unincorporated areas of El Paso County, as described within the MTCP, include Community Intersections, ComCor, Amblicab, El Paso Fountain Valley Senior Citizens Program, Goodwill Industries, Metro Mobility, Mountain Community Senior Services, Rocky Mountain Health Care Services, and Silver Key Senior Services. These public modes of transportation are expected to be affordable and easy to access.

Residents, tenants, visitors, or employees of the overall development area may also be encouraged to travel by bicycle or by walking. Within the immediate area, public sidewalks and pedestrian trails will be available to allow for connectivity within the greater area. Urban and regional trails exist within the overall area, as shown in the MTCP, and are planned to be improved in the future. Other forms of transportation may also be available that encourage the use of these pedestrian routes, including electric scooters and electric bicycles.

[6] Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, Federal Highway Administration, July 2018.
[7] 2045 Regional Transportation Plan – Transit, Mountain Metropolitan Transit, January 8, 2020.

As site plans within the Owl Place Commercial area develop, they may consider promoting alternate modes of pedestrian travel and accommodations as needed. In reference to the City and County of Denver's TDM Guide, general strategies and tools for implementing a successful TDM Plan may include subsidized transit passes, investments in future transit stops, transit connection services, and passenger pick-up / drop-off areas used in conjunction with transit connection services. Bicycle and pedestrian strategies may include shared bicycle amenities, bike, e-bike, or scooter share/loan programs, subsidized shared mobility programs, or pedestrian wayfindings. Parking and car-share strategies may include parking fees, parking cash-out programs, or incentivized carpooling programs. Supportive strategies may include membership in a Transportation Management Association (TMA), transportation incentive fundings, transit screens and information kiosks, new resident kits, or teleworking policies. Event-related TDM strategies may include one-time transit passes, valet bicycle parking, or special event transit services.

Recommended Improvements

Table 9 illustrates the recommended roadway and intersection control improvements associated with the proposed Owl Place Commercial development and adjacent area.

Table 9 – Recommended Improvements Summary

IMPROVEMENT	TYPE	TIMING	RESPONSIBILITY
Restriping of northbound left turn lane to support dual left turn at Eastonville Road	Auxiliary Lane	When Warranted	Whoever warrants the need; i.e. County, City, or Developer
Construct southbound right turn lane on Meridian Road at Owl Place	Auxiliary Lane	With Final Plat Application(s) / Site Development	Applicant
Construct westbound left turn lane on Owl Place at Access A	Auxiliary Lane	With Final Plat Application(s) / Site Development	Applicant
Widen E Woodmen Road to six-lane cross-section	Roadway Segment	Based on Expressway Classification per 2040 MTCP	Master planned

Recommended improvements, as shown in Table 9 above, which may be reimbursable under the County's MTCP include roadway widening and realignment improvements.

This already exists.

Add lines for conversion to RI/RO (interim) and/or closure of Owl Pl

Update table for any other improvements identified to Meridian Park Dr./Falcon Market Pl.

VII. Conclusion

and Meridian Park Drive/Falcon Market Place between Eastonville and Bent Grass Meadows Dr.

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Owl Place Commercial. This proposed commercial development consists of various potential uses including a gas station convenience store, coffee/donut shop with drive-through window, automated car wash, and quick-serve restaurants. The development is located at the southwest corner of the intersection of Meridian Road with Owl Place in El Paso County, Colorado.

The study area to be examined in this analysis encompasses Meridian Road between the intersections of Bent Grass Meadows Drive and E Woodmen Road.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2024 and Year 2040 background traffic conditions, and Year 2024 and Year 2040 total traffic conditions.

Under existing conditions, operational analysis shows that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour. The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS A during both the morning and afternoon peak traffic hours. The unsignalized intersection of Meridian Road with Eastonville Road has turning movement operations at or better than LOS B during either peak traffic hour. Exceptions would include the westbound left turning movement which operates at LOS F during the PM peak traffic hour. The LOS F operation is attributed to the high through traffic volumes along Meridian Road and the stop-controlled nature of the intersection. However, as previously discussed, given the recent signalization of the study intersection, actual operations are expected to be better than shown. The unsignalized intersection of Meridian Road with Owl Place has turning movement operations at or better than LOS B during the morning peak traffic hour and LOS A during the afternoon peak traffic hour. It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

Year 2024 background traffic analysis indicates that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the AM peak traffic hour and LOS D during the PM peak traffic hour. The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS B during the AM peak traffic hour and LOS A during the PM peak traffic hour. The signalized intersection of Meridian Road with Eastonville Road has overall operations at LOS D during the AM peak traffic hour and LOS C during the PM peak traffic hour. The unsignalized intersection of Meridian Road with Owl Place operates at or better than LOS B during both AM and PM peak traffic periods.

By Year 2040 and without the proposed development, the study intersection of Meridian Road with E Woodmen Road experiences LOS D operations during the AM peak traffic hour and LOS F during the PM peak traffic hour. The LOS F operation is primarily attributed to the high eastbound, northbound and southbound left turning volumes. The study intersection of Meridian Road with Bent Grass Meadows Drive experiences LOS B operations during both the AM and PM peak traffic hours. The study intersection of Meridian Road with Eastonville Road experiences LOS D operations during the AM peak traffic hour and LOS C operations during the PM peak traffic hour. The study intersection of Meridian Road with Owl Place experiences LOS C operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour.

In order to provide mitigation to the poor long-term operations and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand. It is also noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon consideration of the various roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2040 background traffic conditions. Proposed site access intersections have long-term operations at LOS D or better during peak traffic periods and upon build-out.

This site is subject to the El Paso County Road Impact Fee Program (Resolution 19-471), as amended. An option for payment will be selected at the final land use approval stage.

Update as appropriate with the required revisions

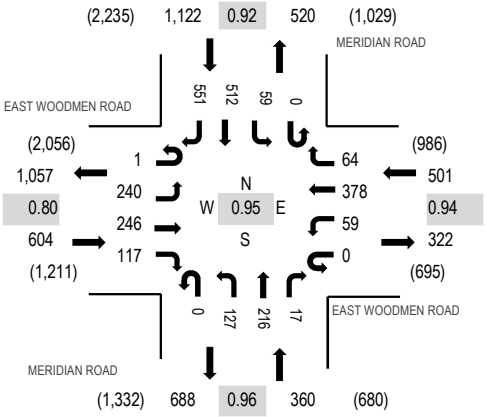
APPENDIX A

Traffic Count Data
Signal Timing Information

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

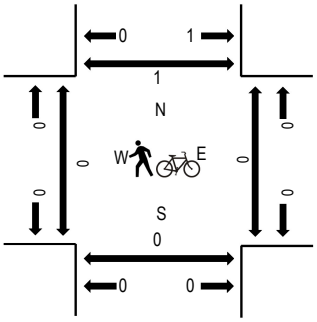
Location: 1 MERIDIAN ROAD & EAST WOODMEN ROAD AM
Date: Wednesday, June 1, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



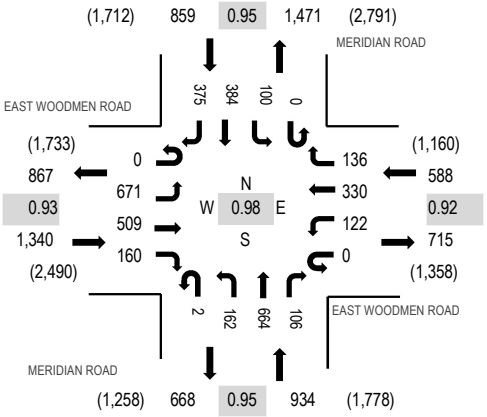
Traffic Counts

Interval Start Time	EAST WOODMEN ROAD Eastbound				EAST WOODMEN ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	41	45	41	0	9	112	15	0	26	47	7	0	9	165	127	644	2,584	0	0	0	0
7:15 AM	0	45	61	32	0	16	104	19	0	40	52	1	0	8	144	156	678	2,587	0	0	0	0
7:30 AM	0	55	64	26	0	8	113	17	0	32	52	6	0	13	150	142	678	2,550	0	0	0	0
7:45 AM	0	72	72	30	0	20	78	10	0	28	51	4	0	19	105	95	584	2,509	0	0	0	1
8:00 AM	1	68	49	29	0	15	83	18	0	27	61	6	0	19	113	158	647	2,528	0	0	0	0
8:15 AM	0	60	60	13	0	9	101	17	2	20	56	6	0	25	120	152	641		0	0	0	0
8:30 AM	0	71	67	14	0	15	73	19	0	27	47	7	0	17	123	157	637		0	0	0	0
8:45 AM	0	78	94	23	0	25	69	21	2	27	36	10	1	26	83	108	603		0	0	0	0
Count Total	1	490	512	208	0	117	733	136	4	227	402	47	1	136	1,003	1,095	5,112		0	0	0	1
Peak Hour	1	240	246	117	0	59	378	64	0	127	216	17	0	59	512	551	2,587		0	0	0	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

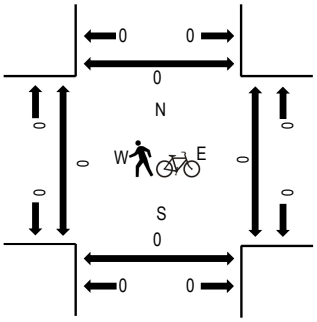
Location: 1 MERIDIAN ROAD & EAST WOODMEN ROAD PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



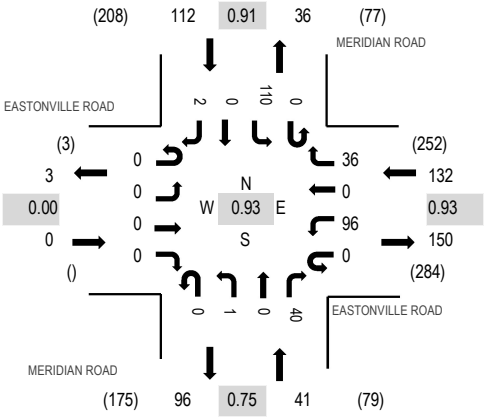
Traffic Counts

Interval Start Time	EAST WOODMEN ROAD Eastbound				EAST WOODMEN ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	108	100	28	0	21	80	36	0	40	132	23	0	22	100	107	797	3,490	0	0	0	0
4:15 PM	0	142	136	41	1	31	75	33	2	31	141	22	0	24	85	104	868	3,609	0	0	0	0
4:30 PM	0	160	129	25	0	25	82	32	3	32	190	21	0	17	91	100	907	3,678	0	0	0	0
4:45 PM	0	166	113	48	0	26	75	35	1	45	158	32	0	23	100	96	918	3,721	0	0	0	0
5:00 PM	0	147	137	43	0	35	82	29	0	44	171	21	0	31	90	86	916	3,650	0	0	0	0
5:15 PM	0	180	119	27	0	31	89	45	0	30	164	27	0	21	110	94	937		0	0	0	0
5:30 PM	0	178	140	42	0	30	84	27	1	43	171	26	0	25	84	99	950		0	0	0	0
5:45 PM	0	154	101	26	1	24	94	37	0	30	155	22	0	24	88	91	847		0	0	0	0
Count Total	0	1,235	975	280	2	223	661	274	7	295	1,282	194	0	187	748	777	7,140		0	0	0	0
Peak Hour	0	671	509	160	0	122	330	136	2	162	664	106	0	100	384	375	3,721		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

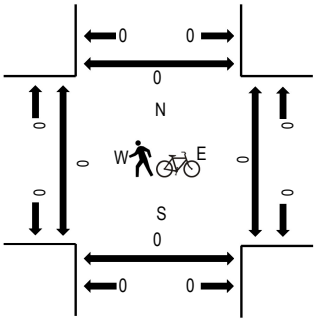
Location: 2 MERIDIAN ROAD & EASTONVILLE ROAD AM
Date: Wednesday, June 1, 2022
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



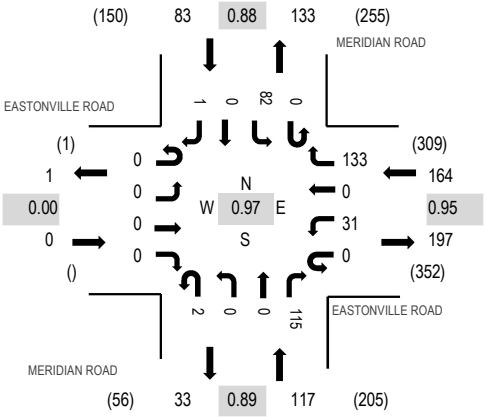
Traffic Counts

Interval Start Time	EASTONVILLE ROAD Eastbound				EASTONVILLE ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	14	0	12	0	0	0	8	0	21	0	0	55	254	0	0	0	0
7:15 AM	0	0	0	0	0	17	0	11	0	0	0	9	0	24	0	0	61	276	0	0	0	0
7:30 AM	0	0	0	0	0	19	0	9	0	0	0	12	0	29	0	0	69	283	0	0	0	0
7:45 AM	0	0	0	0	0	21	0	7	0	0	0	9	0	31	0	1	69	285	0	0	0	0
8:00 AM	0	0	0	0	0	23	0	10	0	1	0	14	0	29	0	0	77	285	0	0	0	0
8:15 AM	0	0	0	0	0	27	0	8	0	0	0	7	0	26	0	0	68		0	0	0	0
8:30 AM	0	0	0	0	0	25	0	11	0	0	0	10	0	24	0	1	71		0	0	0	0
8:45 AM	0	0	0	0	0	29	0	9	0	0	0	9	0	22	0	0	69		0	0	0	0
Count Total	0	0	0	0	0	175	0	77	0	1	0	78	0	206	0	2	539		0	0	0	0
Peak Hour	0	0	0	0	0	96	0	36	0	1	0	40	0	110	0	2	285		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

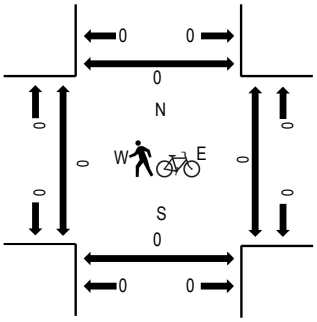
Location: 2 MERIDIAN ROAD & EASTONVILLE ROAD PM
Date: Wednesday, June 1, 2022
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



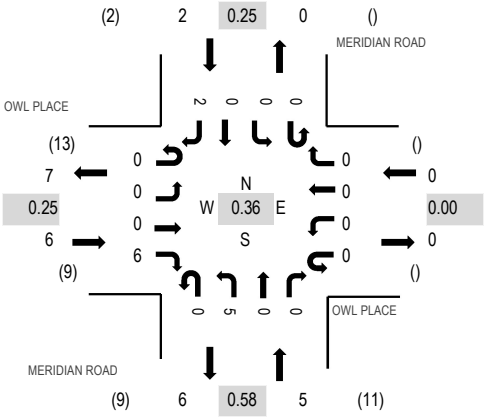
Traffic Counts

Interval Start Time	EASTONVILLE ROAD Eastbound				EASTONVILLE ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	4	0	23	0	0	0	12	0	14	0	0	53	300	0	0	0	0
4:15 PM	0	0	0	0	0	7	0	27	0	0	0	23	0	13	0	0	70	336	0	0	0	0
4:30 PM	0	0	0	0	0	9	0	39	0	0	0	25	0	16	0	0	89	360	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	33	0	0	0	28	0	24	0	0	88	359	0	0	0	0
5:00 PM	0	0	0	0	0	7	0	36	0	0	0	23	0	23	0	0	89	364	0	0	0	0
5:15 PM	0	0	0	0	0	5	0	31	2	0	0	31	0	24	0	1	94		0	0	0	0
5:30 PM	0	0	0	0	0	9	0	34	0	0	0	30	0	15	0	0	88		0	0	0	0
5:45 PM	0	0	0	0	0	10	0	32	0	0	0	31	0	20	0	0	93		0	0	0	0
Count Total	0	0	0	0	0	54	0	255	2	0	0	203	0	149	0	1	664		0	0	0	0
Peak Hour	0	0	0	0	0	31	0	133	2	0	0	115	0	82	0	1	364		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

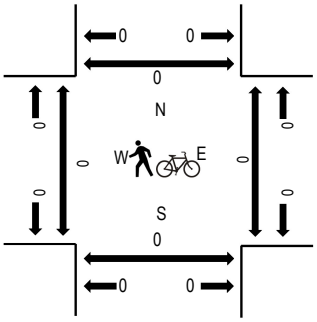
Location: 3 MERIDIAN ROAD & OWL PLACE AM
Date: Wednesday, June 1, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



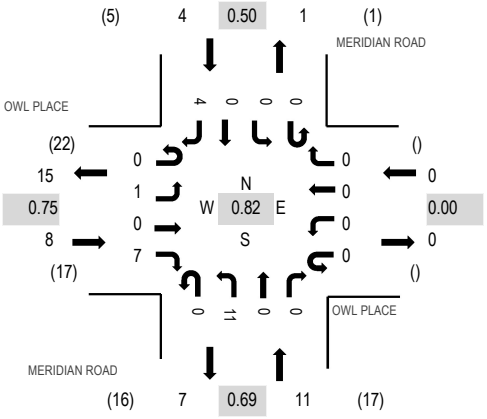
Traffic Counts

Interval Start Time	OWL PLACE Eastbound				OWL PLACE Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	2	9	13	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	8	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	8	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	9	0	0	0	0
8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2		0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3		0	0	0	0
Count Total	0	0	0	9	0	0	0	0	0	11	0	0	0	0	0	2	22		0	0	0	0
Peak Hour	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	2	13		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

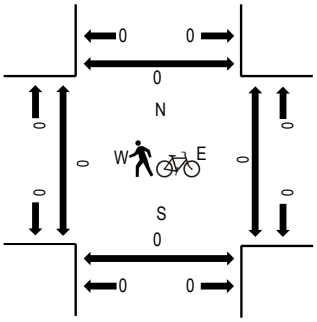
Location: 3 MERIDIAN ROAD & OWL PLACE PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



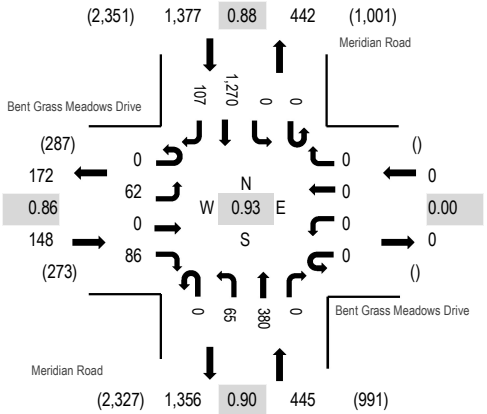
Traffic Counts

Interval Start Time	OWL PLACE Eastbound				OWL PLACE Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	2	0	0	0	0	0	3	0	0	0	0	0	2	7	23	0	0	0	0
4:15 PM	0	1	0	2	0	0	0	0	0	2	0	0	0	0	0	1	6	21	0	0	0	0
4:30 PM	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	6	18	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	4	15	0	0	0	0
5:00 PM	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	5	16	0	0	0	0
5:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3		0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	3		0	0	0	0
5:45 PM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	1	5		0	0	0	0
Count Total	0	1	0	16	0	0	0	0	0	17	0	0	0	0	0	5	39		0	0	0	0
Peak Hour	0	1	0	7	0	0	0	0	0	11	0	0	0	0	0	4	23		0	0	0	0

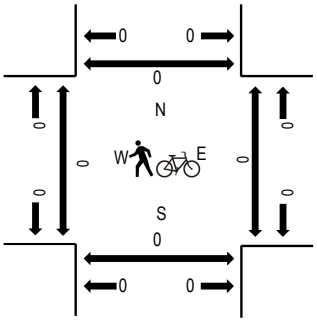
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 Meridian Road & Bent Grass Meadows Drive AM
Date: Tuesday, March 29, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

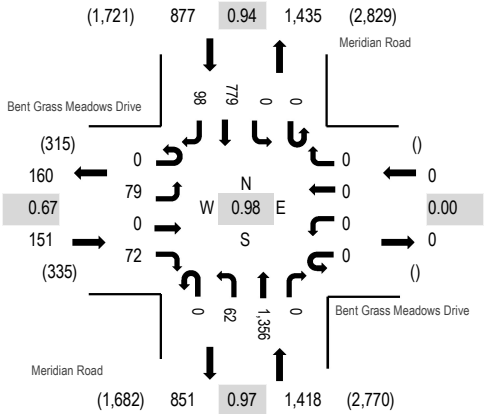
Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Road Northbound				Meridian Road Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	17	0	18	0	0	0	0	0	19	63	0	0	0	341	36	494	1,970	0	0	0	0
7:15 AM	0	14	0	29	0	0	0	0	0	17	79	0	0	0	366	26	531	1,912	0	0	0	0
7:30 AM	0	13	0	24	0	0	0	0	0	16	97	0	0	0	307	21	478	1,794	0	0	0	0
7:45 AM	0	18	0	15	0	0	0	0	0	13	141	0	0	0	256	24	467	1,718	0	0	0	0
8:00 AM	0	12	0	15	0	0	0	0	0	12	111	0	0	0	259	27	436	1,645	0	0	0	0
8:15 AM	0	16	0	15	0	0	0	0	0	16	138	0	0	0	210	18	413		0	0	0	0
8:30 AM	0	18	0	21	0	0	0	0	1	9	115	0	0	0	229	9	402		0	0	0	0
8:45 AM	0	13	0	15	0	0	0	0	1	7	136	0	0	0	205	17	394		0	0	0	0
Count Total	0	121	0	152	0	0	0	0	2	109	880	0	0	0	2,173	178	3,615		0	0	0	0
Peak Hour	0	62	0	86	0	0	0	0	0	65	380	0	0	0	1,270	107	1,970		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

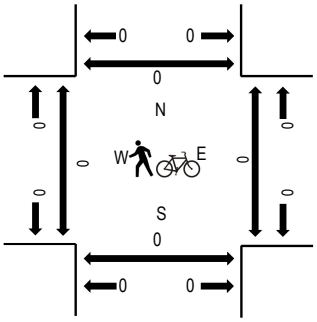
Location: 1 Meridian Road & Bent Grass Meadows Drive PM
Date: Tuesday, March 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Road Northbound				Meridian Road Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	19	0	21	0	0	0	0	0	17	324	0	0	0	196	22	599	2,398	0	0	0	0
4:15 PM	0	21	0	23	0	0	0	0	0	13	308	0	0	0	171	31	567	2,417	0	0	0	0
4:30 PM	0	20	0	19	0	0	0	0	0	15	336	0	0	0	208	25	623	2,446	0	0	0	0
4:45 PM	0	19	0	17	0	0	0	0	0	17	348	0	0	0	182	26	609	2,446	0	0	0	0
5:00 PM	0	20	0	23	0	0	0	0	0	13	342	0	0	0	198	22	618	2,428	0	0	0	0
5:15 PM	0	20	0	13	0	0	0	0	0	17	330	0	0	0	191	25	596		0	0	0	0
5:30 PM	0	47	0	19	0	0	0	0	0	12	317	0	0	0	203	25	623		0	0	0	0
5:45 PM	0	17	0	17	0	0	0	0	0	20	341	0	0	0	181	15	591		0	0	0	0
Count Total	0	183	0	152	0	0	0	0	0	124	2,646	0	0	0	1,530	191	4,826		0	0	0	0
Peak Hour	0	79	0	72	0	0	0	0	0	62	1,356	0	0	0	779	98	2,446		0	0	0	0

All Traffic Data Services

www.alltrafficdata.net

Date Start: 29-Mar-22
Site Code: 3
Station ID: 3
MERIDIAN RD S.O. BENT GRASS MEADOWS DR

Start Time	29-Mar-22 Tue	NB	SB							Total
12:00 AM		50	15							65
01:00		19	11							30
02:00		12	18							30
03:00		11	45							56
04:00		24	138							162
05:00		58	358							416
06:00		211	1018							1229
07:00		447	**1364**							**1811**
08:00		547	967							1514
09:00		512	805							1317
10:00		562	757							1319
11:00		**656**	745							1401
12:00 PM		774	756							1530
01:00		798	723							1521
02:00		836	808							1644
03:00		1115	796							1911
04:00		1379	**846**							2225
05:00		**1400**	836							**2236**
06:00		1001	670							1671
07:00		782	438							1220
08:00		521	287							808
09:00		332	164							496
10:00		184	75							259
11:00		77	41							118
Total		12308	12681							24989
Percent		49.3%	50.7%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	656	1364	-	-	-	-	-	-	1811
PM Peak	-	17:00	16:00	-	-	-	-	-	-	17:00
Vol.	-	1400	846	-	-	-	-	-	-	2236
Grand Total		12308	12681							24989
Percent		49.3%	50.7%							
ADT		ADT 24,989		AADT 24,989						

Omni eX v1.4 - Unit & Phase Configuration

McCain

Agency:
Location: Meridian Road & Bent Grass Meadows
System ID:

DATE PREPARED: 5/4/2022 By: DLM
DATE IMPLEMENTED: By:

1.2 Unit Setup	
Auto PED Clr	
Red Revert	
Min Yellow	
TX Diamond	
Diamond Type	

1.4 Channel Setup (1-16)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

B.3 System Information	
System Id	
Name	
Location	

1.3 Startup	
Start-Up Phases	
Next Phase	
Flash	
All Red	
Start Veh Call	
Start Ped Call	

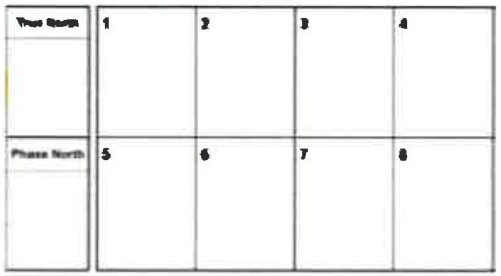
1.4 Channel Setup (17-32)	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

5.1 Coordination Constants	
Correction Mode	Shortway
Max Cycles Trans	3
Coord Max Mode	Max Inhibit
Coord Force Mode	Fixed
Perm Strategy	Maximum
Omit Strategy	Minimum
Sync Point	Begin Yellow
No Early Return	Disable
Sync Ref Time	0
Operational Mode	

2.4 Phase Concurrrency	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enabled		x			x	x	x									
Ring1		x														
Ring2					x	x	x									
Ring3																
Ring4																

Phase Diagram



Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID:

1.5.1.1 Nema ABCD Input Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-v	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max Ii Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max Ii Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-J	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-w	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-b	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-CC	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-J	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-J	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-JJ	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemeted:**_____ **By:**_____

System ID: _____

1.5.3.1 2070 FIO Input Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-39	Vehicle Detector	2	C1-67	Ped Detector	1
C1-40	Vehicle Detector	16	C1-68	Ped Detector	3
C1-41	Vehicle Detector	8	C1-69	Ped Detector	2
C1-42	Vehicle Detector	22	C1-70	Ped Detector	4
C1-43	Vehicle Detector	3	C1-71	Preempt	3
C1-44	Vehicle Detector	17	C1-72	Preempt	4
C1-45	Vehicle Detector	9	C1-73	Preempt	5
C1-46	Vehicle Detector	23	C1-74	Preempt	6
C1-47	Vehicle Detector	6	C1-75	Unused Input	
C1-48	Vehicle Detector	20	C1-76	Vehicle Detector	5
C1-49	Vehicle Detector	12	C1-77	Vehicle Detector	19
C1-50	Vehicle Detector	26	C1-78	Vehicle Detector	11
C1-51	Preempt	1	C1-79	Vehicle Detector	25
C1-52	Preempt	2	C1-80	Iterval Adcance	
C1-53	Manual Ctrl		C1-81	CMU Flash	
C1-54	Unused Input		C1-82	Stop Time	
C1-55	Vehicle Detector	15	C11-15	Unused Input	
C1-56	Vehicle Detector	1	C11-16	Unused Input	
C1-57	Vehicle Detector	21	C11-17	Unused Input	
C1-58	Vehicle Detector	7	C11-18	Unused Input	
C1-59	Vehicle Detector	27	C11-19	Unused Input	
C1-60	Vehicle Detector	13	C11-20	Unused Input	
C1-61	Vehicle Detector	28	C11-21	Unused Input	
C1-62	Vehicle Detector	14	C11-22	Unused Input	
C11-10	Unused Input		C11-23	Unused Input	
C11-11	Unused Input		C11-24	Unused Input	
C11-12	Unused Input		C11-25	Unused Input	
C11-13	Unused Input		C11-26	Unused Input	
C1-63	Vehicle Detector	4	C11-27	Unused Input	
C1-64	Vehicle Detector	18	C11-28	Unused Input	
C1-65	Vehicle Detector	10	C11-29	Unused Input	
C1-66	Vehicle Detector	24	C11-30	Unused Input	

1.5.3.2 2070 FIO Output Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-02	Channel Red	6	C1-35	Unused Output	
C1-03	Channel Green	6	C1-36	Unused Output	
C1-04	Channel Red	5	C1-37	Unused Output	
C1-05	Channel Yellow	5	C1-38	Unused Output	
C1-06	Channel Green	5	C1-100	Unused Output	
C1-07	Channel Red	4	C1-101	Flash Status	
C1-08	Channel Yellow	4	C1-102	Detector Reset	
C1-09	Channel Green	4	C1-103	Watchdog	
C1-10	Channel Red	3	C1-83	Unused Output	
C1-11	Channel Green	3	C1-84	Unused Output	
C1-12	Channel Red	2	C1-85	Channel Red	16
C1-13	Channel Yellow	2	C1-86	Channel Yellow	16
C1-15	Channel Green	2	C1-87	Channel Green	16
C1-16	Channel Red	1	C1-88	Channel Red	15
C1-17	Channel Yellow	1	C1-89	Channel Yellow	15
C1-18	Channel Green	1	C1-90	Channel Green	15
C1-19	Channel Red	12	C1-91	Unused Output	
C1-20	Channel Green	12	C1-93	Unused Output	
C1-21	Channel Red	11	C1-94	Channel Red	14
C1-22	Channel Yellow	11	C1-95	Channel Yellow	14
C1-23	Channel Green	11	C1-96	Channel Green	14
C1-24	Channel Red	10	C1-97	Channel Red	13
C1-25	Channel Yellow	10	C1-98	Channel Yellow	13
C1-26	Channel Green	10	C1-99	Channel Green	13
C1-27	Channel Red	9	C11-1	Unused Output	
C1-28	Channel Green	9	C11-2	Unused Output	
C1-29	Channel Red	8	C11-3	Unused Output	
C1-30	Channel Yellow	8	C11-4	Unused Output	
C1-31	Channel Green	8	C11-5	Unused Output	
C1-32	Channel Red	7	C11-6	Unused Output	
C1-33	Channel Yellow	7	C11-7	Unused Output	
C1-34	Channel Green	7	C11-8	Unused Output	

Date Prepared: _____ By: _____

Date Implemented: _____ By: _____

Agency: _____

Location: _____

System ID: _____

1.6 Logic Gate	1				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	2				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	3				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	4				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	5				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	6				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	7				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	8				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	9				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

McCain

Omni eX v1.4 - Phase Timing & Options

Agency: _____ **Date Prepared:** ____ **By:** ____

Location: Meridian Rd & Bent Grass Meadows **Date Implemented:** ____ **By:** ____

System ID: _____

2.1 Phase Parameters	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green			15			5	15	8									
Pass/10			25			25	25	25									
Max. 1			60			15	60	30									
Max. 2																	
Yel/10			55			50	55	40									
Red/10			20			35	20	35									
Walk																	
Pedestrian Clear																	
Add In/10																	
Max. Initial																	
TBR																	
CBR																	
TTR																	
Reduce/10																	
Min Gp/10																	
DM Limit																	
DM Stp/10																	
Red Rv/10																	
Cond Svc Min																	
Alt Min Green																	
Alt Ps/10																	
Alternate Walk																	
Alt Ped Clear																	
Advanced Walk																	
Delay Walk																	
St Dly/10																	
Green Clear / 10																	

2.2 Phase Options	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit																	
Ped Omit																	
Min Recall																	
Max Recall																	
Soft Recall																	
Ped Recall																	
Pedestrian Recycle																	
Cond Srv																	
Detector Lock																	
Dual Entry																	
Simul Gap																	
Guar Pass																	
Add Init Calc																	
Walk Rest																	
Red Rest																	
Flash Entry																	
Automatic Flash Exit Phase																	
CNA-1																	
CNA-2																	
No Backup																	
Max Walk																	
Max Extension																	

Agency: _____ **Date Prepared:** ____ **By:** _____

Location: _____ **Date Implemented:** ____ **By:** _____

System ID: _____

2.3 Phase Sequence 1	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as 0,A,B,C,D,E,F

2.3 Phase Sequence 2	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	

Agency: _____ **Date Prepared:**_____ **By:** _____

Location: _____ **Date Implemented:**_____ **By:** _____

System ID: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

Sequential Timing																
No Min Yellow																

Agency: _____ Date Prepared:_____ By:_____

Location: _____ Date Implemented:_____ By:_____

System ID: _____

3.2 Ped Overlap 1	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 2	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 3	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 4	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 5	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 6	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 7	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 8	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 9	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 10	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 11	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 12	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 13	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 14	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 15	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 16	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

McCain

Omni eX v1.4 - Vehicle Detectors

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

4.1 Vehicle Detector																														
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

4.1 Vehicle Detector																														
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.2 Ped Detector																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.3 Vehicle Detector Diag																															
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

Agency: _____ **DATE PREPARED:** _____ By:_____

Location: Meridian Road & Bent Grass Meadows **DATE IMPLEMENTED:** _____ By:_____

System ID: _____

5.2 Pattern Parameters	1
Cycle Time	120
Offset Time	5
Split	1
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	2
Cycle Time	100
Offset Time	46
Split	2
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	3
Cycle Time	120
Offset Time	27
Split	3
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	4
Cycle Time	
Offset Time	
Split	
Sequence	
Correction Mode	
Maximum Mode	
Force Mode	
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

Agency: _____ **DATE PREPARED:** _____ **By:** _____

Location: Meridian Road & Bent Grass Meadows **DATE IMPLEMENTED:** _____ **By:** _____

System ID: _____

5.3 Split Table 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)		92			20	72	28									
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)		78			20	58	22									
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)		93			20	73	27									
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

6.4 Sched	Month												Days Of Week							Date																															Day Plan
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
2	x	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2
3																																																		0
4																																																			0
5																																																		0
6																																																		0
7																																																		0
8																																																		0

6.4 Sched	Month												Days Of Week							Date																															Day Plan
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
9																																																		0
10																																																			0
11																																																		0
12																																																		0
13																																																		0
14																																																		0
15																																																		0
16																																																		0

Agency:
Location: Meridian Road & Bent Grass Meadows
System ID:

DATE PREPARED: By:
DATE IMPLEMENTED: By:

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

7 Preempts	1	2	3	4	5	6	7	8
Track Phases								
Track Overlaps								
Track Ped								
Track Ped Overlap								
Dwell Phases								
Dwell Overlaps								
Dwell Peds								
Dwell Ped Overlap								
Cycling Phases								
Cycling Overlaps								
Cycling Ped								
Cycling Ped Overlap								
Exit Phase								
Locking								
Override Flash								
Override Preempt+1								
Flash Dwell								
Enter All Red								
Track Green								
Delay								
Maximum Presence								
Minimum Duration								
Minimum Dwell								
Linked Preempt								
Enter Min Green								
Enter Min Walk								
Enter Min Ped Clear								
Enter Min Yellow								
Enter Min Red Clear								
Track Min Yellow								
Track Min Red Clear								

Agency: _____ Date Prepared: _____ By: _____

Location: _____ Date Implemetned: _____ By: _____

System ID: _____

8.1 TSP Global Options	
	Enable
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
Headway	
Lockout	
Node	
Name	

8.2 TSP Strategy Options	Strategy 1 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 2 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 3 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 4 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 5 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 6 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

8.3 TSP Phase Adjustment Times															Strategy 1	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 2	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 3	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 4	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 5	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 6	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 7	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 8	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 9	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 10	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 11	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 12	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 13	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 14	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 15	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

8.3 TSP Phase Adjustment Times															Strategy 16	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduce																
Extend																
Qlump																

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

9.3.3.2 Speed Trap																
Speed Trap	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Detector 1																
Detector 2																
Distance																

9.3.3.3 Speed Trap Bin Ranges																
Bin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Range																

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone	
Global DST	
Standard Time Zone (+/- hr)	

A.3 Unit Comms	
Unit Backup Time	

1.7 Port 1																			
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Device Present																			
Frame40 Enable																			

1.5.5 Aux Switch	
Function	
Index	

A.5-6 Time Sync	
NTP Server Address	
NTP Start Hour	
NTP Start Minute	
NTP Interval Hour	
NTP Interval Minute	
GPS Start Hour	
GPS Start Minute	
GPS Interval Hour	
GPS Interval Minute	
Enable NTP Svr	

Avency: _____ **Date Prepared:** _____ **By:** ____

Location: _____ **Date Implemented:** _____ **By:** ____

System ID: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

B.1.1 Menu Security Options					
Enable:		Allow Read-Only:		Timeout (min):	

B.1.2 Menu Security Users																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
User Id																
Pin																
Operation																
Unit																
I/O Map																
Phase																
Overlap																
Detector																
Coord																
Time Base																
Preempt																
Transit																
Logs																
Comm																
Security																
Database																
SW Update																

Omni eX v1.4 - Unit & Phase Configuration

McCain

Agency:
Location: Meridian Road & Eastonville Road
System ID:

DATE PREPARED: 5/4/2022 By: DLM
DATE IMPLEMENTED: By:

1.2 Unit Setup	
Auto PED Clr	
Red Revert	
Min Yellow	
TX Diamond	
Diamond Type	

1.3 Startup	
Start-Up Phases	
Next Phase	
Flash	
All Red	
Start Veh Call	
Start Ped Call	

1.4 Channel Setup (1-16)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

1.4 Channel Setup (17-32)

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

B.3 System Information	
System Id	
Name	
Location	

5.1 Coordination Constants	
Correction Mode	Shortway
Max Cycles Trans	3
Coord Max Mode	Max Inhibit
Coord Force Mode	Fixed
Perm Strategy	Maximum
Omit Strategy	Minimum
Sync Point	Begin Yellow
No Early Return	Disable
Sync Ref Time	0
Operational Mode	

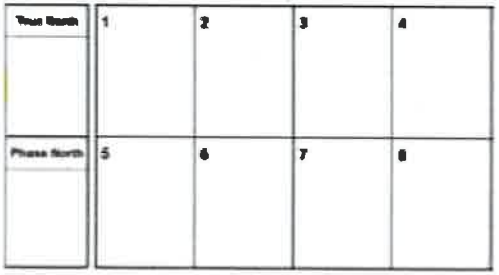
2.4 Phase Concurrrency

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enabled	x	x	x	x	x	x	x	x								
Ring1	x	x	x	x												
Ring2					x	x	x	x								
Ring3																
Ring4																

Phase Diagram



Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID:

1.5.1.1 Nema ABCD Input Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-v	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max Ii Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max Ii Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-J	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-w	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-b	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-CC	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-J	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-J	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-JJ	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemeted:**_____ **By:**_____

System ID: _____

1.5.3.1 2070 FIO Input Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-39	Vehicle Detector	2	C1-67	Ped Detector	1
C1-40	Vehicle Detector	16	C1-68	Ped Detector	3
C1-41	Vehicle Detector	8	C1-69	Ped Detector	2
C1-42	Vehicle Detector	22	C1-70	Ped Detector	4
C1-43	Vehicle Detector	3	C1-71	Preempt	3
C1-44	Vehicle Detector	17	C1-72	Preempt	4
C1-45	Vehicle Detector	9	C1-73	Preempt	5
C1-46	Vehicle Detector	23	C1-74	Preempt	6
C1-47	Vehicle Detector	6	C1-75	Unused Input	
C1-48	Vehicle Detector	20	C1-76	Vehicle Detector	5
C1-49	Vehicle Detector	12	C1-77	Vehicle Detector	19
C1-50	Vehicle Detector	26	C1-78	Vehicle Detector	11
C1-51	Preempt	1	C1-79	Vehicle Detector	25
C1-52	Preempt	2	C1-80	Iterval Adcance	
C1-53	Manual Ctrl		C1-81	CMU Flash	
C1-54	Unused Input		C1-82	Stop Time	
C1-55	Vehicle Detector	15	C11-15	Unused Input	
C1-56	Vehicle Detector	1	C11-16	Unused Input	
C1-57	Vehicle Detector	21	C11-17	Unused Input	
C1-58	Vehicle Detector	7	C11-18	Unused Input	
C1-59	Vehicle Detector	27	C11-19	Unused Input	
C1-60	Vehicle Detector	13	C11-20	Unused Input	
C1-61	Vehicle Detector	28	C11-21	Unused Input	
C1-62	Vehicle Detector	14	C11-22	Unused Input	
C11-10	Unused Input		C11-23	Unused Input	
C11-11	Unused Input		C11-24	Unused Input	
C11-12	Unused Input		C11-25	Unused Input	
C11-13	Unused Input		C11-26	Unused Input	
C1-63	Vehicle Detector	4	C11-27	Unused Input	
C1-64	Vehicle Detector	18	C11-28	Unused Input	
C1-65	Vehicle Detector	10	C11-29	Unused Input	
C1-66	Vehicle Detector	24	C11-30	Unused Input	

1.5.3.2 2070 FIO Output Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-02	Channel Red	6	C1-35	Unused Output	
C1-03	Channel Green	6	C1-36	Unused Output	
C1-04	Channel Red	5	C1-37	Unused Output	
C1-05	Channel Yellow	5	C1-38	Unused Output	
C1-06	Channel Green	5	C1-100	Unused Output	
C1-07	Channel Red	4	C1-101	Flash Status	
C1-08	Channel Yellow	4	C1-102	Detector Reset	
C1-09	Channel Green	4	C1-103	Watchdog	
C1-10	Channel Red	3	C1-83	Unused Output	
C1-11	Channel Green	3	C1-84	Unused Output	
C1-12	Channel Red	2	C1-85	Channel Red	16
C1-13	Channel Yellow	2	C1-86	Channel Yellow	16
C1-15	Channel Green	2	C1-87	Channel Green	16
C1-16	Channel Red	1	C1-88	Channel Red	15
C1-17	Channel Yellow	1	C1-89	Channel Yellow	15
C1-18	Channel Green	1	C1-90	Channel Green	15
C1-19	Channel Red	12	C1-91	Unused Output	
C1-20	Channel Green	12	C1-93	Unused Output	
C1-21	Channel Red	11	C1-94	Channel Red	14
C1-22	Channel Yellow	11	C1-95	Channel Yellow	14
C1-23	Channel Green	11	C1-96	Channel Green	14
C1-24	Channel Red	10	C1-97	Channel Red	13
C1-25	Channel Yellow	10	C1-98	Channel Yellow	13
C1-26	Channel Green	10	C1-99	Channel Green	13
C1-27	Channel Red	9	C11-1	Unused Output	
C1-28	Channel Green	9	C11-2	Unused Output	
C1-29	Channel Red	8	C11-3	Unused Output	
C1-30	Channel Yellow	8	C11-4	Unused Output	
C1-31	Channel Green	8	C11-5	Unused Output	
C1-32	Channel Red	7	C11-6	Unused Output	
C1-33	Channel Yellow	7	C11-7	Unused Output	
C1-34	Channel Green	7	C11-8	Unused Output	

McCain

Omni eX v1.4 - Logic Gates

Date Prepared: _____ By: _____

Date Implemented: _____ By: _____

Agency: _____

Location: _____

System ID: _____

1.6 Logic Gate	1				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	2				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	3				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	4				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	5				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	6				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	7				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	8				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	9				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

Agency: _____ Date Prepared: ____ By: ____

Location: Meridian Rd & Eastonville Date Implemented: ____ By: ____

System ID: _____

2.1 Phase Parameters	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green		5	15	5	8	5	15	5	8								
Pass/10		25	25.0	25	25	25	25	25	25								
Max. 1		15	60	15	30	15	60	15	30								
Max. 2																	
Yel/10		50.0	55.0	40.0	40.0	40.0	55.0	40.0	40.0								
Red/10		35	20	35	25	35	20	35	25								
Walk			7		7		7		7								
Pedestrian Clear			29		32		29		32								
Add In/10																	
Max. Initial																	
TBR																	
CBR																	
TTR																	
Reduce/10																	
Min Gp/10																	
DM Limit																	
DM Stp/10																	
Red Rv/10																	
Cond Svc Min																	
Alt Min Green																	
Alt Ps/10																	
Alternate Walk																	
Alt Ped Clear																	
Advanced Walk																	
Delay Walk																	
St Dly/10																	
Green Clear / 10																	

2.2 Phase Options	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit																	
Ped Omit																	
Min Recall																	
Max Recall																	
Soft Recall																	
Ped Recall																	
Pedestrian Recycle																	
Cond Srv																	
Detector Lock																	
Dual Entry																	
Simul Gap																	
Guar Pass																	
Add Init Calc																	
Walk Rest																	
Red Rest																	
Flash Entry																	
Automatic Flash Exit Phase																	
CNA-1																	
CNA-2																	
No Backup																	
Max Walk																	
Max Extension																	

Agency: _____ **Date Prepared:** ____ **By:** _____

Location: _____ **Date Implemented:** ____ **By:** _____

System ID: _____

2.3 Phase Sequence 1	
Ring 1	1,2,3,4
Ring 2	5,6,7,8
Ring 3	
Ring 4	

2.3 Phase Sequence 2	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as 0,A,B,C,D,E,F

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	

Agency: _____ Date Prepared:_____ By:_____

Location: _____ Date Implemented:_____ By:_____

System ID: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

Sequential Timing																
No Min Yellow																

Agency: _____ Date Prepared:_____ By:_____

Location: _____ Date Implemented:_____ By:_____

System ID: _____

3.2 Ped Overlap 1	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 2	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 3	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 4	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 5	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 6	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 7	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 8	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 9	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 10	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 11	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 12	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 13	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 14	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 15	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 16	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.1 Vehicle Detector																															
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

4.1 Vehicle Detector																															
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

McCain

Omni eX v1.4 - Pedestrian Detectors

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.2 Ped Detector																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

Omni eX v1.4 - Vehicle Detector Diagnostics

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.3 Vehicle Detector Diag																															
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

McCain

Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

Agency: _____ **DATE PREPARED:** _____ **By:** _____

Location: Meridian Road & Eastonville Road **DATE IMPLEMENTED:** _____ **By:** _____

System ID: _____

5.2 Pattern Parameters	1
Cycle Time	120
Offset Time	45
Split	1
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	2
Cycle Time	100
Offset Time	89
Split	2
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	3
Cycle Time	120
Offset Time	89
Split	3
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	4
Cycle Time	
Offset Time	
Split	
Sequence	
Correction Mode	
Maximum Mode	
Force Mode	
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

McCain

Omni eX v1.4 - Splits

Agency: _____ **DATE PREPARED:** _____ **By:** _____

Location: Meridian Road & Eastonville Road **DATE IMPLEMENTED:** _____ **By:** _____

System ID: _____

5.3 Split Table 1																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	15	67	18	20	18	64	18	20								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 2																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	19	45	13	23	23	41	17	19								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 3																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	18	62	18	22	25	55	18	22								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

6.4 Sched	Month												Days Of Week							Date																																						Day Plan
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
2	x	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2
3																																																						0
4																																																						0
5																																																						0
6																																																						0
7																																																						0
8																																																						0

6.4 Sched	Month												Days Of Week							Date																																					Day Plan
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
9																																																						0
10																																																						0
11																																																						0
12																																																						0
13																																																						0
14																																																						0
15																																																						0
16																																																						0

Agency:

Location: **Meridian Road & Eastonville Road**

System ID:

DATE PREPARED: By:

DATE IMPLEMENTED: By:

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

7 Preempts	1	2	3	4	5	6	7	8
Track Phases								
Track Overlaps								
Track Ped								
Track Ped Overlap								
Dwell Phases								
Dwell Overlaps								
Dwell Peds								
Dwell Ped Overlap								
Cycling Phases								
Cycling Overlaps								
Cycling Ped								
Cycling Ped Overlap								
Exit Phase								
Locking								
Override Flash								
Override Preempt+1								
Flash Dwell								
Enter All Red								
Track Green								
Delay								
Maximum Presence								
Minimum Duration								
Minimum Dwell								
Linked Preempt								
Enter Min Green								
Enter Min Walk								
Enter Min Ped Clear								
Enter Min Yellow								
Enter Min Red Clear								
Track Min Yellow								
Track Min Red Clear								

Agency: _____ Date Prepared: _____ By: _____

Location: _____ Date Implemetned: _____ By: _____

System ID: _____

8.1 TSP Global Options	
	Enable
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
Headway	
Lockout	
Node	
Name	

8.2 TSP Strategy Options	Strategy 1 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 2 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 3 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 4 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 5 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 6 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

8.3 TSP Phase Adjustment Times																Strategy 1	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 2	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 3	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 4	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 5	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 6	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 7	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 8	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 9	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 10	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 11	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 12	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 13	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 14	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 15	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

8.3 TSP Phase Adjustment Times																Strategy 16	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qlump																	

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

9.3.3.2 Speed Trap																
Speed Trap	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Detector 1																
Detector 2																
Distance																

9.3.3.3 Speed Trap Bin Ranges																
Bin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Range																

Agency: _____

Location: _____

System ID: _____

Date Prepared: _____ **By:** _____

Date Implemented: _____ **By:** _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone	
Global DST	
Standard Time Zone (+/- hr)	

A.3 Unit Comms	
Unit Backup Time	

1.7 Port 1																			
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Device Present																			
Frame40 Enable																			

1.5.5 Aux Switch	
Function	
Index	

A.5-6 Time Sync	
NTP Server Address	
NTP Start Hour	
NTP Start Minute	
NTP Interval Hour	
NTP Interval Minute	
GPS Start Hour	
GPS Start Minute	
GPS Interval Hour	
GPS Interval Minute	
Enable NTP Svr	

Avency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

McCain

Omni eX v1.4 - Menu Security

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

B.1.1 Menu Security Options					
Enable:		Allow Read-Only:		Timeout (min):	

B.1.2 Menu Security Users

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
User Id																
Pin																
Operation																
Unit																
I/O Map																
Phase																
Overlap																
Detector																
Coord																
Time Base																
Preempt																
Transit																
Logs																
Comm																
Security																
Database																
SW Update																

Omni eX v1.4 - Unit & Phase Configuration

McCain

Agency:
Location: Meridian Road & Woodmen Road
System ID:

DATE PREPARED: 5/4/2022 By: DLM
DATE IMPLEMENTED: By:

1.2 Unit Setup	
Auto PED Clr	
Red Revert	
Min Yellow	
TX Diamond	
Diamond Type	

1.3 Startup	
Start-Up Phases	
Next Phase	
Flash	
All Red	
Start Veh Call	
Start Ped Call	

1.4 Channel Setup (1-16)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

1.4 Channel Setup (17-32)

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

B.3 System Information	
System Id	
Name	
Location	

5.1 Coordination Constants	
Correction Mode	Shortway
Max Cycles Trans	3
Coord Max Mode	Max Inhibit
Coord Force Mode	Fixed
Perm Strategy	Maximum
Omit Strategy	Minimum
Sync Point	Begin Yellow
No Early Return	Disable
Sync Ref Time	0
Operational Mode	

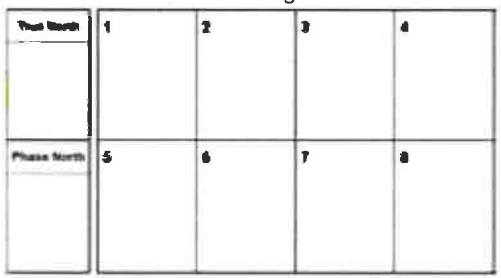
2.4 Phase Concurrrency

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enabled	x	x	x	x	x	x	x	x								
Ring1	x	x	x	x												
Ring2					x	x	x	x								
Ring3																
Ring4																

Phase Diagram



Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID:

1.5.1.1 Nema ABCD Input Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-v	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max Ii Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max Ii Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-J	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-w	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-b	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-CC	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-J	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-J	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-JJ	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemeted:**_____ **By:**_____

System ID: _____

1.5.3.1 2070 FIO Input Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-39	Vehicle Detector	2	C1-67	Ped Detector	1
C1-40	Vehicle Detector	16	C1-68	Ped Detector	3
C1-41	Vehicle Detector	8	C1-69	Ped Detector	2
C1-42	Vehicle Detector	22	C1-70	Ped Detector	4
C1-43	Vehicle Detector	3	C1-71	Preempt	3
C1-44	Vehicle Detector	17	C1-72	Preempt	4
C1-45	Vehicle Detector	9	C1-73	Preempt	5
C1-46	Vehicle Detector	23	C1-74	Preempt	6
C1-47	Vehicle Detector	6	C1-75	Unused Input	
C1-48	Vehicle Detector	20	C1-76	Vehicle Detector	5
C1-49	Vehicle Detector	12	C1-77	Vehicle Detector	19
C1-50	Vehicle Detector	26	C1-78	Vehicle Detector	11
C1-51	Preempt	1	C1-79	Vehicle Detector	25
C1-52	Preempt	2	C1-80	Iterval Adcance	
C1-53	Manual Ctrl		C1-81	CMU Flash	
C1-54	Unused Input		C1-82	Stop Time	
C1-55	Vehicle Detector	15	C11-15	Unused Input	
C1-56	Vehicle Detector	1	C11-16	Unused Input	
C1-57	Vehicle Detector	21	C11-17	Unused Input	
C1-58	Vehicle Detector	7	C11-18	Unused Input	
C1-59	Vehicle Detector	27	C11-19	Unused Input	
C1-60	Vehicle Detector	13	C11-20	Unused Input	
C1-61	Vehicle Detector	28	C11-21	Unused Input	
C1-62	Vehicle Detector	14	C11-22	Unused Input	
C11-10	Unused Input		C11-23	Unused Input	
C11-11	Unused Input		C11-24	Unused Input	
C11-12	Unused Input		C11-25	Unused Input	
C11-13	Unused Input		C11-26	Unused Input	
C1-63	Vehicle Detector	4	C11-27	Unused Input	
C1-64	Vehicle Detector	18	C11-28	Unused Input	
C1-65	Vehicle Detector	10	C11-29	Unused Input	
C1-66	Vehicle Detector	24	C11-30	Unused Input	

1.5.3.2 2070 FIO Output Mapping

Pins	Function	IDX	Pins	Function	IDX
C1-02	Channel Red	6	C1-35	Unused Output	
C1-03	Channel Green	6	C1-36	Unused Output	
C1-04	Channel Red	5	C1-37	Unused Output	
C1-05	Channel Yellow	5	C1-38	Unused Output	
C1-06	Channel Green	5	C1-100	Unused Output	
C1-07	Channel Red	4	C1-101	Flash Status	
C1-08	Channel Yellow	4	C1-102	Detector Reset	
C1-09	Channel Green	4	C1-103	Watchdog	
C1-10	Channel Red	3	C1-83	Unused Output	
C1-11	Channel Green	3	C1-84	Unused Output	
C1-12	Channel Red	2	C1-85	Channel Red	16
C1-13	Channel Yellow	2	C1-86	Channel Yellow	16
C1-15	Channel Green	2	C1-87	Channel Green	16
C1-16	Channel Red	1	C1-88	Channel Red	15
C1-17	Channel Yellow	1	C1-89	Channel Yellow	15
C1-18	Channel Green	1	C1-90	Channel Green	15
C1-19	Channel Red	12	C1-91	Unused Output	
C1-20	Channel Green	12	C1-93	Unused Output	
C1-21	Channel Red	11	C1-94	Channel Red	14
C1-22	Channel Yellow	11	C1-95	Channel Yellow	14
C1-23	Channel Green	11	C1-96	Channel Green	14
C1-24	Channel Red	10	C1-97	Channel Red	13
C1-25	Channel Yellow	10	C1-98	Channel Yellow	13
C1-26	Channel Green	10	C1-99	Channel Green	13
C1-27	Channel Red	9	C11-1	Unused Output	
C1-28	Channel Green	9	C11-2	Unused Output	
C1-29	Channel Red	8	C11-3	Unused Output	
C1-30	Channel Yellow	8	C11-4	Unused Output	
C1-31	Channel Green	8	C11-5	Unused Output	
C1-32	Channel Red	7	C11-6	Unused Output	
C1-33	Channel Yellow	7	C11-7	Unused Output	
C1-34	Channel Green	7	C11-8	Unused Output	

Agency: _____

Location: _____

System ID: _____

Date Prepared: _____ By: _____

Date Implemented: _____ By: _____

1.6 Logic Gate	1				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	2				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	3				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	4				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	5				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	6				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	7				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	8				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

1.6 Logic Gate	9				
	Functions	IDX	!	DLY	EXT
Type	Unused				
Out Mode	Normal				
IN1	Unused				
IN2	Unused				
IN3	Unused				
IN4	Unused				
OUT	Unused				

Agency: _____ Date Prepared: _____ By: _____

Location: Meridian Rd & Woodmen Road Date Implemented: _____ By: _____

System ID: _____

2.1 Phase Parameters	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min. Green		5	15	5	15	5	15	5	15								
Pass/10		25	25	25	25	25	25	25	25								
Max. 1		20	60	15	30	20	60	15	30								
Max. 2																	
Yel/10		50	50	40	50	50	50	40	50								
Red/10		35	20	35	20	35	20	35	20								
Walk			7		7		7		7								
Pedestrian Clear			29		32		29		32								
Add In/10																	
Max. Initial																	
TBR																	
CBR																	
TTR																	
Reduce/10																	
Min Gp/10																	
DM Limit																	
DM Stp/10																	
Red Rv/10																	
Cond Svc Min																	
Alt Min Green																	
Alt Ps/10																	
Alternate Walk																	
Alt Ped Clear																	
Advanced Walk																	
Delay Walk																	
St Dly/10																	
Green Clear / 10																	

2.2 Phase Options	Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit																	
Ped Omit																	
Min Recall																	
Max Recall																	
Soft Recall																	
Ped Recall																	
Pedestrian Recycle																	
Cond Srv																	
Detector Lock																	
Dual Entry																	
Simul Gap																	
Guar Pass																	
Add Init Calc																	
Walk Rest																	
Red Rest																	
Flash Entry																	
Automatic Flash Exit Phase																	
CNA-1																	
CNA-2																	
No Backup																	
Max Walk																	
Max Extension																	

Agency: _____ **Date Prepared:** ____ **By:** _____

Location: _____ **Date Implemented:** ____ **By:** _____

System ID: _____

2.3 Phase Sequence 1	
Ring 1	1,2,3,4
Ring 2	5,6,7,8
Ring 3	
Ring 4	

2.3 Phase Sequence 2	
Ring 1	2,1,3,4
Ring 2	5,6,8,7
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as 0,A,B,C,D,E,F

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	

Agency: _____ **Date Prepared:**_____ **By:** _____

Location: _____ **Date Implemented:**_____ **By:** _____

System ID: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

Sequential Timing																
No Min Yellow																

Agency: _____ Date Prepared:_____ By:_____

Location: _____ Date Implemented:_____ By:_____

System ID: _____

3.2 Ped Overlap 1	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 2	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 3	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 4	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 5	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 6	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 7	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 8	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 9	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 10	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 11	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 12	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 13	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 14	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 15	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

3.2 Ped Overlap 16	Set 1
Included Phases	
Excluded Phases	
Intervals	
Call Phases	
Actuated Only	

McCain

Omni eX v1.4 - Vehicle Detectors

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.1 Vehicle Detector																															
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

4.1 Vehicle Detector																															
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Call Phase																																
Switch Phase																																
Call																																
Passage																																
Add Init																																
Queue																																
Yellow Lock																																
Red Lock																																
Volume																																
Occupancy																																
Delay																																
Extend																																
Queue Limit																																
VOS Length																																
Alt Passage																																
Alt Min Green																																

Omni eX v1.4 - Pedestrian Detectors

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.2 Ped Detector																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

4.2 Ped Detector																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase																
Alt PED Time																

McCain

Omni eX v1.4 - Vehicle Detector Diagnostics

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.3 Vehicle Detector Diag																															
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

4.3 Vehicle Detector Diag																															
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
No Act																																
Max Pr																																
Err Cnts																																
Fail Time																																

Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

Agency: _____ **DATE PREPARED:** _____ **By:**_____

Location: Meridian Road & Woodmen Road **DATE IMPLEMENTED:** _____ **By:**_____

System ID: _____

5.2 Pattern Parameters	1
Cycle Time	120
Offset Time	30
Split	1
Sequence	2
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	2
Cycle Time	100
Offset Time	52
Split	2
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	3
Cycle Time	120
Offset Time	37
Split	3
Sequence	1
Correction Mode	
Maximum Mode	
Force Mode	Fixed
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

5.2 Pattern Parameters	4
Cycle Time	
Offset Time	
Split	
Sequence	
Correction Mode	
Maximum Mode	
Force Mode	
Perm Strategy	
Omit Strategy	
Early Return	
Texas Diamond	
Max2 Phases	
Phase Timing Set	
Phase Option Set	
Overlap Set	
Veh. Det. Set	
Veh. Det. Diag Set	
Ped. Det. Diag Set	
Priority Set	
Ped Ovlp Set	
Det. Reset	

Agency: _____ **DATE PREPARED:** _____ **By:** _____

Location: Meridian Road & Woodmen Road **DATE IMPLEMENTED:** _____ **By:** _____

System ID: _____

5.3 Split Table 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	18	42	24	36	18	42	27	33								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	20	32	16	32	20	32	25	23								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

5.3 Split Table 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time (sec)	18	39	26	37	18	39	38	25								
Mode																
Coord. Phase		x				x										
Manual Permit																
Manual Omit																

Agency: _____

Location: _____

System ID: _____

DATE PREPARED: _____ By: _____

DATE IMPLEMENTED: _____ By: _____

| 6.4 Sched | Month | | | | | | | | | | | | Days Of Week | | | | | | | Date | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Day Plan |
|---|---|---

Agency:

Location: **Meridian Road & Eastonville Road**

System ID:

DATE PREPARED: By:

DATE IMPLEMENTED: By:

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

Agency: _____ **Date Prepared:**_____ **By:**_____

Location: _____ **Date Implemented:**_____ **By:**_____

System ID: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

7 Preempts	1	2	3	4	5	6	7	8
Track Phases								
Track Overlaps								
Track Ped								
Track Ped Overlap								
Dwell Phases								
Dwell Overlaps								
Dwell Peds								
Dwell Ped Overlap								
Cycling Phases								
Cycling Overlaps								
Cycling Ped								
Cycling Ped Overlap								
Exit Phase								
Locking								
Override Flash								
Override Preempt+1								
Flash Dwell								
Enter All Red								
Track Green								
Delay								
Maximum Presence								
Minimum Duration								
Minimum Dwell								
Linked Preempt								
Enter Min Green								
Enter Min Walk								
Enter Min Ped Clear								
Enter Min Yellow								
Enter Min Red Clear								
Track Min Yellow								
Track Min Red Clear								

Agency: _____ Date Prepared: _____ By: _____

Location: _____ Date Implemetned: _____ By: _____

System ID: _____

8.1 TSP Global Options	
	Enable
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
Headway	
Lockout	
Node	
Name	

8.2 TSP Strategy Options	Strategy 1 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 2 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 3 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 4 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 5 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

8.2 TSP Strategy Options	Strategy 6 Set 1
Enable	
Override + 1	
Service Phases	
Call Phases	
Omit Phases	
Omit Peds	
Queue Jump Ph	
ETA	
Input Function	
Input Index	
Input Type	
Request Mode	
Checkout Mode	
Checkout Time	
Max Presence	
Max Presence Clr	
Min ON Time	
Min OFF Time	
Delay Time	
Extend Time	
Headway Time	
Preempt Lockout	

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

8.3 TSP Phase Adjustment Times																Strategy 1	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 2	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 3	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 4	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 5	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 6	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 7	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 8	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 9	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 10	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 11	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 12	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 13	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 14	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 15	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

8.3 TSP Phase Adjustment Times																Strategy 16	Set 1
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Reduce																	
Extend																	
Qjump																	

Agency: _____ DATE PREPARED: _____ By: _____

Location: _____ DATE IMPLEMENTED: _____ By: _____

System ID: _____

9.3.3.2 Speed Trap																
Speed Trap	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Detector 1																
Detector 2																
Distance																

9.3.3.3 Speed Trap Bin Ranges																
Bin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Range																

Omni eX v1.4 - Log Configuration

Agency: _____

Location: _____

System ID: _____

Date Prepared: _____ **By:** _____

Date Implemented: _____ **By:** _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone	
Global DST	
Standard Time Zone (+/- hr)	

A.3 Unit Comms	
Unit Backup Time	

1.7 Port 1																			
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Device Present																			
Frame40 Enable																			

1.5.5 Aux Switch	
Function	
Index	

A.5-6 Time Sync	
NTP Server Address	
NTP Start Hour	
NTP Start Minute	
NTP Interval Hour	
NTP Interval Minute	
GPS Start Hour	
GPS Start Minute	
GPS Interval Hour	
GPS Interval Minute	
Enable NTP Svr	

Avency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

Agency: _____ **Date Prepared:** _____ **By:** _____

Location: _____ **Date Implemented:** _____ **By:** _____

System ID: _____

B.1.1 Menu Security Options					
Enable:		Allow Read-Only:		Timeout (min):	

B.1.2 Menu Security Users

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
User Id																
Pin																
Operation																
Unit																
I/O Map																
Phase																
Overlap																
Detector																
Coord																
Time Base																
Preempt																
Transit																
Logs																
Comm																
Security																
Database																
SW Update																

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service (v/c ≤ 1.0)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C

Capacity Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	246	117	59	378	64	127	216	17	59	512	551
Future Volume (vph)	241	246	117	59	378	64	127	216	17	59	512	551
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			599
Lane Group Flow (vph)	262	267	127	64	411	70	138	235	18	64	557	599
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	14.4	28.7	120.0	7.6	19.3	19.3	10.2	51.6	120.0	7.6	46.2	120.0
Actuated g/C Ratio	0.12	0.24	1.00	0.06	0.16	0.16	0.08	0.43	1.00	0.06	0.38	1.00
v/c Ratio	0.64	0.32	0.08	0.29	0.72	0.17	0.48	0.15	0.01	0.29	0.41	0.38
Control Delay	57.2	38.7	0.1	56.6	55.3	0.9	57.5	24.0	0.0	47.1	30.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	38.7	0.1	56.6	55.3	0.9	57.5	24.0	0.0	47.1	30.4	0.6
LOS	E	D	A	E	E	A	E	C	A	D	C	A
Approach Delay		38.6			48.5			34.7			16.6	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	101	92	0	24	161	0	53	60	0	24	192	0
Queue Length 95th (ft)	140	124	0	47	207	0	85	102	0	m43	278	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	899	1583	472	766	485	305	1521	1583	271	1361	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.30	0.08	0.14	0.54	0.14	0.45	0.15	0.01	0.24	0.41	0.38

Intersection Summary

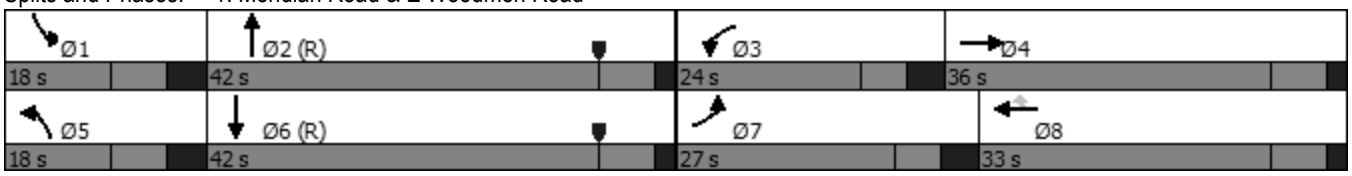
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 62.7%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	62	86	65	380	1270	107
Future Volume (vph)	62	86	65	380	1270	107
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.139			
Satd. Flow (perm)	3433	1583	259	3539	3539	1583
Satd. Flow (RTOR)		93				116
Lane Group Flow (vph)	67	93	71	413	1380	116
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	84.1	84.1
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.27	0.47	0.25	0.15	0.56	0.10
Control Delay	55.2	18.3	7.6	0.6	10.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	18.3	7.6	0.6	10.7	1.5
LOS	E	B	A	A	B	A
Approach Delay	33.8			1.6	10.0	
Approach LOS	C			A	A	
Queue Length 50th (ft)	25	0	3	4	264	0
Queue Length 95th (ft)	48	52	25	8	360	20
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	347	350	2840	2480	1144
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.27	0.20	0.15	0.56	0.10

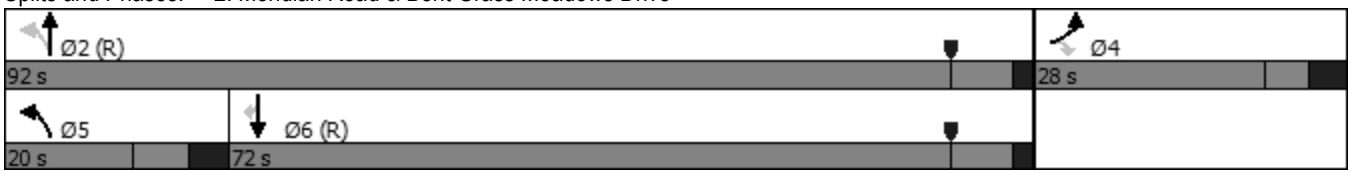
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Offset does not match Appendix A

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	96	36	481	40	110	1250
Future Vol, veh/h	96	36	481	40	110	1250
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	375	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	39	523	43	120	1359

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1443	262	0	0	566	0
Stage 1	523	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*524	*902	-	-	1265	-
Stage 1	*827	-	-	-	-	-
Stage 2	*541	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*474	*902	-	-	1265	-
Mov Cap-2 Maneuver	*474	-	-	-	-	-
Stage 1	*827	-	-	-	-	-
Stage 2	*490	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	474	902	1265	-
HCM Lane V/C Ratio	-	-	0.22	0.043	0.095	-
HCM Control Delay (s)	-	-	14.7	9.2	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0.3	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	5	512	1354	2
Future Vol, veh/h	0	6	5	512	1354	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	5	557	1472	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	737	1474	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*523	*782	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*523	*782	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 782	-	523	-	-
HCM Lane V/C Ratio	0.007	-	0.012	-	-
HCM Control Delay (s)	9.6	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	671	509	160	112	330	136	164	664	106	100	384	375
Future Volume (vph)	671	509	160	112	330	136	164	664	106	100	384	375
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			408
Lane Group Flow (vph)	729	553	174	122	359	148	178	722	115	109	417	408
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	28.8	36.0	120.0	9.6	16.8	16.8	9.5	35.8	120.0	8.6	34.8	120.0
Actuated g/C Ratio	0.24	0.30	1.00	0.08	0.14	0.14	0.08	0.30	1.00	0.07	0.29	1.00
v/c Ratio	0.88	0.52	0.11	0.44	0.73	0.34	0.65	0.68	0.07	0.44	0.41	0.26
Control Delay	57.3	36.7	0.1	57.4	58.5	2.1	65.5	42.0	0.1	68.4	30.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	36.7	0.1	57.4	58.5	2.1	65.5	42.0	0.1	68.4	30.2	0.4
LOS	E	D	A	E	E	A	E	D	A	E	C	A
Approach Delay		42.6			45.0			41.4			21.6	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	276	181	0	47	141	0	69	268	0	35	141	0
Queue Length 95th (ft)	#352	243	0	77	193	0	108	344	0	67	193	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1061	1583	529	530	449	279	1055	1583	271	1027	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.52	0.11	0.23	0.68	0.33	0.64	0.68	0.07	0.40	0.41	0.26

Intersection Summary

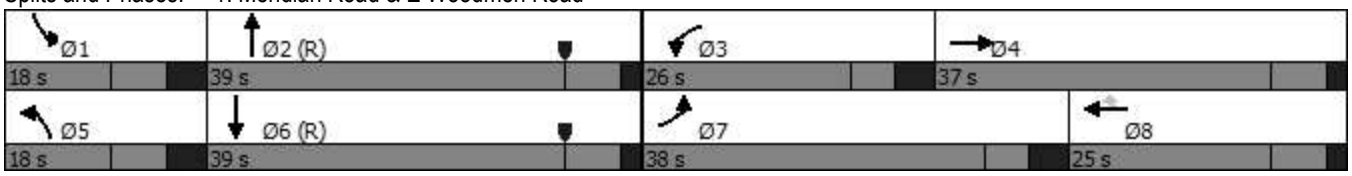
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

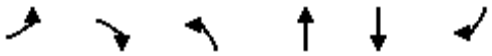
Maximum v/c Ratio: 0.88

Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	79	72	62	1356	779	98
Future Volume (vph)	79	72	62	1356	779	98
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.284			
Satd. Flow (perm)	3433	1583	529	3539	3539	1583
Satd. Flow (RTOR)		78				107
Lane Group Flow (vph)	86	78	67	1474	847	107
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	95.1	96.1	84.0	84.0
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.34	0.41	0.14	0.52	0.34	0.09
Control Delay	56.3	18.2	1.5	4.6	8.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	18.2	1.5	4.6	8.2	1.6
LOS	E	B	A	A	A	A
Approach Delay	38.2			4.5	7.5	
Approach LOS	D			A	A	
Queue Length 50th (ft)	33	0	2	223	131	0
Queue Length 95th (ft)	59	48	m4	191	181	19
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	322	538	2835	2477	1140
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.24	0.12	0.52	0.34	0.09

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated

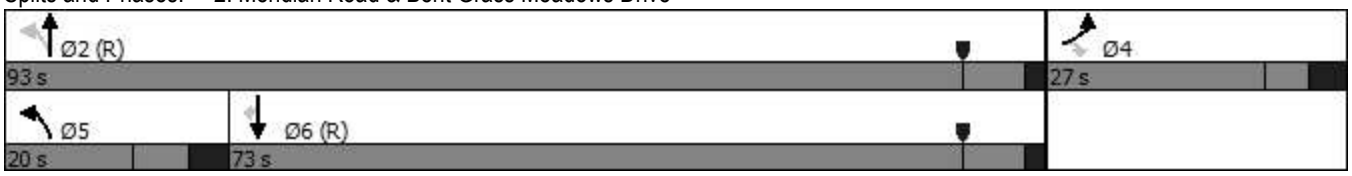
Offset does not match Appendix A

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 7.6	Intersection LOS: A
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	133	1356	115	82	772
Future Vol, veh/h	31	133	1356	115	82	772
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	375	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	145	1474	125	89	839

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2072	737	0	0	1599	0
Stage 1	1474	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*65	*523	-	-	721	-
Stage 1	*493	-	-	-	-	-
Stage 2	*732	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*57	*523	-	-	721	-
Mov Cap-2 Maneuver	*57	-	-	-	-	-
Stage 1	*493	-	-	-	-	-
Stage 2	*642	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.3	0	1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	57	523	721	-
HCM Lane V/C Ratio	-	-	0.591	0.276	0.124	-
HCM Control Delay (s)	-	-	135.1	14.5	10.7	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	2.4	1.1	0.4	-

Notes

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	11	1478	847	4
Future Vol, veh/h	0	7	11	1478	847	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	12	1607	921	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	463	925	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*750	1119	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*750	1119	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1119	-	750	-	-
HCM Lane V/C Ratio	0.011	-	0.01	-	-
HCM Control Delay (s)	8.3	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	226	122	61	417	95	178	251	18	105	573	602
Future Volume (vph)	268	226	122	61	417	95	178	251	18	105	573	602
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			654
Lane Group Flow (vph)	291	246	133	66	453	103	193	273	20	114	623	654
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.4	31.0	120.0	7.7	20.7	20.7	11.0	45.1	120.0	8.9	43.0	120.0
Actuated g/C Ratio	0.13	0.26	1.00	0.06	0.17	0.17	0.09	0.38	1.00	0.07	0.36	1.00
v/c Ratio	0.66	0.27	0.08	0.30	0.74	0.24	0.61	0.21	0.01	0.45	0.49	0.41
Control Delay	57.0	36.2	0.1	56.6	54.8	1.4	61.4	27.7	0.0	66.5	29.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	36.2	0.1	56.6	54.8	1.4	61.4	27.7	0.0	66.5	29.7	0.6
LOS	E	D	A	E	D	A	E	C	A	E	C	A
Approach Delay		38.1			46.1			39.9			19.0	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	112	82	0	25	177	0	74	74	0	48	107	0
Queue Length 95th (ft)	153	110	0	48	223	0	#124	123	0	m65	197	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	940	1583	472	766	485	317	1329	1583	276	1267	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.26	0.08	0.14	0.59	0.21	0.61	0.21	0.01	0.41	0.49	0.41

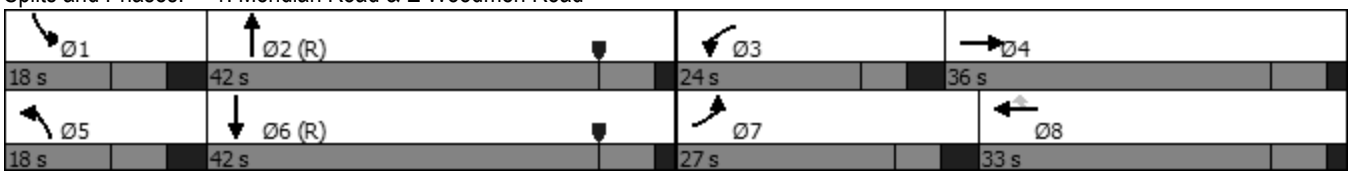
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

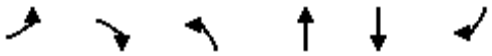
Maximum v/c Ratio: 0.74

Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	89	68	481	1387	111
Future Volume (vph)	64	89	68	481	1387	111
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.114			
Satd. Flow (perm)	3433	1583	212	3539	3539	1583
Satd. Flow (RTOR)		97				121
Lane Group Flow (vph)	70	97	74	523	1508	121
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	83.9	83.9
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.28	0.47	0.29	0.18	0.61	0.11
Control Delay	55.3	18.1	9.1	0.7	11.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	18.1	9.1	0.7	11.7	1.5
LOS	E	B	A	A	B	A
Approach Delay	33.7			1.8	10.9	
Approach LOS	C			A	B	
Queue Length 50th (ft)	27	0	5	6	307	0
Queue Length 95th (ft)	50	52	19	10	424	21
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	350	317	2839	2475	1143
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.28	0.23	0.18	0.61	0.11

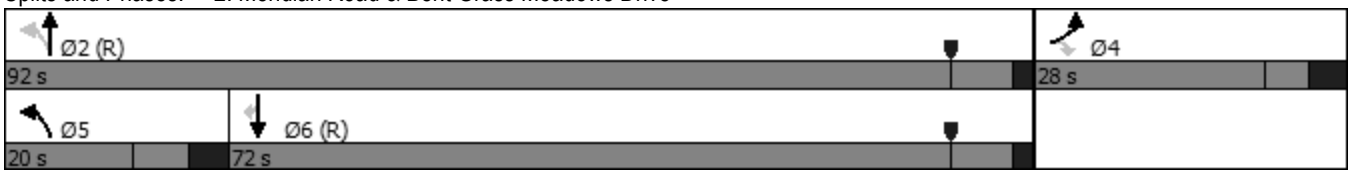
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Offset does not match Appendix A

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	48	86	100	58	37	110	451	42	114	1309	57
Future Volume (vph)	86	48	86	100	58	37	110	451	42	114	1309	57
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.716			0.567			0.081			0.457		
Satd. Flow (perm)	2587	1863	1583	1056	1863	1583	151	3539	1583	851	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	93	52	93	109	63	40	120	490	46	124	1423	62
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	20.0	20.0	18.0	20.0	20.0	18.0	67.0	67.0	15.0	64.0	64.0
Total Split (%)	15.0%	16.7%	16.7%	15.0%	16.7%	16.7%	15.0%	55.8%	55.8%	12.5%	53.3%	53.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.5	9.4	9.4	21.2	13.9	13.9	71.9	62.7	62.7	69.6	62.6	62.6
Actuated g/C Ratio	0.14	0.08	0.08	0.18	0.12	0.12	0.60	0.52	0.52	0.58	0.52	0.52
v/c Ratio	0.23	0.36	0.32	0.44	0.29	0.11	0.56	0.26	0.05	0.22	0.77	0.07
Control Delay	39.0	58.8	2.8	45.0	54.2	0.7	36.0	24.6	2.2	19.1	43.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	58.8	2.8	45.0	54.2	0.7	36.0	24.6	2.2	19.1	43.3	1.9
LOS	D	E	A	D	D	A	D	C	A	B	D	A
Approach Delay		29.2			39.4			25.1			39.9	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	30	39	0	71	47	0	49	111	2	60	544	0
Queue Length 95th (ft)	51	79	0	120	92	0	120	142	m11	123	676	m5
Internal Link Dist (ft)		511			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	481	209	343	250	239	366	239	1850	912	555	1846	910
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.25	0.27	0.44	0.26	0.11	0.50	0.26	0.05	0.22	0.77	0.07

Intersection Summary

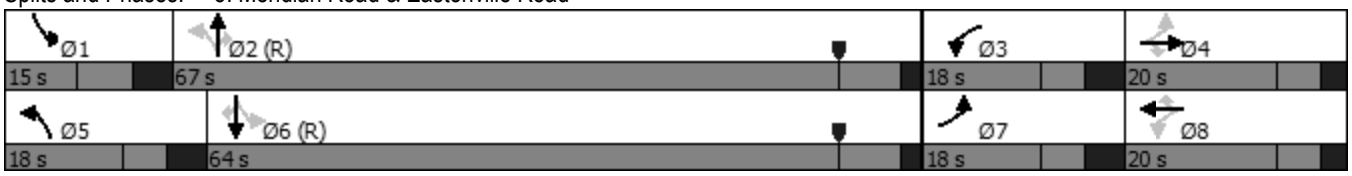
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 35.3	Intersection LOS: D
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	5	569	1474	2
Future Vol, veh/h	0	6	5	569	1474	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	5	618	1602	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	802	1604	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*472	*706	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*472	*706	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 706	-	472	-	-
HCM Lane V/C Ratio	0.008	-	0.014	-	-
HCM Control Delay (s)	10.1	-	12.7	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	718	473	166	116	393	168	233	737	110	187	503	437
Future Volume (vph)	718	473	166	116	393	168	233	737	110	187	503	437
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			475
Lane Group Flow (vph)	780	514	180	126	427	183	253	801	120	203	547	475
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	29.7	37.3	120.0	9.8	17.4	17.4	10.0	33.4	120.0	9.5	32.8	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.08	0.14	0.14	0.08	0.28	1.00	0.08	0.27	1.00
v/c Ratio	0.92	0.47	0.11	0.45	0.83	0.41	0.88	0.81	0.08	0.75	0.57	0.30
Control Delay	60.7	35.0	0.1	57.3	64.6	4.2	85.0	48.5	0.1	62.0	61.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	35.0	0.1	57.3	64.6	4.2	85.0	48.5	0.1	62.0	61.5	0.5
LOS	E	D	A	E	E	A	F	D	A	E	E	A
Approach Delay		44.3			48.3			51.4			37.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	302	165	0	48	170	0	102	310	0	84	230	0
Queue Length 95th (ft)	#409	225	0	78	#243	17	#182	#393	0	#137	290	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1100	1583	529	530	449	287	985	1583	272	968	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.47	0.11	0.24	0.81	0.41	0.88	0.81	0.08	0.75	0.57	0.30

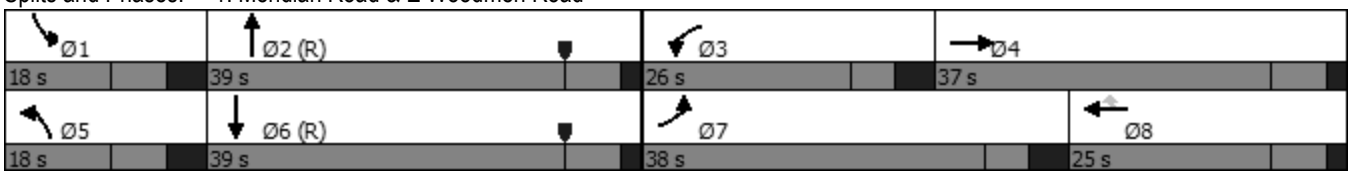
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 45.1	Intersection LOS: D
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 1: Meridian Road & E Woodmen Road



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	82	75	64	1630	909	102
Future Volume (vph)	82	75	64	1630	909	102
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.238			
Satd. Flow (perm)	3433	1583	443	3539	3539	1583
Satd. Flow (RTOR)		82				111
Lane Group Flow (vph)	89	82	70	1772	988	111
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	95.1	96.1	83.8	83.8
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.35	0.42	0.17	0.63	0.40	0.10
Control Delay	56.4	18.0	1.1	1.6	8.9	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	18.0	1.1	1.6	8.9	1.6
LOS	E	B	A	A	A	A
Approach Delay	38.0			1.6	8.1	
Approach LOS	D			A	A	
Queue Length 50th (ft)	34	0	1	16	163	0
Queue Length 95th (ft)	60	49	m2	22	222	19
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	325	478	2832	2472	1139
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.25	0.15	0.63	0.40	0.10

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

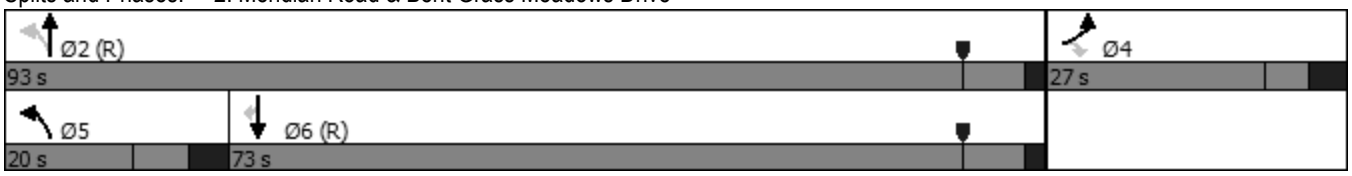
Offset does not match Appendix A

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	131	125	32	86	138	203	1286	120	85	835	67
Future Volume (vph)	220	131	125	32	86	138	203	1286	120	85	835	67
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.510			0.666			0.205			0.075		
Satd. Flow (perm)	1843	1863	1583	1241	1863	1583	382	3539	1583	140	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	239	142	136	35	93	150	221	1398	130	92	908	73
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	22.0	22.0	18.0	22.0	22.0	25.0	62.0	62.0	18.0	55.0	55.0
Total Split (%)	15.0%	18.3%	18.3%	15.0%	18.3%	18.3%	20.8%	51.7%	51.7%	15.0%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.4	20.1	20.1	18.0	11.7	11.7	72.2	60.0	60.0	63.7	56.8	56.8
Actuated g/C Ratio	0.21	0.17	0.17	0.15	0.10	0.10	0.60	0.50	0.50	0.53	0.47	0.47
v/c Ratio	0.45	0.46	0.32	0.16	0.51	0.47	0.60	0.79	0.15	0.51	0.54	0.09
Control Delay	39.9	52.0	4.2	36.3	60.9	7.9	14.6	9.7	0.7	29.4	42.3	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	52.0	4.2	36.3	60.9	7.9	14.6	9.7	0.7	29.4	42.3	5.7
LOS	D	D	A	D	E	A	B	A	A	C	D	A
Approach Delay		33.8			29.2			9.7			38.7	
Approach LOS		C			C			A			D	
Queue Length 50th (ft)	78	106	0	21	70	0	24	307	2	47	389	5
Queue Length 95th (ft)	110	172	21	47	121	34	m35	374	m7	88	462	24
Internal Link Dist (ft)		552			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	529	315	422	265	240	366	445	1769	880	205	1674	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.45	0.32	0.13	0.39	0.41	0.50	0.79	0.15	0.45	0.54	0.09

Intersection Summary

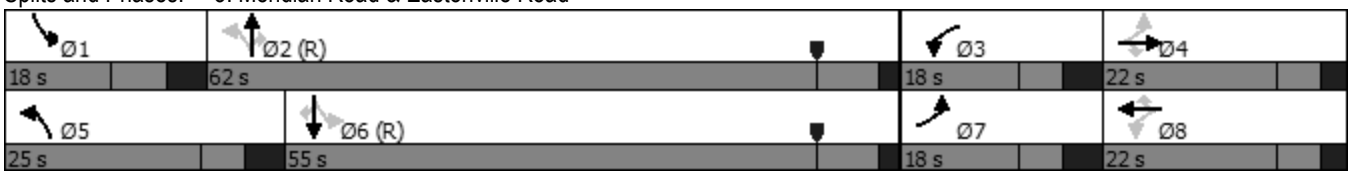
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	11	1633	980	4
Future Vol, veh/h	0	7	11	1633	980	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	12	1775	1065	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	535	1069	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*700	1038	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*700	1038	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1038	-	700	-	-
HCM Lane V/C Ratio	0.012	-	0.011	-	-
HCM Control Delay (s)	8.5	-	10.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	379	339	176	89	591	124	237	350	26	133	809	856
Future Volume (vph)	379	339	176	89	591	124	237	350	26	133	809	856
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			628
Lane Group Flow (vph)	412	368	191	97	642	135	258	380	28	145	879	930
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	25.2	42.4		14.8	32.0	32.0	20.4	44.5		18.3	42.4	
Total Split (%)	21.0%	35.3%		12.3%	26.7%	26.7%	17.0%	37.1%		15.3%	35.3%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	17.2	34.4	120.0	7.1	24.3	24.3	11.7	39.3	120.0	9.2	36.8	120.0
Actuated g/C Ratio	0.14	0.29	1.00	0.06	0.20	0.20	0.10	0.33	1.00	0.08	0.31	1.00
v/c Ratio	0.84	0.36	0.12	0.48	0.90	0.26	0.77	0.33	0.02	0.55	0.81	0.59
Control Delay	66.0	35.1	0.2	62.7	62.8	1.2	69.2	32.0	0.0	46.6	56.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	35.1	0.2	62.7	62.8	1.2	69.2	32.0	0.0	46.6	56.3	1.5
LOS	E	D	A	E	E	A	E	C	A	D	E	A
Approach Delay		41.3			53.3			45.0			29.5	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	161	117	0	38	255	0	102	118	0	59	332	0
Queue Length 95th (ft)	#235	162	0	67	#351	0	#160	162	0	m62	m344	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	506	1044	1583	208	737	527	340	1158	1583	280	1086	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.35	0.12	0.47	0.87	0.26	0.76	0.33	0.02	0.52	0.81	0.59

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

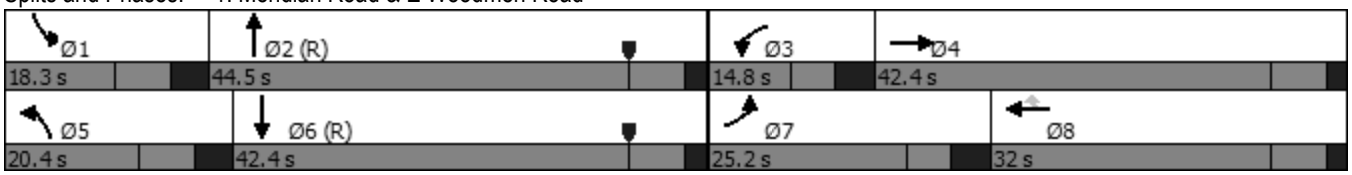
Offset does not match Appendix A

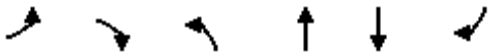
Maximum v/c Ratio: 0.90

Intersection Signal Delay: 39.0	Intersection LOS: D
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	93	129	98	656	1971	161
Future Volume (vph)	93	129	98	656	1971	161
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.045			
Satd. Flow (perm)	3433	1583	84	3539	3539	1583
Satd. Flow (RTOR)		101				175
Lane Group Flow (vph)	101	140	107	713	2142	175
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	16.8	16.8	15.6	103.2	87.6	87.6
Total Split (%)	14.0%	14.0%	13.0%	86.0%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	80.9	80.9
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.67	0.67
v/c Ratio	0.41	0.67	0.65	0.25	0.90	0.16
Control Delay	58.2	34.8	55.4	0.5	22.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	34.8	55.4	0.5	22.9	1.3
LOS	E	C	E	A	C	A
Approach Delay	44.6			7.6	21.3	
Approach LOS	D			A	C	
Queue Length 50th (ft)	39	29	33	4	672	0
Queue Length 95th (ft)	68	#106	#106	5	817	22
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	266	215	167	2840	2384	1123
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.65	0.64	0.25	0.90	0.16

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

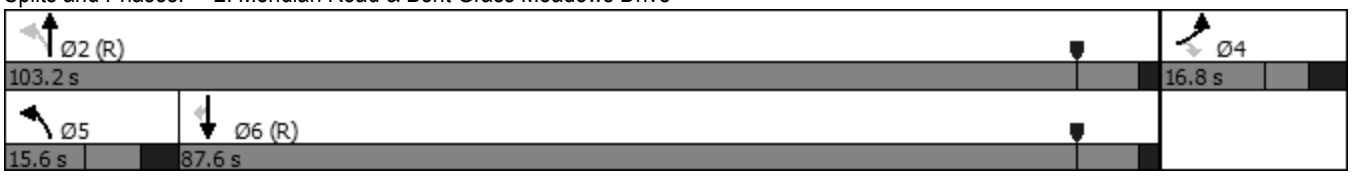
Offset does not match Appendix A

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 86.2%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	48	86	144	58	54	110	673	60	165	1884	57
Future Volume (vph)	86	48	86	144	58	54	110	673	60	165	1884	57
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.600			0.723			0.061			0.310		
Satd. Flow (perm)	2168	1863	1583	1347	1863	1583	114	3539	1583	577	3539	1583
Satd. Flow (RTOR)			177			177			168			168
Lane Group Flow (vph)	93	52	93	157	63	59	120	732	65	179	2048	62
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.5	14.5	14.5	14.2	16.2	16.2	13.0	73.3	73.3	18.0	78.3	78.3
Total Split (%)	10.4%	12.1%	12.1%	11.8%	13.5%	13.5%	10.8%	61.1%	61.1%	15.0%	65.3%	65.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.8	8.0	8.0	13.7	9.4	9.4	71.9	66.4	66.4	78.7	70.8	70.8
Actuated g/C Ratio	0.12	0.07	0.07	0.11	0.08	0.08	0.60	0.55	0.55	0.66	0.59	0.59
v/c Ratio	0.28	0.42	0.34	0.89	0.43	0.21	0.83	0.37	0.07	0.38	0.98	0.06
Control Delay	44.5	64.5	3.5	92.7	62.4	1.6	72.3	3.2	0.1	12.4	50.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	64.5	3.5	92.7	62.4	1.6	72.3	3.2	0.1	12.4	50.9	0.1
LOS	D	E	A	F	E	A	E	A	A	B	D	A
Approach Delay		32.8			66.6			12.0			46.5	
Approach LOS		C			E			B			D	
Queue Length 50th (ft)	31	39	0	111	47	0	40	19	1	74	844	0
Queue Length 95th (ft)	56	82	0	#224	95	0	m#119	23	m0	m75	#977	m0
Internal Link Dist (ft)		511			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	336	124	270	176	150	290	144	1958	950	475	2088	1002
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.42	0.34	0.89	0.42	0.20	0.83	0.37	0.07	0.38	0.98	0.06

Intersection Summary

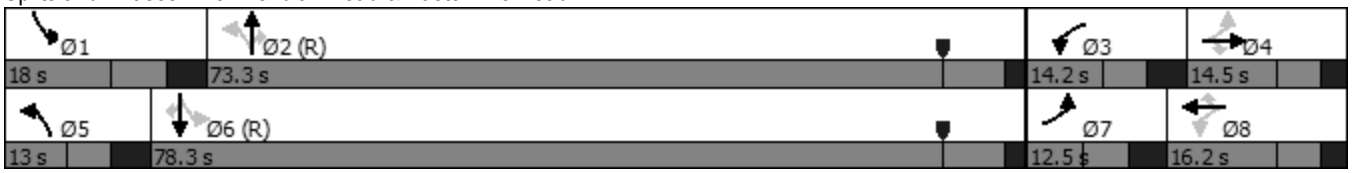
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 38.6	Intersection LOS: D
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	8	805	2097	3
Future Vol, veh/h	0	9	8	805	2097	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	9	875	2279	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1141	2282	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*219	*328	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*219	*328	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 328	-	219	-	-
HCM Lane V/C Ratio	0.027	-	0.045	-	-
HCM Control Delay (s)	16.3	-	22.2	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1027	708	240	168	545	231	308	1042	159	233	680	610
Future Volume (vph)	1027	708	240	168	545	231	308	1042	159	233	680	610
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			663
Lane Group Flow (vph)	1116	770	261	183	592	251	335	1133	173	253	739	663
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	43.1		18.9	24.0	24.0	21.0	42.0		16.0	37.0	
Total Split (%)	31.7%	35.9%		15.8%	20.0%	20.0%	17.5%	35.0%		13.3%	30.8%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	30.5	36.9	120.0	10.6	17.0	17.0	12.5	35.0	120.0	7.5	30.0	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.09	0.14	0.14	0.10	0.29	1.00	0.06	0.25	1.00
v/c Ratio	1.28	0.71	0.16	0.60	1.18	0.57	0.94	1.10	0.11	1.18	0.84	0.42
Control Delay	172.3	41.3	0.2	61.3	145.4	11.4	87.9	98.9	0.1	157.4	75.0	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.3	41.3	0.2	61.3	145.4	11.4	87.9	98.9	0.1	157.4	75.0	1.0
LOS	F	D	A	E	F	B	F	F	A	F	E	A
Approach Delay		104.4			97.6			86.2			58.0	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~564	280	0	71	~289	1	135	~523	0	~123	318	0
Queue Length 95th (ft)	#696	352	0	109	#406	78	#225	#658	0	#211	#386	4
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1087	1583	326	501	438	357	1032	1583	214	884	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.71	0.16	0.56	1.18	0.57	0.94	1.10	0.11	1.18	0.84	0.42

Intersection Summary

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

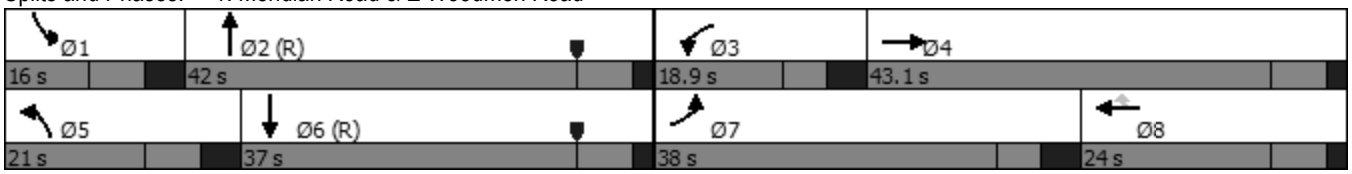
Maximum v/c Ratio: 1.28

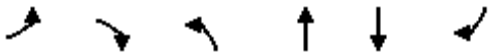
Intersection Signal Delay: 86.8	Intersection LOS: F
Intersection Capacity Utilization 104.4%	ICU Level of Service G
Analysis Period (min) 15	

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

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

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	108	93	2254	1268	147
Future Volume (vph)	119	108	93	2254	1268	147
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.136			
Satd. Flow (perm)	3433	1583	253	3539	3539	1583
Satd. Flow (RTOR)		117				160
Lane Group Flow (vph)	129	117	101	2450	1378	160
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	17.0	17.0	15.4	103.0	87.6	87.6
Total Split (%)	14.2%	14.2%	12.8%	85.8%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	9.0	9.0	95.0	96.0	80.8	80.8
Actuated g/C Ratio	0.08	0.08	0.79	0.80	0.67	0.67
v/c Ratio	0.50	0.52	0.36	0.87	0.58	0.14
Control Delay	60.2	17.8	1.8	10.3	11.8	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	17.8	1.8	10.3	11.8	1.4
LOS	E	B	A	B	B	A
Approach Delay	40.1			9.9	10.7	
Approach LOS	D			A	B	
Queue Length 50th (ft)	50	0	3	950	280	0
Queue Length 95th (ft)	82	58	m3	m936	338	22
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	271	233	287	2830	2384	1118
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.35	0.87	0.58	0.14

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

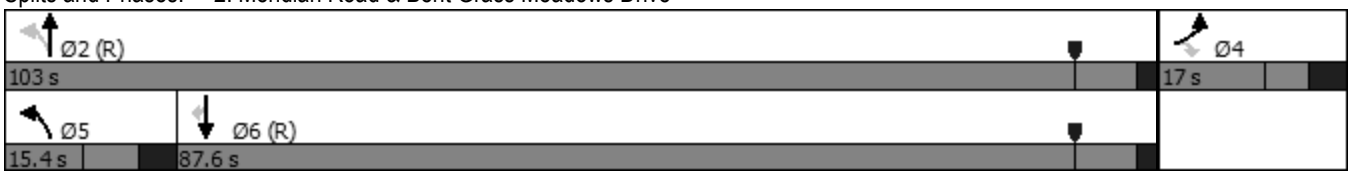
Offset does not match Appendix A

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 11.9	Intersection LOS: B
Intersection Capacity Utilization 81.5%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	131	125	47	86	200	203	1910	173	123	1190	67
Future Volume (vph)	220	131	125	47	86	200	203	1910	173	123	1190	67
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.632			0.564			0.110			0.064		
Satd. Flow (perm)	2284	1863	1583	1051	1863	1583	205	3539	1583	119	3539	1583
Satd. Flow (RTOR)			255			255			188			245
Lane Group Flow (vph)	239	142	136	51	93	217	221	2076	188	134	1293	73
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.6	16.2	16.2	12.5	16.1	16.1	24.2	76.9	76.9	14.4	67.1	67.1
Total Split (%)	10.5%	13.5%	13.5%	10.4%	13.4%	13.4%	20.2%	64.1%	64.1%	12.0%	55.9%	55.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.0	11.9	11.9	13.3	9.3	9.3	81.4	69.4	69.4	69.1	63.9	63.9
Actuated g/C Ratio	0.12	0.10	0.10	0.11	0.08	0.08	0.68	0.58	0.58	0.58	0.53	0.53
v/c Ratio	0.72	0.77	0.35	0.35	0.65	0.61	0.72	1.01	0.19	0.87	0.69	0.08
Control Delay	59.7	81.0	2.5	49.6	74.5	10.9	31.6	19.4	0.1	62.9	42.7	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	81.0	2.5	49.6	74.5	10.9	31.6	19.4	0.1	62.9	42.7	0.5
LOS	E	F	A	D	E	B	C	B	A	E	D	A
Approach Delay		50.5			32.7			19.0			42.5	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)	85	111	0	34	71	0	81	~537	1	63	556	0
Queue Length 95th (ft)	#138	#240	0	71	#141	45	m60	m102	m1	#182	633	m2
Internal Link Dist (ft)		552			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	333	184	386	146	149	361	361	2046	994	154	1884	957
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.77	0.35	0.35	0.62	0.60	0.61	1.01	0.19	0.87	0.69	0.08

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

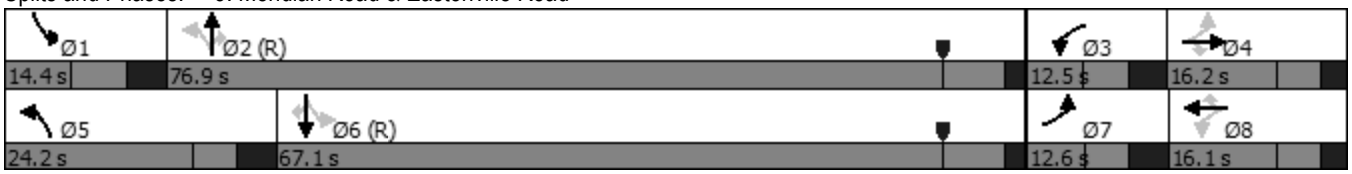
Intersection Signal Delay: 30.6	Intersection LOS: C
Intersection Capacity Utilization 97.3%	ICU Level of Service F
Analysis Period (min) 15	

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	17	2313	1370	6
Future Vol, veh/h	0	11	17	2313	1370	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	18	2514	1489	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	748	1496	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*523	*782	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*523	*782	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 782	-	523	-	-
HCM Lane V/C Ratio	0.024	-	0.023	-	-
HCM Control Delay (s)	9.7	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	226	122	61	417	121	178	291	18	131	611	615
Future Volume (vph)	281	226	122	61	417	121	178	291	18	131	611	615
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			668
Lane Group Flow (vph)	305	246	133	66	453	132	193	316	20	142	664	668
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.8	31.4	120.0	7.7	20.7	20.7	11.0	44.0	120.0	9.5	42.6	120.0
Actuated g/C Ratio	0.13	0.26	1.00	0.06	0.17	0.17	0.09	0.37	1.00	0.08	0.36	1.00
v/c Ratio	0.68	0.27	0.08	0.30	0.74	0.31	0.61	0.24	0.01	0.52	0.53	0.42
Control Delay	57.2	35.9	0.1	56.6	54.8	3.7	61.4	28.7	0.0	63.2	34.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	35.9	0.1	56.6	54.8	3.7	61.4	28.7	0.0	63.2	34.8	0.5
LOS	E	D	A	E	D	A	E	C	A	E	C	A
Approach Delay		38.5			44.6			39.6			22.0	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	117	82	0	25	177	0	74	90	0	60	151	0
Queue Length 95th (ft)	160	110	0	48	223	19	#124	140	0	m74	m214	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	945	1583	472	766	485	317	1298	1583	287	1255	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.26	0.08	0.14	0.59	0.27	0.61	0.24	0.01	0.49	0.53	0.42

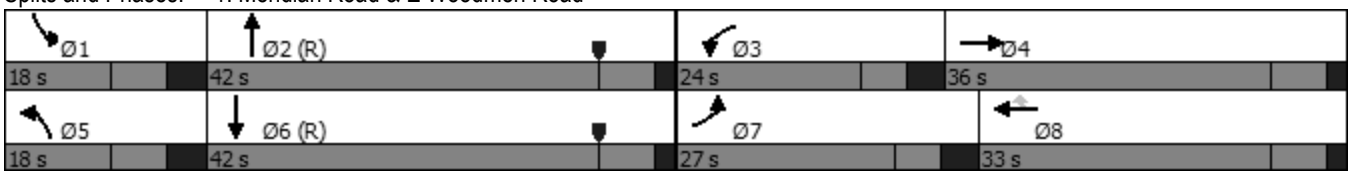
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

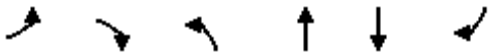
Maximum v/c Ratio: 0.74

Intersection Signal Delay: 32.5	Intersection LOS: C
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	89	68	520	1427	111
Future Volume (vph)	64	89	68	520	1427	111
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.106			
Satd. Flow (perm)	3433	1583	197	3539	3539	1583
Satd. Flow (RTOR)		97				121
Lane Group Flow (vph)	70	97	74	565	1551	121
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	83.8	83.8
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.28	0.47	0.30	0.20	0.63	0.11
Control Delay	55.3	18.1	8.5	1.2	12.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	18.1	8.5	1.2	12.1	1.6
LOS	E	B	A	A	B	A
Approach Delay	33.7			2.1	11.4	
Approach LOS	C			A	B	
Queue Length 50th (ft)	27	0	4	14	323	0
Queue Length 95th (ft)	50	52	17	20	453	21
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	350	307	2839	2471	1142
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.28	0.24	0.20	0.63	0.11

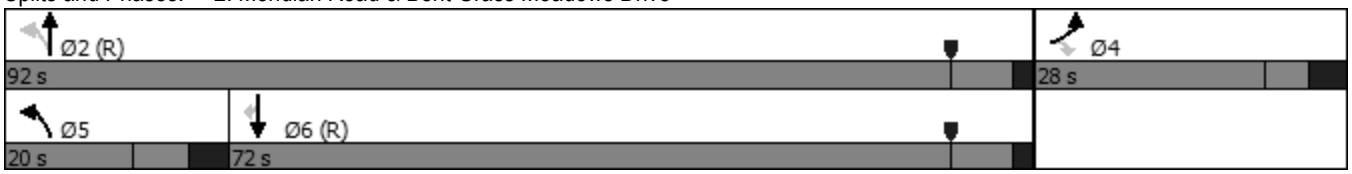
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Offset does not match Appendix A

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	61	160	100	71	37	231	409	42	114	1311	96
Future Volume (vph)	215	61	160	100	71	37	231	409	42	114	1311	96
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.524			0.714			0.066			0.494		
Satd. Flow (perm)	1894	1863	1583	1330	1863	1583	123	3539	1583	920	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	234	66	174	109	77	40	251	445	46	124	1425	104
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	20.0	20.0	18.0	20.0	20.0	18.0	67.0	67.0	15.0	64.0	64.0
Total Split (%)	15.0%	16.7%	16.7%	15.0%	16.7%	16.7%	15.0%	55.8%	55.8%	12.5%	53.3%	53.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	21.1	10.6	10.6	17.9	10.5	10.5	75.4	62.1	62.1	63.0	56.5	56.5
Actuated g/C Ratio	0.18	0.09	0.09	0.15	0.09	0.09	0.63	0.52	0.52	0.52	0.47	0.47
v/c Ratio	0.47	0.40	0.56	0.47	0.48	0.13	0.93	0.24	0.05	0.23	0.86	0.12
Control Delay	41.7	58.5	13.4	45.5	61.4	0.9	80.9	23.4	1.7	20.3	49.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	58.5	13.4	45.5	61.4	0.9	80.9	23.4	1.7	20.3	49.2	6.5
LOS	D	E	B	D	E	A	F	C	A	C	D	A
Approach Delay		33.6			43.0			41.5			44.4	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	77	49	0	70	58	0	165	96	1	60	547	6
Queue Length 95th (ft)	110	94	57	118	106	0	#360	128	m8	m120	681	m37
Internal Link Dist (ft)		511			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	497	209	343	244	209	343	270	1830	904	536	1666	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.32	0.51	0.45	0.37	0.12	0.93	0.24	0.05	0.23	0.86	0.12

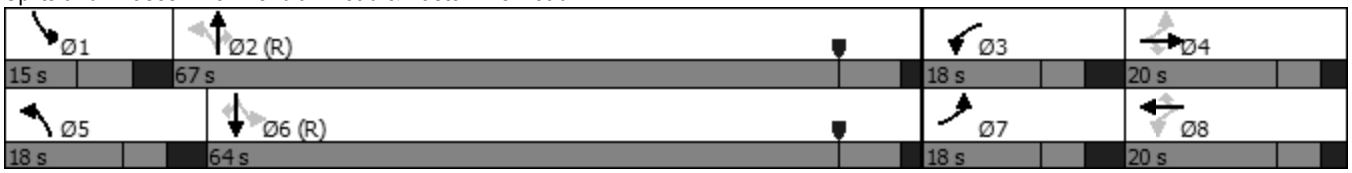
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 41.9	Intersection LOS: D
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	55	571	1432	84
Future Vol, veh/h	0	99	55	571	1432	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	108	60	621	1557	91

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	824	1648	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*497	710	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*497	710	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	710	-	497	-	-
HCM Lane V/C Ratio	0.084	-	0.217	-	-
HCM Control Delay (s)	10.5	-	14.2	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	733	473	166	116	393	198	233	781	110	216	546	451
Future Volume (vph)	733	473	166	116	393	198	233	781	110	216	546	451
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			490
Lane Group Flow (vph)	797	514	180	126	427	215	253	849	120	235	593	490
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	29.9	37.5	120.0	9.8	17.4	17.4	10.0	32.9	120.0	9.7	32.7	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.08	0.14	0.14	0.08	0.27	1.00	0.08	0.27	1.00
v/c Ratio	0.93	0.46	0.11	0.45	0.83	0.49	0.88	0.87	0.08	0.85	0.62	0.31
Control Delay	62.4	34.9	0.1	57.3	64.6	6.9	85.3	53.1	0.1	67.7	57.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	34.9	0.1	57.3	64.6	6.9	85.3	53.1	0.1	67.7	57.4	0.4
LOS	E	C	A	E	E	A	F	D	A	E	E	A
Approach Delay		45.4			47.3			54.5			38.1	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	310	165	0	48	170	0	102	334	0	96	248	0
Queue Length 95th (ft)	#423	225	0	78	#243	43	#182	#448	0	#168	312	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1106	1583	529	530	449	286	971	1583	278	963	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.46	0.11	0.24	0.81	0.48	0.88	0.87	0.08	0.85	0.62	0.31

Intersection Summary

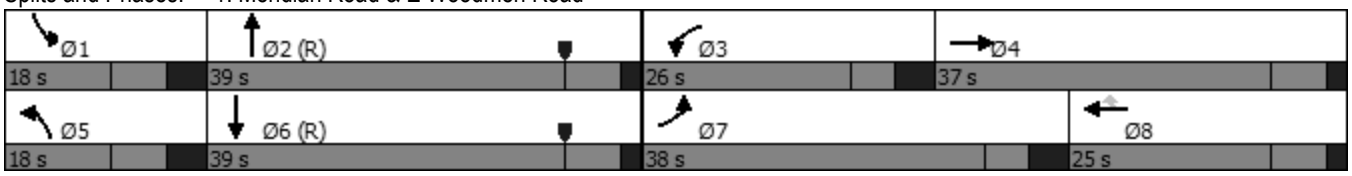
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

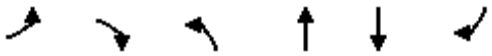
Maximum v/c Ratio: 0.93

Intersection Signal Delay: 46.0	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	82	75	64	1674	953	102
Future Volume (vph)	82	75	64	1674	953	102
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.223			
Satd. Flow (perm)	3433	1583	415	3539	3539	1583
Satd. Flow (RTOR)		82				111
Lane Group Flow (vph)	89	82	70	1820	1036	111
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	95.1	96.1	83.8	83.8
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.35	0.42	0.17	0.64	0.42	0.10
Control Delay	56.4	18.0	1.4	1.5	9.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	18.0	1.4	1.5	9.1	1.6
LOS	E	B	A	A	A	A
Approach Delay	38.0			1.5	8.3	
Approach LOS	D			A	A	
Queue Length 50th (ft)	34	0	2	20	174	0
Queue Length 95th (ft)	60	49	m4	38	236	19
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	325	458	2832	2472	1139
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.25	0.15	0.64	0.42	0.10

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

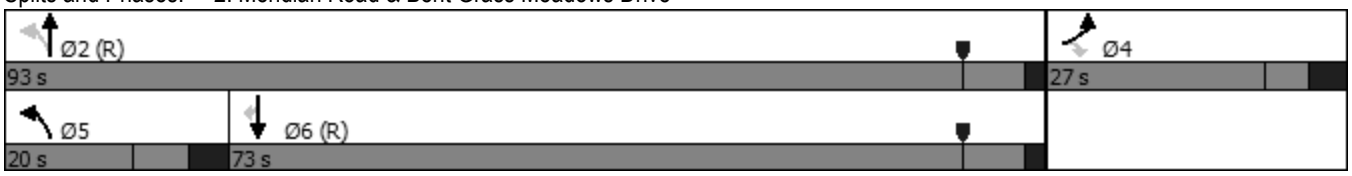
Offset does not match Appendix A

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	146	194	32	100	138	317	1261	120	85	851	101
Future Volume (vph)	330	146	194	32	100	138	317	1261	120	85	851	101
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.498			0.656			0.161			0.086		
Satd. Flow (perm)	1800	1863	1583	1222	1863	1583	300	3539	1583	160	3539	1583
Satd. Flow (RTOR)			211			186			177			177
Lane Group Flow (vph)	359	159	211	35	109	150	345	1371	130	92	925	110
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	22.0	22.0	18.0	22.0	22.0	25.0	62.0	62.0	18.0	55.0	55.0
Total Split (%)	15.0%	18.3%	18.3%	15.0%	18.3%	18.3%	20.8%	51.7%	51.7%	15.0%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	26.2	20.9	20.9	18.7	12.3	12.3	75.3	59.2	59.2	58.1	51.2	51.2
Actuated g/C Ratio	0.22	0.17	0.17	0.16	0.10	0.10	0.63	0.49	0.49	0.48	0.43	0.43
v/c Ratio	0.67	0.49	0.47	0.16	0.57	0.46	0.87	0.79	0.15	0.50	0.61	0.14
Control Delay	45.4	52.3	9.9	35.7	62.5	7.6	41.6	10.0	0.7	29.4	46.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	52.3	9.9	35.7	62.5	7.6	41.6	10.0	0.7	29.4	46.5	10.2
LOS	D	D	A	D	E	A	D	B	A	C	D	B
Approach Delay		36.6			31.3			15.3			41.6	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)	129	119	0	21	82	0	106	306	2	46	393	12
Queue Length 95th (ft)	161	192	71	47	139	34	m#168	m373	m6	86	464	46
Internal Link Dist (ft)		552			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	535	324	449	270	240	366	410	1745	870	207	1508	776
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.49	0.47	0.13	0.45	0.41	0.84	0.79	0.15	0.44	0.61	0.14

Intersection Summary

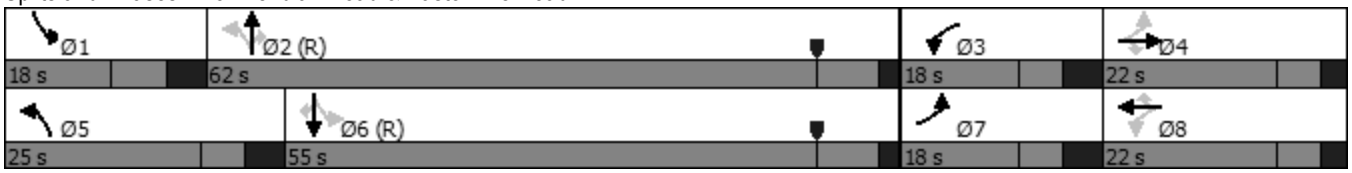
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 27.8	Intersection LOS: C
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.5

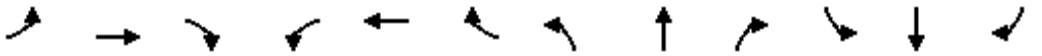
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	89	53	1650	955	73
Future Vol, veh/h	0	89	53	1650	955	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	97	58	1793	1038	79

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	559	1117	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*700	975	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*700	975	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	975	-	700	-	-
HCM Lane V/C Ratio	0.059	-	0.138	-	-
HCM Control Delay (s)	8.9	-	11	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	339	176	89	591	150	237	390	26	159	847	869
Future Volume (vph)	393	339	176	89	591	150	237	390	26	159	847	869
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			628
Lane Group Flow (vph)	427	368	191	97	642	163	258	424	28	173	921	945
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	25.2	42.4		14.8	32.0	32.0	20.4	44.5		18.3	42.4	
Total Split (%)	21.0%	35.3%		12.3%	26.7%	26.7%	17.0%	37.1%		15.3%	35.3%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	17.3	34.5	120.0	7.1	24.3	24.3	11.7	38.9	120.0	9.5	36.7	120.0
Actuated g/C Ratio	0.14	0.29	1.00	0.06	0.20	0.20	0.10	0.32	1.00	0.08	0.31	1.00
v/c Ratio	0.86	0.36	0.12	0.48	0.90	0.31	0.77	0.37	0.02	0.64	0.85	0.60
Control Delay	68.2	35.0	0.2	62.7	62.8	1.7	69.2	32.7	0.0	42.9	59.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	35.0	0.2	62.7	62.8	1.7	69.2	32.7	0.0	42.9	59.7	2.2
LOS	E	C	A	E	E	A	E	C	A	D	E	A
Approach Delay		42.6			51.8			44.7			31.6	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	168	117	0	38	255	0	102	134	0	71	376	0
Queue Length 95th (ft)	#248	162	0	67	#351	0	#160	181	0	m70	m361	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	506	1044	1583	208	737	527	340	1146	1583	280	1083	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.35	0.12	0.47	0.87	0.31	0.76	0.37	0.02	0.62	0.85	0.60

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

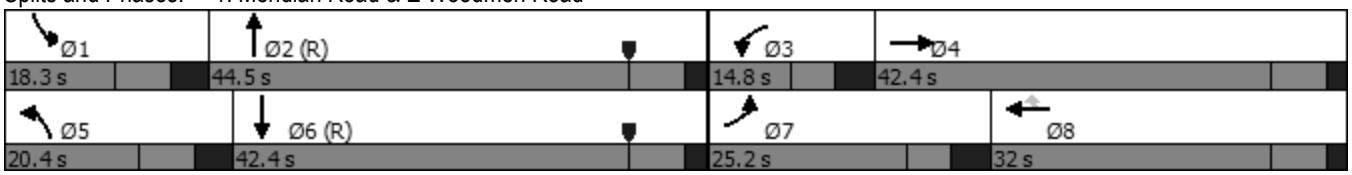
Offset does not match Appendix A

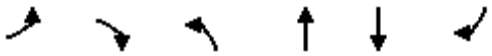
Maximum v/c Ratio: 0.90

Intersection Signal Delay: 39.9	Intersection LOS: D
Intersection Capacity Utilization 82.7%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	93	129	98	695	2011	161
Future Volume (vph)	93	129	98	695	2011	161
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.045			
Satd. Flow (perm)	3433	1583	84	3539	3539	1583
Satd. Flow (RTOR)		100				175
Lane Group Flow (vph)	101	140	107	755	2186	175
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	16.8	16.8	15.6	103.2	87.6	87.6
Total Split (%)	14.0%	14.0%	13.0%	86.0%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	80.9	80.9
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.67	0.67
v/c Ratio	0.41	0.68	0.65	0.27	0.92	0.16
Control Delay	58.2	35.4	50.5	1.2	24.5	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	35.4	50.5	1.2	24.5	1.3
LOS	E	D	D	A	C	A
Approach Delay	44.9			7.3	22.8	
Approach LOS	D			A	C	
Queue Length 50th (ft)	39	30	33	11	710	0
Queue Length 95th (ft)	68	#108	m#97	26	863	22
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	266	214	167	2840	2384	1123
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.65	0.64	0.27	0.92	0.16

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

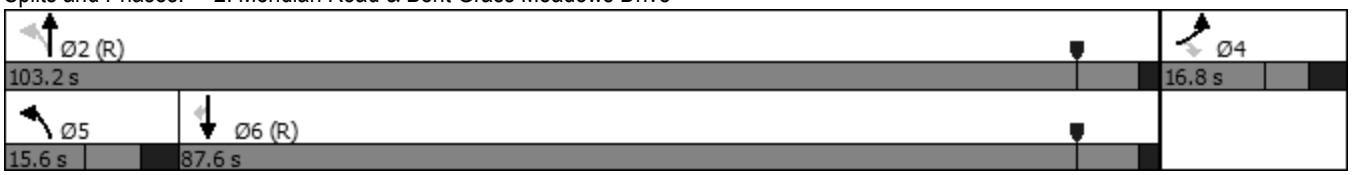
Offset does not match Appendix A

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 87.3%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	61	160	144	71	54	231	631	60	165	1886	96
Future Volume (vph)	215	61	160	144	71	54	231	631	60	165	1886	96
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.523			0.714			0.061			0.361		
Satd. Flow (perm)	1890	1863	1583	1330	1863	1583	114	3539	1583	672	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	234	66	174	157	77	59	251	686	65	179	2050	104
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	13.0	15.0	15.0	13.5	15.5	15.5	19.0	72.5	72.5	19.0	72.5	72.5
Total Split (%)	10.8%	12.5%	12.5%	11.3%	12.9%	12.9%	15.8%	60.4%	60.4%	15.8%	60.4%	60.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	14.4	8.3	8.3	12.3	8.7	8.7	78.0	66.4	66.4	73.3	65.0	65.0
Actuated g/C Ratio	0.12	0.07	0.07	0.10	0.07	0.07	0.65	0.55	0.55	0.61	0.54	0.54
v/c Ratio	0.70	0.51	0.62	0.99	0.57	0.21	1.07	0.35	0.07	0.36	1.07	0.11
Control Delay	58.4	68.2	16.4	119.2	70.6	1.6	122.0	3.1	0.1	12.3	79.4	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	68.2	16.4	119.2	70.6	1.6	122.0	3.1	0.1	12.3	79.4	2.3
LOS	E	E	B	F	E	A	F	A	A	B	E	A
Approach Delay		44.4			82.8			32.7			70.8	
Approach LOS		D			F			C			E	
Queue Length 50th (ft)	83	50	0	111	59	0	~164	20	0	70	~912	0
Queue Length 95th (ft)	#150	98	60	#242	#111	0	m#306	m25	m0	m74	#1055	m0
Internal Link Dist (ft)		511			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	336	131	284	158	139	290	235	1956	954	513	1916	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.50	0.61	0.99	0.55	0.20	1.07	0.35	0.07	0.35	1.07	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

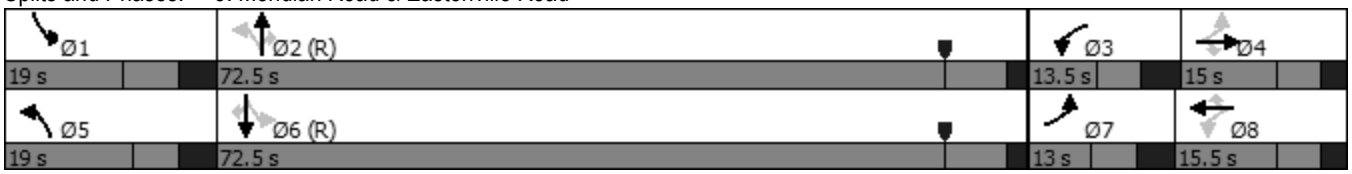
Intersection Signal Delay: 59.3	Intersection LOS: E
Intersection Capacity Utilization 97.5%	ICU Level of Service F
Analysis Period (min) 15	

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	102	58	807	2055	85
Future Vol, veh/h	0	102	58	807	2055	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	111	63	877	2234	92

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1163	2326	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*245	361	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*245	361	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.3	1.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	361	-	245	-	-
HCM Lane V/C Ratio	0.175	-	0.453	-	-
HCM Control Delay (s)	17.1	-	31.3	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.6	-	2.2	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1042	708	240	168	545	261	308	1086	159	262	723	624
Future Volume (vph)	1042	708	240	168	545	261	308	1086	159	262	723	624
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			678
Lane Group Flow (vph)	1133	770	261	183	592	284	335	1180	173	285	786	678
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	43.1		18.9	24.0	24.0	21.0	42.0		16.0	37.0	
Total Split (%)	31.7%	35.9%		15.8%	20.0%	20.0%	17.5%	35.0%		13.3%	30.8%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	30.5	36.9	120.0	10.6	17.0	17.0	12.5	35.0	120.0	7.5	30.0	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.09	0.14	0.14	0.10	0.29	1.00	0.06	0.25	1.00
v/c Ratio	1.30	0.71	0.16	0.60	1.18	0.65	0.94	1.14	0.11	1.33	0.89	0.43
Control Delay	180.2	41.3	0.2	61.3	145.4	16.4	87.9	115.4	0.1	210.4	79.0	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.2	41.3	0.2	61.3	145.4	16.4	87.9	115.4	0.1	210.4	79.0	0.9
LOS	F	D	A	E	F	B	F	F	A	F	E	A
Approach Delay		109.1			96.3			98.1			70.2	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~578	280	0	71	~289	23	135	~563	0	~151	338	0
Queue Length 95th (ft)	#710	352	0	109	#406	113	#225	#700	0	m#205	m#427	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1087	1583	326	501	438	357	1032	1583	214	884	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.71	0.16	0.56	1.18	0.65	0.94	1.14	0.11	1.33	0.89	0.43

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Offset does not match Appendix A

Maximum v/c Ratio: 1.33

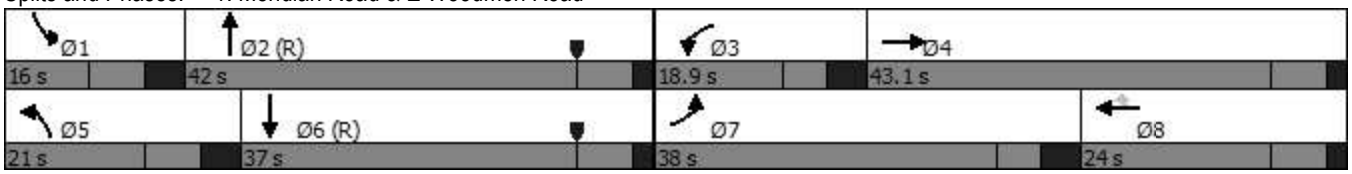
Intersection Signal Delay: 94.0	Intersection LOS: F
Intersection Capacity Utilization 106.9%	ICU Level of Service G
Analysis Period (min) 15	

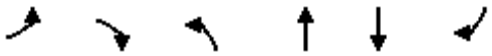
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	108	93	2298	1312	147
Future Volume (vph)	119	108	93	2298	1312	147
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.126			
Satd. Flow (perm)	3433	1583	235	3539	3539	1583
Satd. Flow (RTOR)		117				160
Lane Group Flow (vph)	129	117	101	2498	1426	160
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	17.0	17.0	15.4	103.0	87.6	87.6
Total Split (%)	14.2%	14.2%	12.8%	85.8%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	9.0	9.0	95.0	96.0	80.8	80.8
Actuated g/C Ratio	0.08	0.08	0.79	0.80	0.67	0.67
v/c Ratio	0.50	0.52	0.37	0.88	0.60	0.14
Control Delay	60.2	17.8	2.0	8.8	12.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	17.8	2.0	8.8	12.1	1.4
LOS	E	B	A	A	B	A
Approach Delay	40.1			8.6	11.0	
Approach LOS	D			A	B	
Queue Length 50th (ft)	50	0	2	920	296	0
Queue Length 95th (ft)	82	58	m1	m900	357	22
Internal Link Dist (ft)	763			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	271	233	274	2830	2384	1118
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.37	0.88	0.60	0.14

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

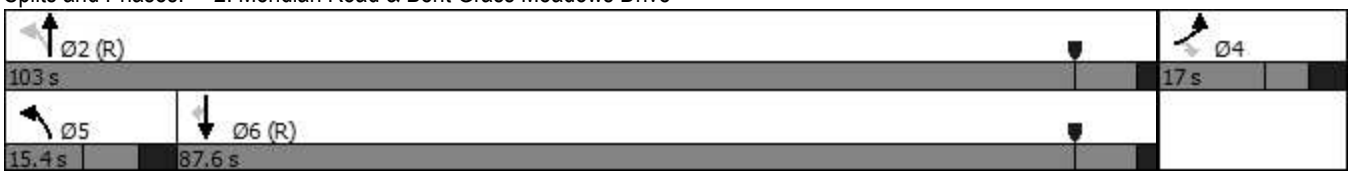
Offset does not match Appendix A

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 82.7%	ICU Level of Service E
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Bent Grass Meadows Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	146	194	47	100	200	317	1885	173	123	1206	101
Future Volume (vph)	330	146	194	47	100	200	317	1885	173	123	1206	101
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.458			0.656			0.068			0.078		
Satd. Flow (perm)	1655	1863	1583	1222	1863	1583	127	3539	1583	145	3539	1583
Satd. Flow (RTOR)			255			255			188			245
Lane Group Flow (vph)	359	159	211	51	109	217	345	2049	188	134	1311	110
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	16.0	18.0	18.0	13.0	15.0	15.0	30.0	75.0	75.0	14.0	59.0	59.0
Total Split (%)	13.3%	15.0%	15.0%	10.8%	12.5%	12.5%	25.0%	62.5%	62.5%	11.7%	49.2%	49.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.9	14.1	14.1	13.0	8.5	8.5	81.5	67.5	67.5	57.2	52.7	52.7
Actuated g/C Ratio	0.17	0.12	0.12	0.11	0.07	0.07	0.68	0.56	0.56	0.48	0.44	0.44
v/c Ratio	0.90	0.73	0.51	0.32	0.83	0.62	0.91	1.03	0.19	0.94	0.84	0.13
Control Delay	71.3	72.2	7.4	46.6	98.9	11.5	54.9	36.3	2.7	80.6	55.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	72.2	7.4	46.6	98.9	11.5	54.9	36.3	2.7	80.6	55.6	3.2
LOS	E	E	A	D	F	B	D	D	A	F	E	A
Approach Delay		53.0			41.5			36.3			54.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	129	124	0	33	85	0	236	~738	13	64	565	1
Queue Length 95th (ft)	#174	#253	39	69	#189	46	m201	m300	m9	#180	642	m25
Internal Link Dist (ft)		552			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	400	218	411	157	131	349	394	1990	972	143	1553	832
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.73	0.51	0.32	0.83	0.62	0.88	1.03	0.19	0.94	0.84	0.13

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

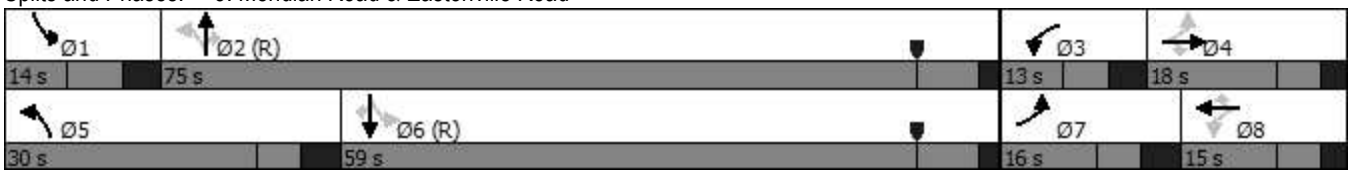
Intersection Signal Delay: 44.3	Intersection LOS: D
Intersection Capacity Utilization 99.2%	ICU Level of Service F
Analysis Period (min) 15	

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Eastonville Road



Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	93	59	2330	1345	75
Future Vol, veh/h	0	93	59	2330	1345	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	101	64	2533	1462	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	772	1544	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	*548	740	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %		1	1	-	-	-
Mov Cap-1 Maneuver	-	*548	740	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	740	-	548	-	-
HCM Lane V/C Ratio	0.087	-	0.184	-	-
HCM Control Delay (s)	10.3	-	13	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

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