



SM ROCHA, LLC

TRAFFIC AND TRANSPORTATION CONSULTANTS

SM ROCHA LLC
Comment Response

December 21, 2023

Brian Zurek
Double Tree Ventures
4148 N Arcadia Drive
Phoenix, AZ 85018

**RE: Owl Place Commercial / Traffic Impact Study Addendum
El Paso County, Colorado**

Dear Brian,

SM ROCHA, LLC is pleased to provide traffic information for the development entitled Owl Place Commercial. This development is located at the northwest corner of the intersection of Meridian Road with Eastonville Road in El Paso County, Colorado.

The intent of this analysis is to present updated traffic impact analyses for short-term and long-term build-out scenarios pursuant to the latest proposed site plan, land uses, and access locations. This analysis is provided as an addendum to the previously approved Owl Place Commercial Traffic Impact Study¹.

The following is a summary of analysis results.

Site Description and Access

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 understood to entail the new construction of two fast-food restaurants with drive-throughs totaling approximately 5,500 square feet, one quick lubrication vehicle shop approximately 2,500 square feet in size, and one 2,800 square foot gas station convenience store supporting 12 vehicle fueling positions.

Proposed access to the development is provided at the following locations: two full-movement accesses onto the planned extension of Falcon Market Place (referred to as Access A and Access B).

¹ Owl Place Commercial Traffic Impact Study, SM Rocha LLC, April 2023.

A conceptual sight distance exhibit, illustrating an approximate intersection sight distance triangle for site access, is included for reference in Attachment A. This two-dimensional exhibit does not consider potential landscaping or utility obstructions and is provided for illustrative purposes only.

General site and access locations are shown on Figure 1. A conceptual site plan, as prepared by Drexel, Barrell & Co., is shown on Figure 2. This plan is provided for illustrative purposes only.

Roundabout analysis updated
pursuant to the latest Site Plan.

Provide roundabout
redesign analysis



Not to Scale



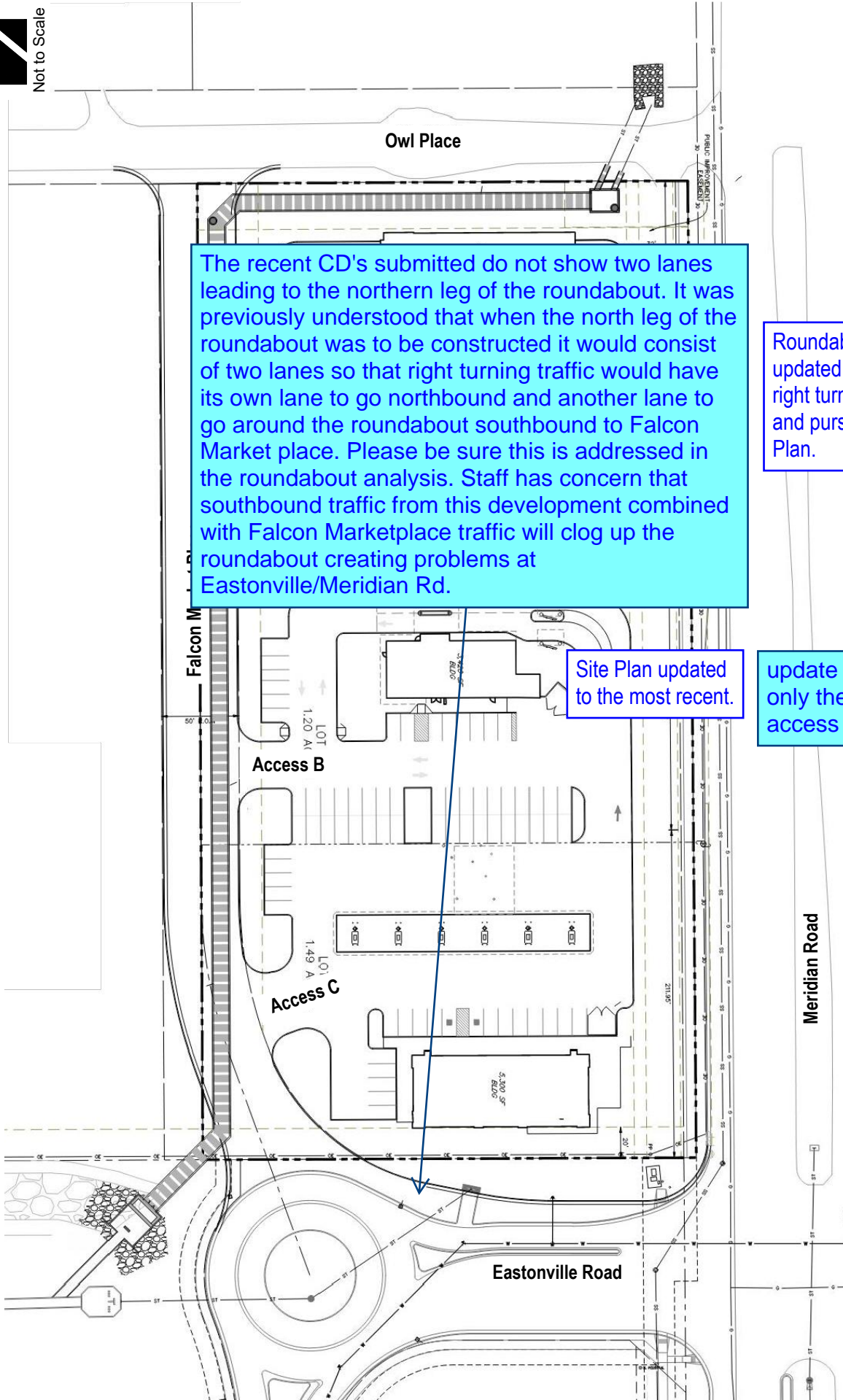
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Figure 1
SITE LOCATION

April 2023
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The recent CD's submitted do not show two lanes leading to the northern leg of the roundabout. It was previously understood that when the north leg of the roundabout was to be constructed it would consist of two lanes so that right turning traffic would have its own lane to go northbound and another lane to go around the roundabout southbound to Falcon Market place. Please be sure this is addressed in the roundabout analysis. Staff has concern that southbound traffic from this development combined with Falcon Marketplace traffic will clog up the roundabout creating problems at Eastonville/Meridian Rd.

Roundabout analysis has been updated to include an additional right turn bypass as indicated and pursuant to the latest Site Plan.

Site Plan updated to the most recent.

update to show only the 2 access points



Vehicle 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 previously approved and proposed land uses in order to estimate the average daily traffic (ADT) and peak hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from point of origin to point of destination.

Table 1 presents average trip generation rates for previously approved land uses and the proposed development areas. Use of average trip generation rates presents a conservative analysis. ITE land use codes 934 (Fast-Food Restaurant with Drive-Through Window), 937(Coffee/Donut Shop with Drive-Through Window), 941 (Quick Lubrication Vehicle Shop), 945 (Convenience Store/Gas Station), and 948 (Automated Car Wash) were used for analysis because of their best fit to the previously approved and proposed land uses.

Table 1 – Trip Generation Rates

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK 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	Coffe/Donut Shop w/DTW	KSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
941	Quick Lubrication Vehicle Shop	KSF	69.57	4.35	1.45	5.80	3.65	5.05	8.70
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 Tunnel.

* = ITE does not report significant AM peak hour generation due to the nature of the buisness (ie. Operating hours typically open after AM peak)

Note: All data and calculations above are subject to being rounded to nearest value.

Table 2 summarizes the projected ADT and peak hour traffic volumes likely generated by the land use area proposed and provides comparison to traffic volume estimates for the previously approved land uses.

Table 2 – 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	
<u>Site Development - Previously Approved</u>										
934	Fast-Food Restaurant w/DTW	3.4 KSF	1,599	78	75	153	59	54	113	
937	Coffe/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	1.0 CWT	775	*	*	*	39	39	78	
<i>Previously Approved Total:</i>			<i>7,153</i>	<i>315</i>	<i>309</i>	<i>624</i>	<i>281</i>	<i>276</i>	<i>557</i>	
<u>Site Development - Proposed</u>										
934	Fast-Food Restaurant w/DTW	5.5 KSF	2,562	125	120	244	87	87	174	
941	Quick Lubrication Vehicle Shop	2.5 KSF	174	11	4	15	13	13	25	
945	Convenience Store/Gas Station	2.8 KSF	1,982	80	80	160	77	77	154	
<i>Proposed Total:</i>			<i>4,718</i>	<i>216</i>	<i>203</i>	<i>419</i>	<i>177</i>	<i>177</i>	<i>353</i>	
<i>Difference Total:</i>			<i>-2,435</i>	<i>-100</i>	<i>-105</i>	<i>-205</i>	<i>-104</i>	<i>-100</i>	<i>-204</i>	

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnel.
* = 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.

As Table 2 shows, the proposed development area has the potential to generate approximately 4,718 daily trips with 586 of those occurring during the morning peak hour and 528 during the afternoon peak hour. Table 2 further shows how proposed development traffic volumes do not exceed those approved in the Owl Place Commercial Traffic Impact Study.

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 to fast-food restaurant, coffee/donutshop, 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.

Table 3 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the previously approved development and 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 3 – 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	
<u>Site Development - Previously Approved</u>										
		<i>Pass-By Trip Reduction:</i>	50%	49%	49%	49%	50%	50%	50%	
934	Fast-Food Restaurant w/DTW	3.4 KSF	807	40	38	78	29	27	56	
		<i>Pass-By Trip Reduction:</i>	60%	60%	60%	60%	60%	60%	60%	
937	Coffe/Donut Shop w/DTW	2.0 KSF	427	35	34	69	16	16	31	
		<i>Pass-By Trip Reduction:</i>	59%	62%	62%	62%	56%	56%	56%	
945	Convenience Store/Gas Station	5.3 KSF	1,522	57	57	114	64	64	127	
		<i>Pass-By Trip Reduction:</i>	0%	0%	0%	0%	0%	0%	0%	
948	Automated Car Wash	1.0 CWT	775	*	*	*	39	39	78	
		<i>Previously Approved Total:</i>	3,531	132	129	260	147	145	292	
<u>Site Development - Proposed</u>										
		<i>Pass-By Trip Reduction:</i>	50%	49%	49%	49%	50%	50%	50%	
934	Fast-Food Restaurant w/DTW	5.5 KSF	1,294	64	61	125	47	43	91	
		<i>Pass-By Trip Reduction:</i>	0%	0%	0%	0%	0%	0%	0%	
941	Quick Lubrication Vehicle Shop	2.5 KSF	174	11	4	15	9	13	22	
		<i>Pass-By Trip Reduction:</i>	59%	62%	62%	62%	56%	56%	56%	
945	Convenience Store/Gas Station	2.8 KSF	813	30	30	61	34	34	68	
		<i>Proposed Total:</i>	2,280	105	95	200	90	90	180	
		<i>Difference Total:</i>	-1,251	-27	-34	-60	-57	-55	-112	

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnel.
 * = 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 3 illustrates that the proposed development has the potential to generate approximately 2,280 daily trips with 200 of those occurring during the morning peak hour and 180 during the afternoon peak hour. Furthermore, Table 3 continues to show how the proposed development does not exceed estimates originally anticipated in the previously approved traffic study.

please be aware that a condition of approval will be included in the subdivision that the County Engineer may close this access at his discretion at the site development stage should the need arise.

Comment Acknowledged.

Trip Distribution & Assignment

The overall directional distribution was previously established by the corresponding traffic impact study. However, due to the proposed changes in anticipated land uses, distribution and assignment of site-generated traffic has been updated. These updated trip distribution patterns to site-generated traffic provide the overall site-generated trips at study intersections upon build-out for Years 2024 and Year 2040, which are shown on Figure 3 and 4, respectively.

It is to be noted that the overall site-generated trip assignments shown on Figures 3 and 4 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.

Owl Place – Interim Right-In Only Access

a restricted right-in only access is not depicted in figure 2.

Site Plan updated to the most recent.

Pursuant to planned roadway improvements, as identified in the previously approved traffic impact study, it is anticipated that Meridian Road will be widened to six through lanes, and with completion of Falcon Market Place, the intersection of Owl Place and Meridian Road will be closed. However, until these improvements occur an interim condition may allow for continued use of the intersection as a restricted right-in only access as shown on Figure 2. Therefore, Year 2024 total traffic conditions analyze the access as a right-in only upon site development build-out. It is noted that this configuration can utilize the existing southbound right turn lane that begins at Bent Grass Meadows Drive until such time that roadway widening is required.

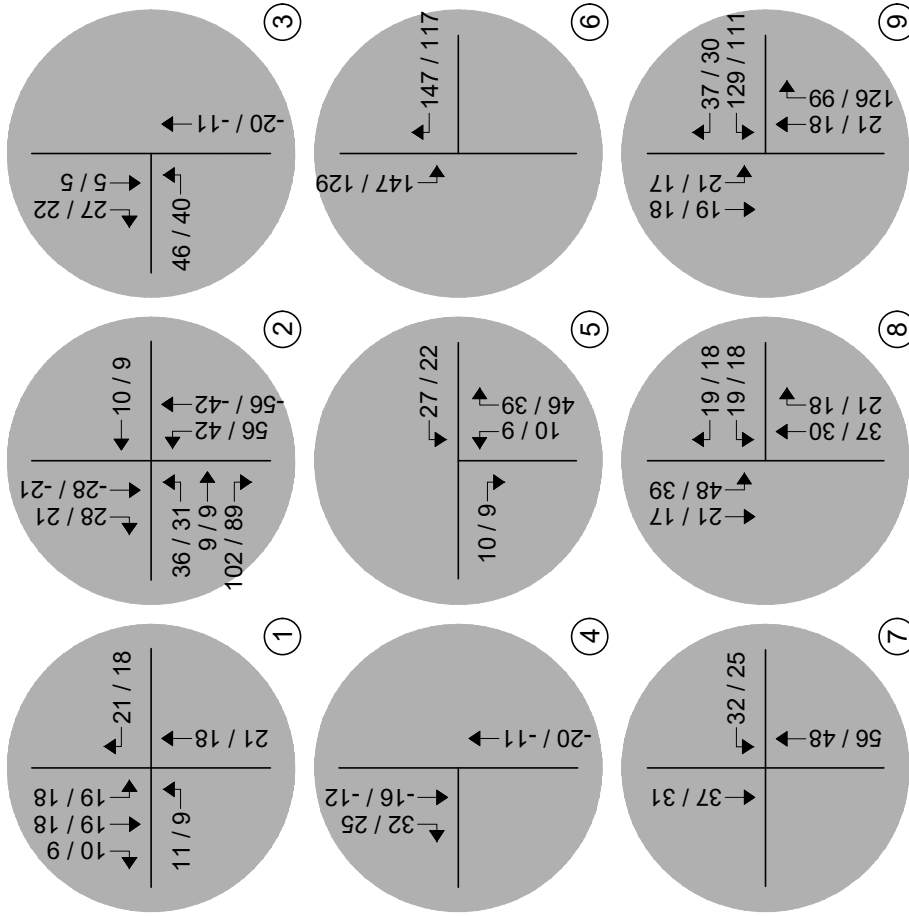
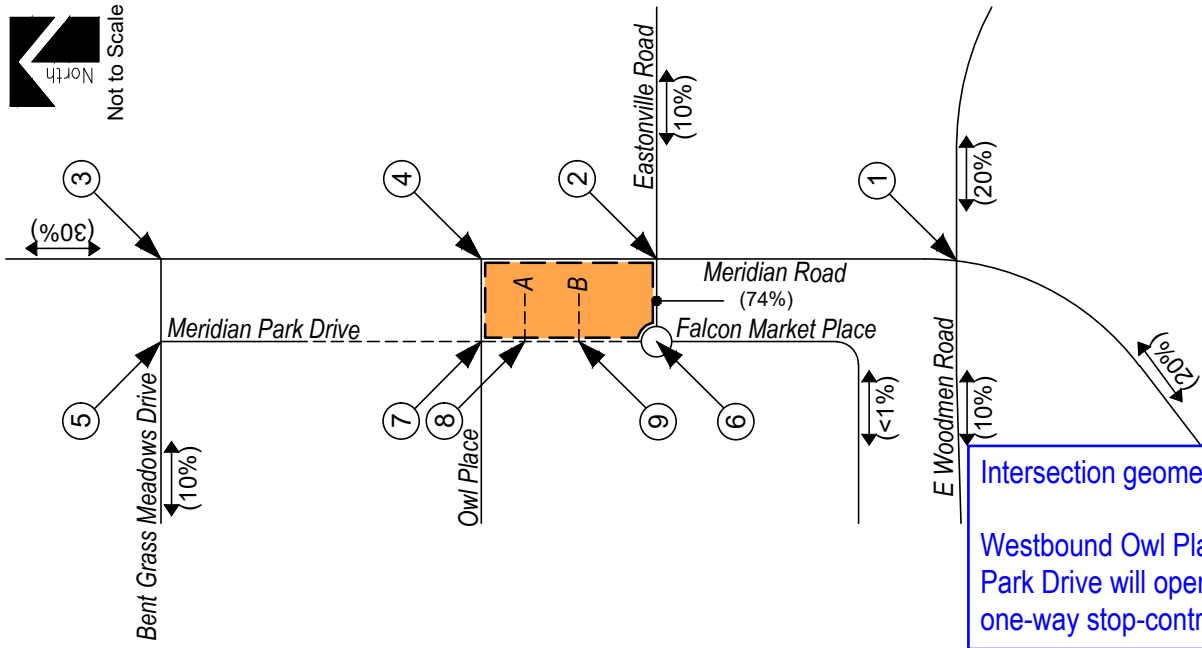
Total Traffic Analysis Results Upon Development Build-Out

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 as established within the Owl Place Commercial Traffic Impact Study, Figure 5 and 6, with consideration of the updated site-generated traffic.

The following Figures 5 and 6 show the projected total traffic volumes for Year 2024 and Year 2040, respectively.



Not to Scale



Intersection geometry added.

Westbound Owl Place at Meridian Park Drive will operate as a one-way stop-controlled.

please also provide intersection geometry for each of the intersections.

Will westbound Owl place at Meridian park Drive be a stop condition?

LEGEND

- Study Intersection
- Volumes
- Development Site

Figure 3
DEVELOPMENT DISTRIBUTION - YEAR 2024
 (%): Overall
SITE-GENERATED
 AM / PM Peak Hour

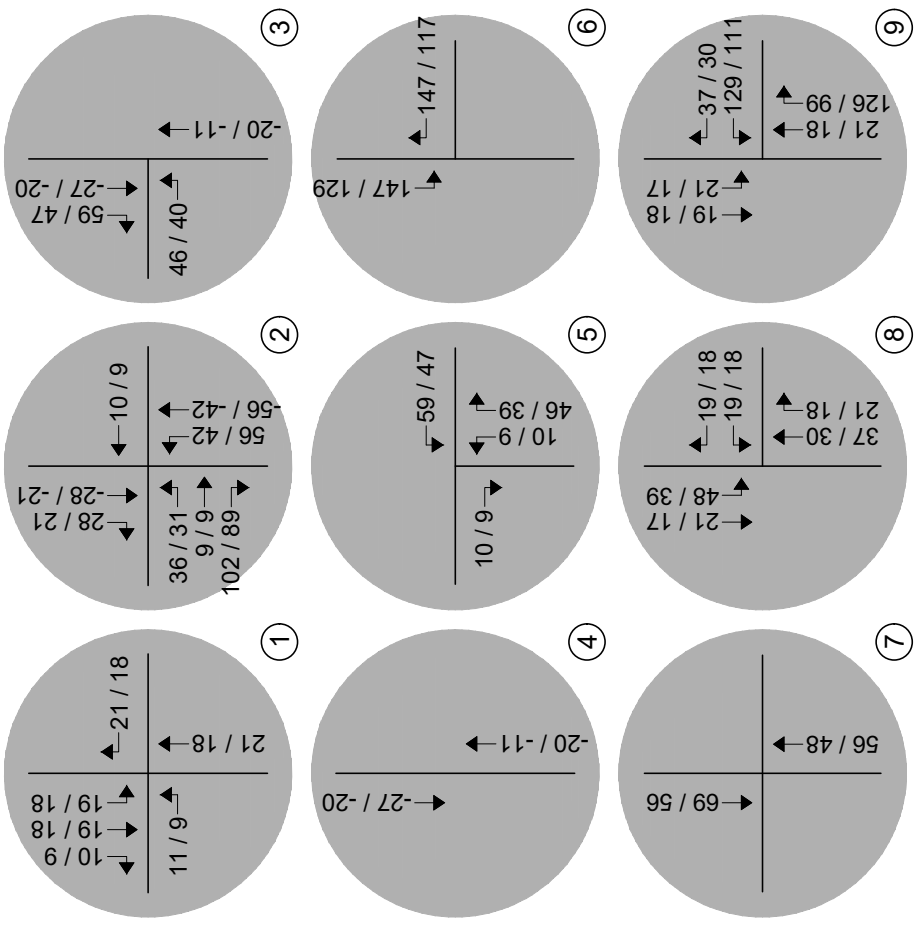
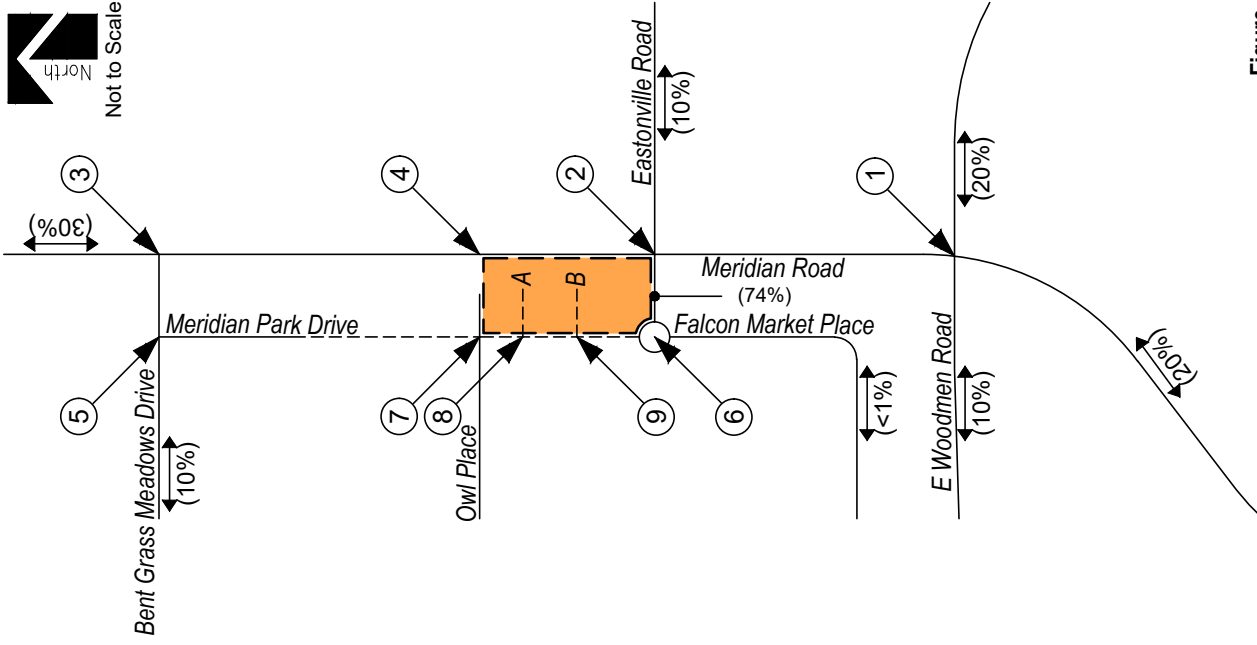
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Not to Scale



LEGEND

- Study Intersection
- Volumes
- Development Site

Figure 4
SITE DEVELOPMENT DISTRIBUTION - YEAR 2040
 (%): Overall
SITE-GENERATED
 AM / PM Peak Hour

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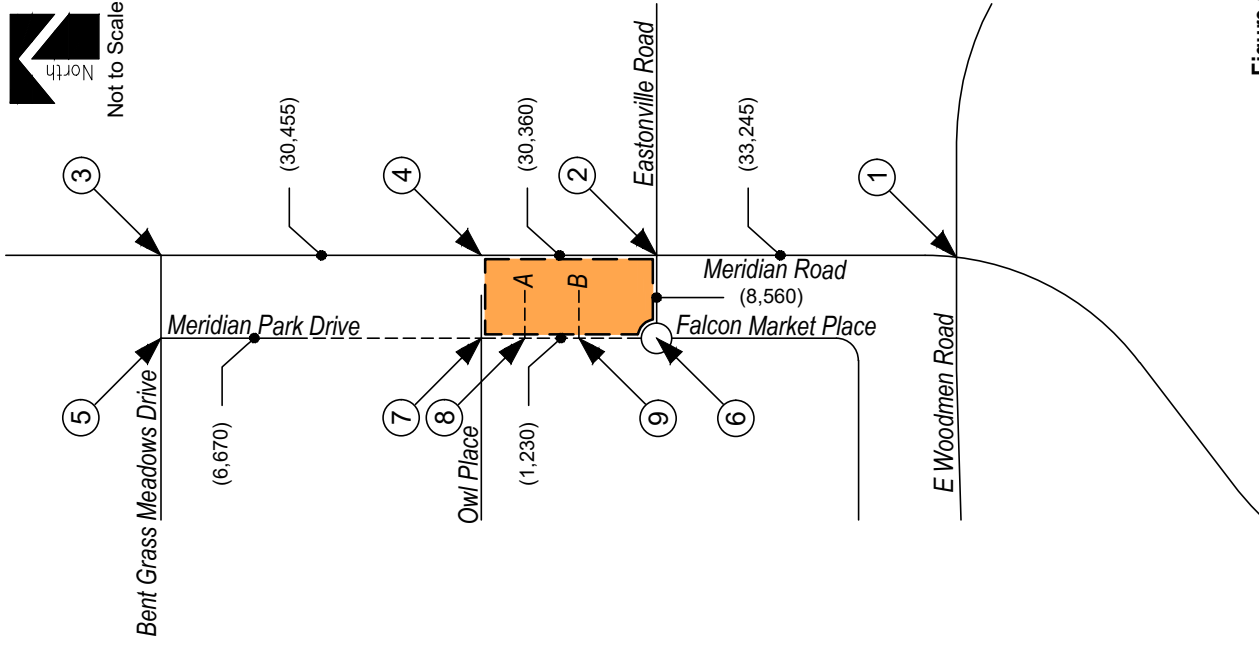
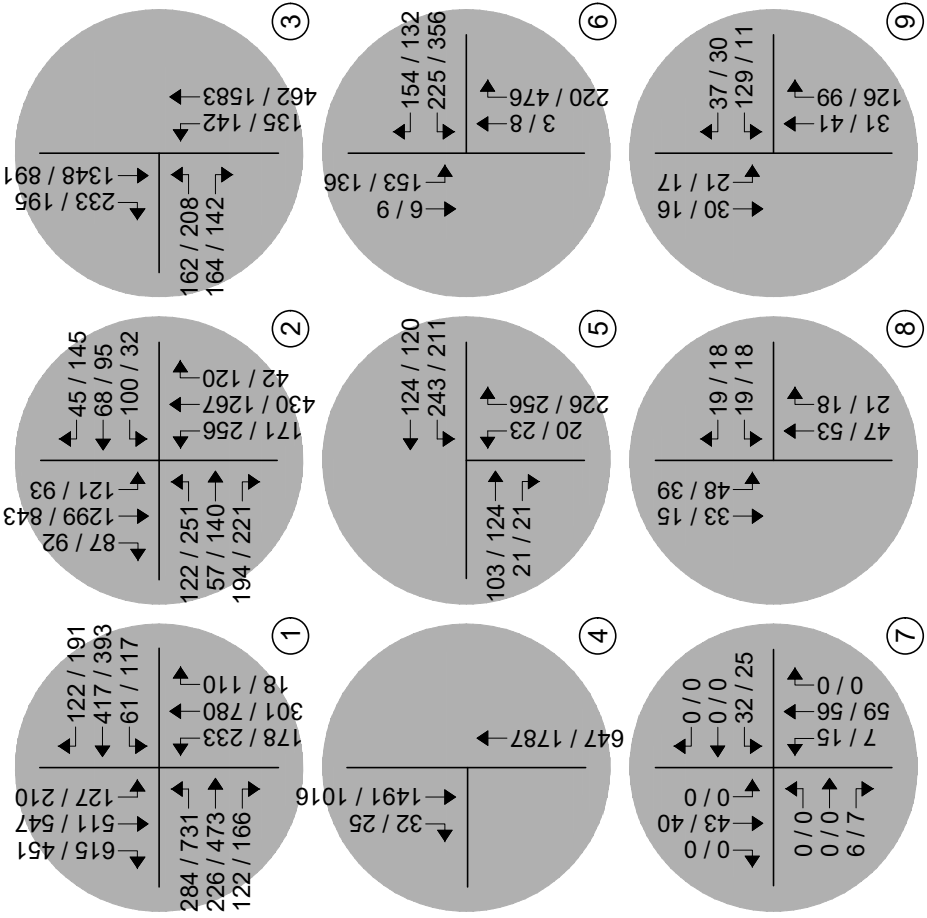


Figure 5
TOTAL TRAFFIC - YEAR 2024
Volumes
AM / PM Peak Hour
(ADT) : Average Daily Traffic



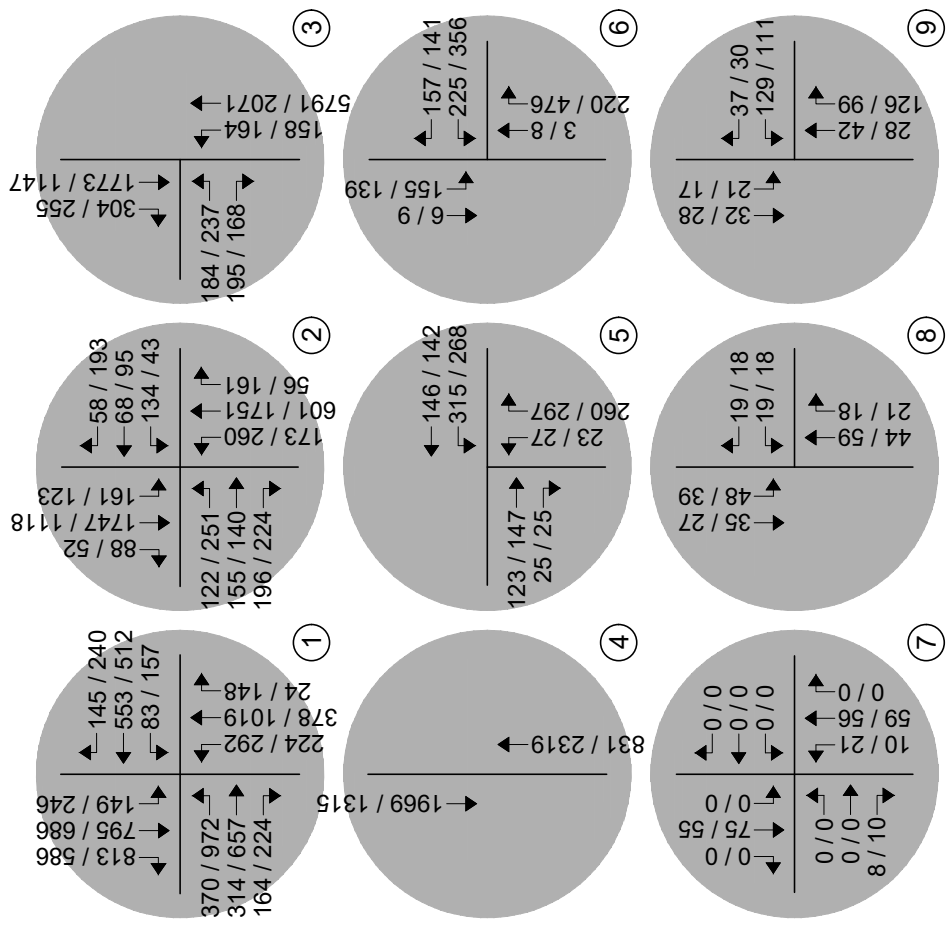
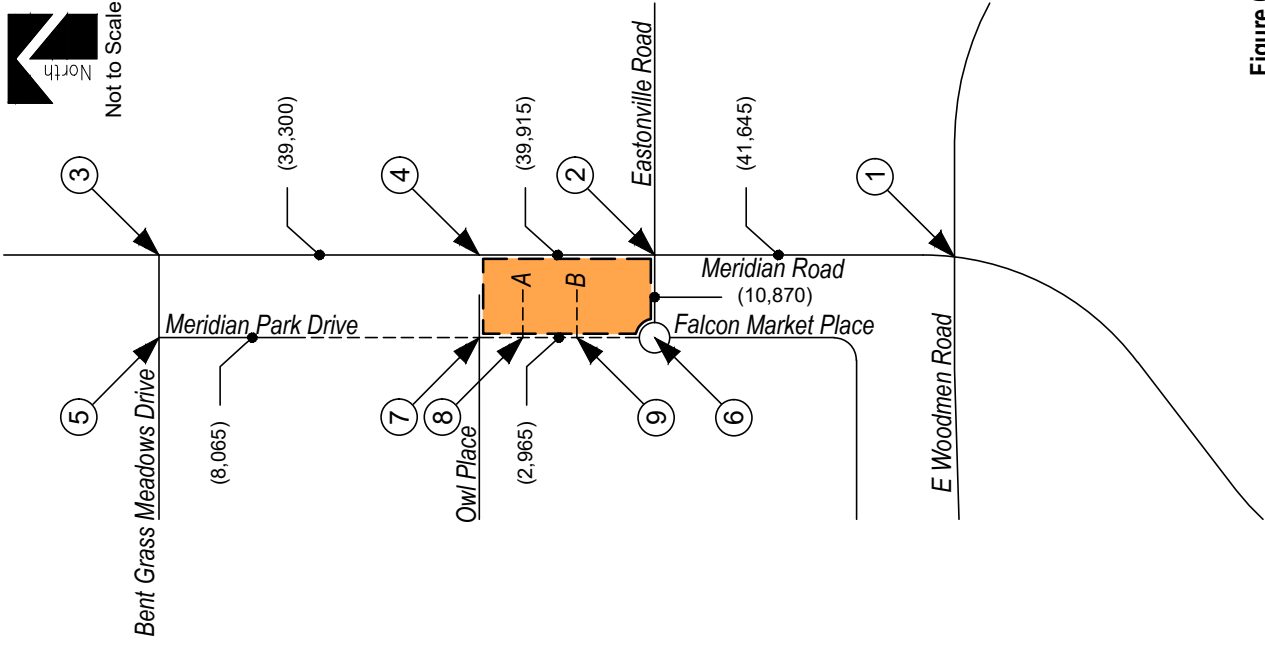
LEGEND

- Study Intersection
- Volumes
- Development Site

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LEGEND

- Study Intersection
- Volumes
- Development Site

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Figure 6
TOTAL TRAFFIC - YEAR 2040
Volumes
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Development Impacts & Peak Hour Intersection Levels of Service

The analyses and procedures described in this study were performed in accordance with the latest Highway Capacity Manual (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.

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 Year 2025 and 2040 total traffic level of service analysis results are summarized in Table 4 and 5, respectively. Intersection capacity worksheets are provided in Attachment B.

Table 4 – Intersection Capacity Analysis Summary – Total Traffic – Year 2025

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (32.2)	D (46.3)
Meridian Road / Eastonville Road (Signalized)	C (28.4)	C (24.8)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (16.6)	A (9.4)
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	B	B
Eastonville Road / Falcon Market Place (Roundabout)		
Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled)		
Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	A	A
Southbound Left, Through and Right	A	A
Access A / Falcon Market Place (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A
Access B / Falcon Market Place (Stop-Controlled)		
Westbound Left and Right	B	B
Southbound Left and Through	A	A

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

Table 5 – 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 (35.8)	E (78.2)
Meridian Road / Eastonville Road (Signalized)	D (43.3)	C (27.9)
Meridian Road / Bent Grass Meadows Drive (Signalized)	C (23.6)	B (13.6)
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	B	B
Eastonville Road / Falcon Market Place (Roundabout)		
Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled)		
Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	A	A
Southbound Left, Through and Right	A	A
Access A / Falcon Market Place (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A
Access B / Falcon Market Place (Stop-Controlled)		
Westbound Left and Right	B	B
Southbound Left and Through	A	A

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

Total Traffic Analysis Results Upon Development Build-Out

Table 4 illustrates how, by Year and upon Development build-out, the signalized intersection of Meridian Road with E Woodmen Road shows an overall LOS D operation during the morning peak traffic hour and LOS E operation during the afternoon peak traffic hour. Operations of Meridian Road with E Woodmen Road are comparable to or better than those previously stated in the Owl Place Commercial Traffic Impact Study. All improvement recommendations made in the previous traffic impact study remain valid.

The signalized intersection of Meridian Road with Eatonville Road is projected to have morning peak traffic hour operations at LOS D during and LOS C during the afternoon peak traffic hour.

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 stop-controlled intersection of Bent Grass Meadows Drive with Meridian Park Drive is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hour.

The roundabout intersection of Eatonville Road with Falcon Market Place is projected to have turning movement operations at LOS A for both the morning and afternoon peak traffic hours.

The stop-controlled intersection of Owl Place with Falcon Market Place is projected to have turning movement operations at LOS A for both the morning and afternoon peak traffic hours.

The stop-controlled intersections of site access A and B with Falcon Market Place are projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

Compared to analysis results originally presented within the Owl Place Commercial TIS, it is concluded that the LOS results stated above are generally better than, or comparable to, those previously presented. As such, all roadway improvements and intersection improvements identified in the previous Owl Place Commercial Traffic Impact Study remain valid.

Queue Length Analysis

Queue lengths for the study intersections were previously assessed in the approved Owl Place Commercial Traffic Impact Study. This analysis provided queue length estimates using Year 2040 total traffic conditions. Queue analysis results yields estimates for 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Projected queue lengths were updated using the latest trip generation estimates provided in Tables 2 and 3, with results being summarized in Table 6.

Table 6 – Queue Length Analysis

Intersection	Turn Movement	Existing Turn Lane Length (feet)	AM Peak Hour	PM Peak Hour	Recommended Turn Lane Length (feet)	
			95th Percentile Queue Length (feet)	95th Percentile Queue Length (feet)		
Signalized Intersections						
Meridian Road / E Woodmen Road	EB	L	720' x2	228'	646'	720' x2
		T	-	152'	326'	-
		R	635'	0'	0'	635'
	WB	L	440' x2	63'	103'	440' x2
		T	-	327'	387'	-
		R	210'	0'	89'	210'
	NB	L	420' x2	150'	212'	420' x2
		T	-	176'	636'	-
		R	330'	0'	0'	330'
	SB	L	460' x2	71'	207'	460' x2
		T	-	260'	386'	-
		R	575'	0'	0'	575'
Meridian Road / Eastonville Road	EB	L	100' x2	73'	152'	100' x2
		T	-	300'	238'	-
		R	100'	122'	68'	100'
	WB	L	100'	198'	66'	100'
		T	-	108'	144'	-
		R	100'	0'	39'	100'
	NB	L	100'	178'	102'	100'
		T	-	173'	216'	-
		R	400'	11'	1'	400'
	SB	L	375'	19'	174'	375'
		T	-	994'	600'	-
		R	400'	0'	0'	400'
Meridian Road / Bent Grass Meadows Drive	EB	L	160' X2	117'	144'	160' X2
		R	-	119'	68'	-
	NB	L	700'	176'	10'	700'
		T	-	175'	881'	-
	SB	T	-	777'	376'	-
		R	330'	36'	35'	330'
Stop-Controlled Intersections						
Bent Grass Meadows Drive / Meridian Park Drive	EB	T	-	0'	0'	-
		R	-	0'	0'	-
	WB	L	-	23'	20'	-
		T	-	0'	0'	-
NB	L,R	-	53'	68'	-	
Falcon Market Place / Owl Place	EB	L,T,R	-	0'	0'	-
	WB	L,T,R	-	0'	0'	-
	NB	L,T,R	-	0'	0'	-
	SB	L,T,R	-	0'	0'	-
Meridian Park Drive / Access A	WB	L,R	-	3'	3'	-
	NB	T,R	-	0'	0'	-
	SB	L,T	-	3'	3'	-
Meridian Park Drive / Access B	WB	L,R	-	20'	18'	-
	NB	T,R	-	0'	0'	-
	SB	L,T	-	0'	0'	-
Roundabout Intersections						
Meridian Park Drive / Eastonville Road / Falcon Market Place	WB	L,R	-	25'	50'	-
	NB	T,R	-	25'	50'	-
	SB	L,T	-	25'	25'	-

Note: Turn Lane Length does not include taper length.
Key: x2 = Dual Turn Lanes.

Auxiliary turn lane analysis/recommendations added.

Access point locations discussion added.

Sight distance analysis discussion added.

Meridian Park Drive classification added.

No deviations to County Standards are identified at this time.

A table with off-site and on-site improvement recommendations added.

Autoturn exhibit to be provided by project Civil as requested.

...s remain comparable to, or better than those of the Traffic Impact Study. All previous assumptions and on-site improvements remain valid.

Impact Fee Program (Resolution 19-471), as amended. Pursuant to the latest proposed site plan, it is anticipated that 10,810 square feet of on-site improvements are required. Based on this square footage, the obligation for payment will be selected at the discretion of the applicant. Payment shall be concurrent with the site plan application.

- Please provide auxiliary turn lane analysis/recommendations at Owl Place/Meridian park Drive and along Meridian Park drive at the proposed access points. The previous traffic study identified that a westbound left along Owl Place may be required. Also the table of improvements in the previous traffic study identified left and right turn lanes along Meridian Park drive (a.k.a falcon market place in previous report) for the site accesses. Please also address/state whether any changes are needed to the existing turn lanes in the development area intersections due to this developments traffic.
- The location of the access points are needed and shall be evaluated at this stage as joint access easements need to be provided on the plat. Refer to ECM 2.4.
- Also provide sight distance analysis in your narrative.
- Identify the classification of the proposed Meridian Park road.
- Should any deviations be requested please list them and provide justification.
- Provide a table with the recommended offsite and onsite improvements.
- Provide Autoturn exhibit for right in only at Owl Place.

Conclusion

This analysis assessed traffic generation for the Owl Place Commercial development, provided a traffic volume comparison to previous land use assumptions approved for the development site, and considered potential impacts to the adjacent roadway network.

It is our professional opinion that the proposed site-generated traffic is expected to create no negative impact upon consideration for, and application of, all applicable roadway and intersection improvements identified in the approved TIS. All conclusions and recommendations presented in the previous site traffic study remain valid.

We trust that our findings will assist in the planning and approval of the Owl Place Commercial development. Please contact us should further assistance be needed.

Sincerely,

SM ROCHA, LLC
Traffic and Transportation Consultants



Stephen Simon, EIT
Traffic Engineer



Fred Lantz, PE
Traffic Engineer

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

12/21/2023
Date

Developer's Statement

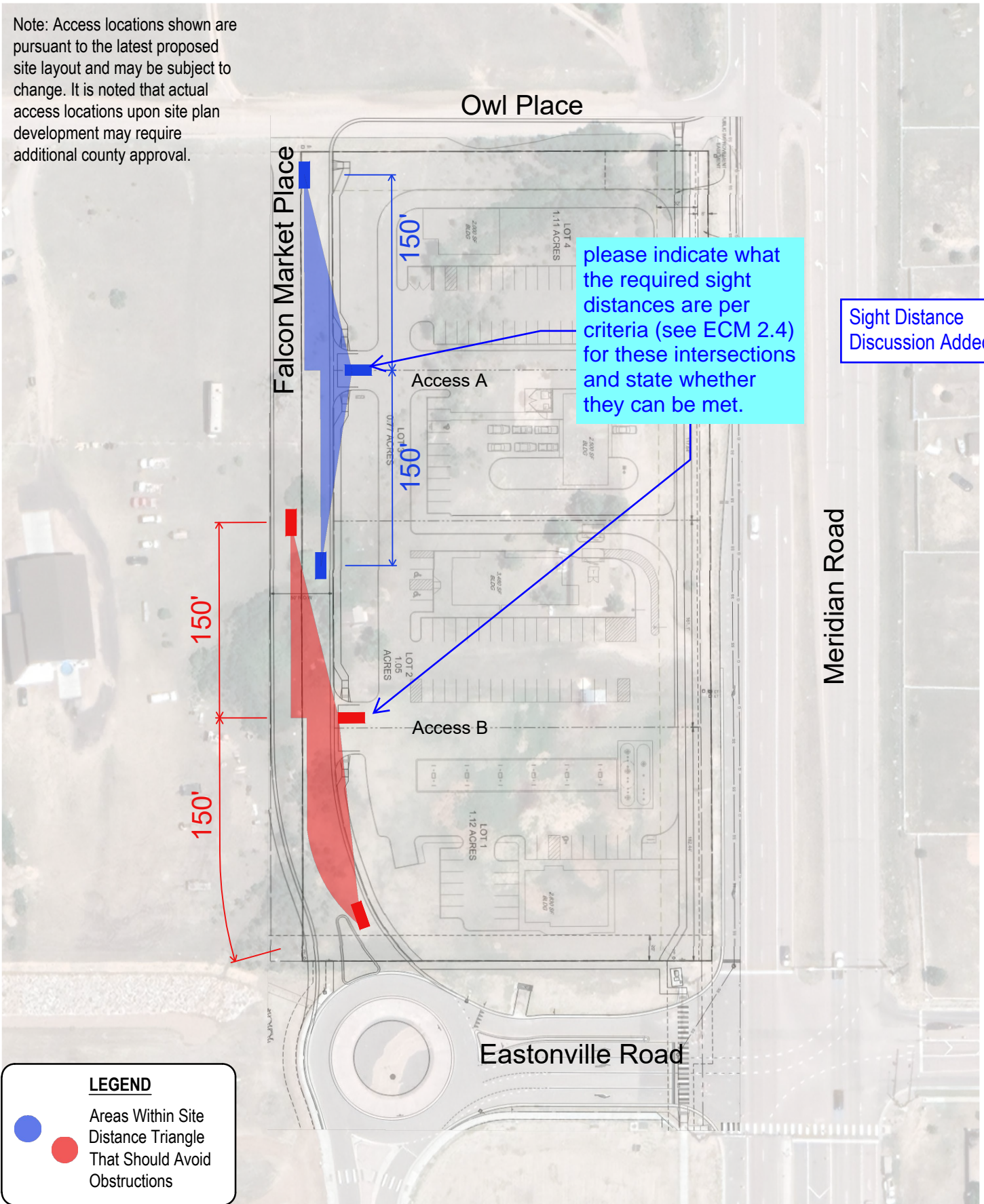
I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Brian Zurek
Double Tree Ventures, LLC
1776 N Scottsdale Rd.
PO Box 220
Scottsdale, AZ 85257-2115

12/21/2023
Date

ATTACHMENT A
Site Distance Exhibit

























Note: Access locations shown are pursuant to the latest proposed site layout and may be subject to change. It is noted that actual access locations upon site plan development may require additional county approval.



ATTACHMENT B
Capacity Worksheets

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
AM Peak Hour - Year 2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	226	122	61	417	122	178	301	18	127	611	615
Future Volume (vph)	284	226	122	61	417	122	178	301	18	127	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)	309	246	133	66	453	133	193	327	20	138	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)	15.9	31.5	120.0	7.7	20.7	20.7	11.0	44.0	120.0	9.5	42.5	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	0.35	1.00
v/c Ratio	0.68	0.27	0.08	0.30	0.74	0.31	0.61	0.25	0.01	0.51	0.53	0.42
Control Delay	57.3	35.8	0.1	56.6	54.8	3.8	61.4	28.9	0.0	64.3	33.0	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	57.3	35.8	0.1	56.6	54.8	3.8	61.4	28.9	0.0	64.3	33.0	0.5
LOS	E	D	A	E	D	A	E	C	A	E	C	A
Approach Delay		38.6			44.5			39.4			21.2	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	119	82	0	25	177	0	74	93	0	58	153	0
Queue Length 95th (ft)	161	110	0	48	223	19	#124	145	0	m76	231	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	947	1583	472	766	485	317	1297	1583	285	1252	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	0.25	0.01	0.48	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

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 67.6%

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	42 s	24 s	36 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	42 s	27 s	33 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	57	194	100	68	45	171	430	42	121	1299	87
Future Volume (vph)	122	57	194	100	68	45	171	430	42	121	1299	87
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.566			0.717			0.067			0.484		
Satd. Flow (perm)	2045	1863	1583	1336	1863	1583	125	3539	1583	902	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	133	62	211	109	74	49	186	467	46	132	1412	95
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)	19.7	10.0	10.0	18.1	10.7	10.7	74.3	62.4	62.4	66.0	59.3	59.3
Actuated g/C Ratio	0.16	0.08	0.08	0.15	0.09	0.09	0.62	0.52	0.52	0.55	0.49	0.49
v/c Ratio	0.28	0.40	0.70	0.46	0.45	0.16	0.78	0.25	0.05	0.24	0.81	0.11
Control Delay	39.0	59.1	23.3	45.7	60.0	1.1	57.8	23.1	1.6	4.8	27.6	2.0
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	39.0	59.1	23.3	45.7	60.0	1.1	57.8	23.1	1.6	4.8	27.6	2.0
LOS	D	E	C	D	E	A	E	C	A	A	C	A
Approach Delay		33.9			40.8			30.9			24.3	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	43	47	19	71	55	0	111	100	1	19	601	6
Queue Length 95th (ft)	68	90	96	118	103	0	#230	132	m8	m19	665	m14
Internal Link Dist (ft)		324			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	497	209	343	247	209	343	243	1840	908	551	1747	871
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	0.27	0.30	0.62	0.44	0.35	0.14	0.77	0.25	0.05	0.24	0.81	0.11

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.4 Intersection LOS: C
 Intersection Capacity Utilization 75.5% 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: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
15 s	67 s		18 s	20 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	64 s		18 s	20 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↗	↑↑	↑↑	↖
Traffic Volume (vph)	162	164	135	442	1348	233
Future Volume (vph)	162	164	135	442	1348	233
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)		178				253
Lane Group Flow (vph)	176	178	147	480	1465	253
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)	11.5	11.5	92.5	93.5	75.5	75.5
Actuated g/C Ratio	0.10	0.10	0.77	0.78	0.63	0.63
v/c Ratio	0.54	0.57	0.53	0.17	0.66	0.23
Control Delay	57.4	14.7	16.7	9.2	16.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	14.7	16.7	9.2	16.8	2.0
LOS	E	B	B	A	B	A
Approach Delay	35.9			11.0	14.6	
Approach LOS	D			B	B	
Queue Length 50th (ft)	68	0	51	115	341	0
Queue Length 95th (ft)	102	66	75	111	517	36
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	418	310	2757	2227	1089
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	0.30	0.43	0.47	0.17	0.66	0.23

Intersection Summary

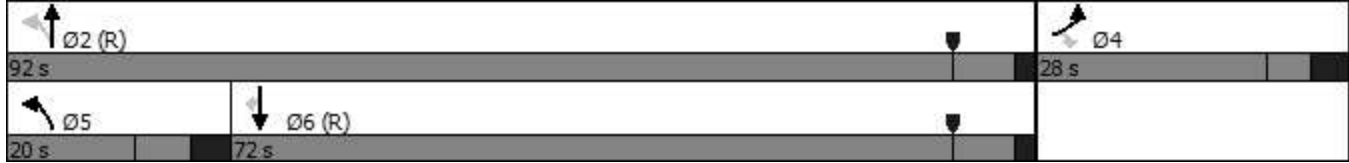
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 71.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	103	21	243	124	20	226
Future Vol, veh/h	103	21	243	124	20	226
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
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	112	23	264	135	22	246

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	135	0	775 112
Stage 1	-	-	-	-	112 -
Stage 2	-	-	-	-	663 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1449	-	366 941
Stage 1	-	-	-	-	913 -
Stage 2	-	-	-	-	512 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1449	-	299 941
Mov Cap-2 Maneuver	-	-	-	-	299 -
Stage 1	-	-	-	-	913 -
Stage 2	-	-	-	-	419 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	801	-	-	1449	-
HCM Lane V/C Ratio	0.334	-	-	0.182	-
HCM Control Delay (s)	11.7	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	-	-	0.7	-

HCM 6th Roundabout
6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	5.2		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	412	242	173
Demand Flow Rate, veh/h	420	247	176
Vehicles Circulating, veh/h	3	169	250
Vehicles Exiting, veh/h	413	257	173
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.4	5.1	4.9
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	420	247	176
Cap Entry Lane, veh/h	1376	1161	1069
Entry HV Adj Factor	0.981	0.980	0.982
Flow Entry, veh/h	412	242	173
Cap Entry, veh/h	1349	1138	1050
V/C Ratio	0.305	0.213	0.165
Control Delay, s/veh	5.4	5.1	4.9
LOS	A	A	A
95th %tile Queue, veh	1	1	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	6	32	0	0	7	59	0	0	43	0
Future Vol, veh/h	0	0	6	32	0	0	7	59	0	0	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	35	0	0	8	64	0	0	47	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	127	127	47	131	127	64	47	0	0	64	0	0
Stage 1	47	47	-	80	80	-	-	-	-	-	-	-
Stage 2	80	80	-	51	47	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	846	764	1022	841	764	1000	1560	-	-	1538	-	-
Stage 1	967	856	-	929	828	-	-	-	-	-	-	-
Stage 2	929	828	-	962	856	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	843	760	1022	833	760	1000	1560	-	-	1538	-	-
Mov Cap-2 Maneuver	843	760	-	833	760	-	-	-	-	-	-	-
Stage 1	962	856	-	924	824	-	-	-	-	-	-	-
Stage 2	924	824	-	956	856	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.5		9.5		0.8		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1560	-	-	1022	833	1538	-	-
HCM Lane V/C Ratio	0.005	-	-	0.006	0.042	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	9.5	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	19	19	47	21	48	33
Future Vol, veh/h	19	19	47	21	48	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	21	51	23	52	36

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	203	63	0	0	74	0
Stage 1	63	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	786	1002	-	-	1526	-
Stage 1	960	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	758	1002	-	-	1526	-
Mov Cap-2 Maneuver	758	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	856	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	863	1526
HCM Lane V/C Ratio	-	-	0.048	0.034
HCM Control Delay (s)	-	-	9.4	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	5.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		B			B
Traffic Vol, veh/h	129	37	31	126	21	30
Future Vol, veh/h	129	37	31	126	21	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	40	34	137	23	33

























Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	182	103	0	0	171
Stage 1	103	-	-	-	-
Stage 2	79	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	807	952	-	-	1406
Stage 1	921	-	-	-	-
Stage 2	944	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	793	952	-	-	1406
Mov Cap-2 Maneuver	793	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	928	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1406
HCM Lane V/C Ratio	-	-	0.219	0.016
HCM Control Delay (s)	-	-	10.6	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
PM Peak Hour - Year 2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	731	473	166	117	393	191	233	780	110	210	547	451
Future Volume (vph)	731	473	166	117	393	191	233	780	110	210	547	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)	795	514	180	127	427	208	253	848	120	228	595	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	33.0	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	0.28	1.00	0.08	0.27	1.00
v/c Ratio	0.93	0.47	0.11	0.45	0.83	0.47	0.88	0.87	0.08	0.83	0.62	0.31
Control Delay	62.2	34.9	0.1	57.4	64.6	6.1	85.3	52.7	0.1	68.5	60.2	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	62.2	34.9	0.1	57.4	64.6	6.1	85.3	52.7	0.1	68.5	60.2	0.5
LOS	E	C	A	E	E	A	F	D	A	E	E	A
Approach Delay		45.3			47.4			54.3			39.4	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	309	165	0	48	170	0	102	334	0	94	249	0
Queue Length 95th (ft)	#421	225	0	79	#243	37	#182	#447	0	#161	313	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1105	1583	529	530	449	286	974	1583	276	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	0.47	0.11	0.24	0.81	0.46	0.88	0.87	0.08	0.83	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

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 46.3 Intersection LOS: D
 Intersection Capacity Utilization 85.5% 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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	39 s	26 s	37 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	39 s	38 s	25 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	140	221	32	95	145	256	1267	120	93	843	92
Future Volume (vph)	251	140	221	32	95	145	256	1267	120	93	843	92
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.506			0.660			0.187			0.079		
Satd. Flow (perm)	1829	1863	1583	1229	1863	1583	348	3539	1583	147	3539	1583
Satd. Flow (RTOR)			240			186			177			177
Lane Group Flow (vph)	273	152	240	35	103	158	278	1377	130	101	916	100
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)	25.9	20.6	20.6	18.4	12.1	12.1	73.2	59.2	59.2	61.7	54.5	54.5
Actuated g/C Ratio	0.22	0.17	0.17	0.15	0.10	0.10	0.61	0.49	0.49	0.51	0.45	0.45
v/c Ratio	0.51	0.48	0.51	0.16	0.55	0.48	0.74	0.79	0.15	0.54	0.57	0.12
Control Delay	40.7	52.1	10.0	35.9	62.1	9.2	26.5	10.0	0.7	28.4	43.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	52.1	10.0	35.9	62.1	9.2	26.5	10.0	0.7	28.4	43.8	9.7
LOS	D	D	B	D	E	A	C	B	A	C	D	A
Approach Delay		32.3			30.7			11.9			39.3	
Approach LOS		C			C			B			D	
Queue Length 50th (ft)	90	114	0	21	77	0	62	303	2	51	386	12
Queue Length 95th (ft)	124	184	75	47	132	41	m80	m375	m6	92	461	45
Internal Link Dist (ft)		333			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	535	321	471	268	240	366	427	1746	870	206	1606	815
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	0.51	0.47	0.51	0.13	0.43	0.43	0.65	0.79	0.15	0.49	0.57	0.12

Intersection Summary

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

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 24.8

Intersection LOS: C









Intersection Capacity Utilization 78.4%

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 & Eastonville Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	62 s	18 s	22 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	55 s	18 s	22 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	142	142	1583	891	195
Future Volume (vph)	208	142	142	1583	891	195
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.229			
Satd. Flow (perm)	3433	1583	427	3539	3539	1583
Satd. Flow (RTOR)		154				212
Lane Group Flow (vph)	226	154	154	1721	968	212
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 Effect Green (s)	13.2	13.2	90.8	91.8	74.9	74.9
Actuated g/C Ratio	0.11	0.11	0.76	0.76	0.62	0.62
v/c Ratio	0.60	0.50	0.37	0.64	0.44	0.20
Control Delay	57.3	13.1	2.7	2.2	12.9	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	13.1	2.7	2.2	12.9	1.9
LOS	E	B	A	A	B	A
Approach Delay	39.4			2.3	11.0	
Approach LOS	D			A	B	
Queue Length 50th (ft)	87	0	5	26	190	0
Queue Length 95th (ft)	124	61	m7	34	270	32
Internal Link Dist (ft)	333			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	386	451	2707	2210	1068
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	0.41	0.40	0.34	0.64	0.44	0.20

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 27 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 9.4

Intersection LOS: A

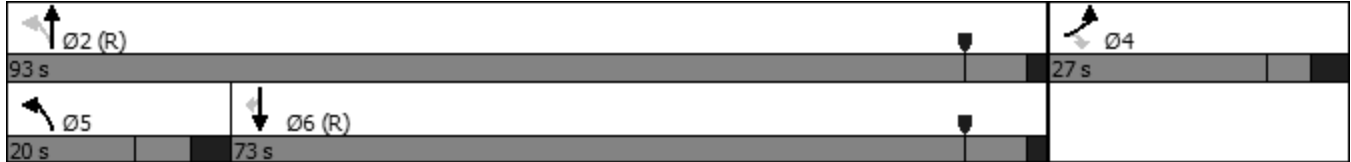
Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	6.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	124	21	211	120	23	256
Future Vol, veh/h	124	21	211	120	23	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
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	135	23	229	130	25	278

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	158	0	723
Stage 1	-	-	-	-	135
Stage 2	-	-	-	-	588
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1422	-	393
Stage 1	-	-	-	-	891
Stage 2	-	-	-	-	555
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1422	-	330
Mov Cap-2 Maneuver	-	-	-	-	330
Stage 1	-	-	-	-	891
Stage 2	-	-	-	-	466

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1422	-
HCM Lane V/C Ratio	0.38	-	-	0.161	-
HCM Control Delay (s)	12.3	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0.6	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	7.0		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	530	526	158
Demand Flow Rate, veh/h	541	536	161
Vehicles Circulating, veh/h	9	151	395
Vehicles Exiting, veh/h	678	405	155
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.4	7.9	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	541	536	161
Cap Entry Lane, veh/h	1367	1183	922
Entry HV Adj Factor	0.980	0.981	0.980
Flow Entry, veh/h	530	526	158
Cap Entry, veh/h	1339	1160	904
V/C Ratio	0.396	0.453	0.175
Control Delay, s/veh	6.4	7.9	5.7
LOS	A	A	A
95th %tile Queue, veh	2	2	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	7	25	0	0	15	56	0	0	40	0
Future Vol, veh/h	0	0	7	25	0	0	15	56	0	0	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	8	27	0	0	16	61	0	0	43	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	136	136	43	140	136	61	43	0	0	61	0	0
Stage 1	43	43	-	93	93	-	-	-	-	-	-	-
Stage 2	93	93	-	47	43	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	835	755	1027	830	755	1004	1566	-	-	1542	-	-
Stage 1	971	859	-	914	818	-	-	-	-	-	-	-
Stage 2	914	818	-	967	859	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	828	747	1027	817	747	1004	1566	-	-	1542	-	-
Mov Cap-2 Maneuver	828	747	-	817	747	-	-	-	-	-	-	-
Stage 1	960	859	-	904	809	-	-	-	-	-	-	-
Stage 2	904	809	-	960	859	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.5		9.6		1.5		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1566	-	-	1027	817	1542	-	-
HCM Lane V/C Ratio	0.01	-	-	0.007	0.033	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	9.6	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	18	18	53	18	39	15
Future Vol, veh/h	18	18	53	18	39	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	20	58	20	42	16




Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	168	68	0	0	78
Stage 1	68	-	-	-	-
Stage 2	100	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	822	995	-	-	1520
Stage 1	955	-	-	-	-
Stage 2	924	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	799	995	-	-	1520
Mov Cap-2 Maneuver	799	-	-	-	-
Stage 1	955	-	-	-	-
Stage 2	898	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	5.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	886	1520
HCM Lane V/C Ratio	-	-	0.044	0.028
HCM Control Delay (s)	-	-	9.3	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	111	30	41	99	17	16
Future Vol, veh/h	111	30	41	99	17	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	33	45	108	18	17

























Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	152	99	0	0	153	0
Stage 1	99	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	840	957	-	-	1428	-
Stage 1	925	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	829	957	-	-	1428	-
Mov Cap-2 Maneuver	829	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	957	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	853	1428
HCM Lane V/C Ratio	-	-	0.18	0.013
HCM Control Delay (s)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
AM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	314	164	83	553	145	224	378	24	149	795	813
Future Volume (vph)	370	314	164	83	553	145	224	378	24	149	795	813
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			635
Lane Group Flow (vph)	402	341	178	90	601	158	243	411	26	162	864	884
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)	25.0	41.5		14.5	31.0	31.0	20.0	44.5		19.5	44.0	
Total Split (%)	20.8%	34.6%		12.1%	25.8%	25.8%	16.7%	37.1%		16.3%	36.7%	
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)	16.9	33.3	120.0	6.8	23.2	23.2	11.3	39.8	120.0	10.1	38.6	120.0
Actuated g/C Ratio	0.14	0.28	1.00	0.06	0.19	0.19	0.09	0.33	1.00	0.08	0.32	1.00
v/c Ratio	0.83	0.35	0.11	0.46	0.88	0.31	0.75	0.35	0.02	0.56	0.76	0.56
Control Delay	65.5	35.5	0.1	62.7	62.3	1.6	68.2	32.1	0.0	64.8	37.6	1.7
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	65.5	35.5	0.1	62.7	62.3	1.6	68.2	32.1	0.0	64.8	37.6	1.7
LOS	E	D	A	E	E	A	E	C	A	E	D	A
Approach Delay		41.8			51.0			43.7			23.3	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	157	110	0	35	238	0	95	130	0	69	255	0
Queue Length 95th (ft)	#228	152	0	63	#327	0	#150	176	0	m71	m260	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	500	1017	1583	200	707	516	330	1172	1583	314	1137	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	0.80	0.34	0.11	0.45	0.85	0.31	0.74	0.35	0.02	0.52	0.76	0.56

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: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 35.8

Intersection LOS: D

Intersection Capacity Utilization 79.2%

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19.5 s	44.5 s	14.5 s	41.5 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	44 s	25 s	31 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (vph)	122	155	196	134	68	58	173	601	56	161	1747	88
Future Volume (vph)	122	155	196	134	68	58	173	601	56	161	1747	88
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.504			0.541			0.061			0.388		
Satd. Flow (perm)	1821	1863	1583	1008	1863	1583	114	3539	1583	723	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	133	168	213	146	74	63	188	653	61	175	1899	96
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	15.6	15.6	12.6	15.7	15.7	22.3	74.2	74.2	17.6	69.5	69.5
Total Split (%)	10.4%	13.0%	13.0%	10.5%	13.1%	13.1%	18.6%	61.8%	61.8%	14.7%	57.9%	57.9%
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)	14.6	9.1	9.1	11.7	9.0	9.0	79.6	67.2	67.2	72.0	64.4	64.4
Actuated g/C Ratio	0.12	0.08	0.08	0.10	0.08	0.08	0.66	0.56	0.56	0.60	0.54	0.54
v/c Ratio	0.40	1.19	0.73	1.12	0.54	0.22	0.76	0.33	0.06	0.34	1.00	0.10
Control Delay	47.5	183.6	26.6	160.5	68.0	1.7	50.6	21.0	2.3	3.9	37.9	0.7
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	47.5	183.6	26.6	160.5	68.0	1.7	50.6	21.0	2.3	3.9	37.9	0.7
LOS	D	F	C	F	E	A	D	C	A	A	D	A
Approach Delay		83.4			101.0			25.9			33.5	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)	46	~157	20	~105	56	0	119	141	3	15	~843	0
Queue Length 95th (ft)	75	#300	#122	#198	108	0	m178	173	m11	m19	#994	m0
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	330	141	291	130	142	293	282	1982	964	516	1899	931
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	0.40	1.19	0.73	1.12	0.52	0.22	0.67	0.33	0.06	0.34	1.00	0.10

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated











Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 43.3 Intersection LOS: D
 Intersection Capacity Utilization 96.8% 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: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
17.6 s	74.2 s		12.6 s	15.6 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
22.3 s	69.5 s		12.5 s	15.7 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↗	↑↑	↑↑	↖
Traffic Volume (vph)	184	195	158	579	1773	304
Future Volume (vph)	184	195	158	579	1773	304
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.048			
Satd. Flow (perm)	3433	1583	89	3539	3539	1583
Satd. Flow (RTOR)		164				330
Lane Group Flow (vph)	200	212	172	629	1927	330
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)	19.9	19.9	20.2	100.1	79.9	79.9
Total Split (%)	16.6%	16.6%	16.8%	83.4%	66.6%	66.6%
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)	11.4	11.4	92.6	93.6	74.5	74.5
Actuated g/C Ratio	0.10	0.10	0.77	0.78	0.62	0.62
v/c Ratio	0.62	0.71	0.80	0.23	0.88	0.30
Control Delay	60.6	28.0	44.0	10.8	25.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	28.0	44.0	10.8	25.4	1.8
LOS	E	C	D	B	C	A
Approach Delay	43.9			18.0	21.9	
Approach LOS	D			B	C	
Queue Length 50th (ft)	77	35	60	123	644	0
Queue Length 95th (ft)	117	119	#176	175	777	36
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	354	310	232	2760	2198	1108
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	0.56	0.68	0.74	0.23	0.88	0.30

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 23.6 Intersection LOS: C
 Intersection Capacity Utilization 84.0% 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: 3: Meridian Road & Bent Grass Meadows Drive

Ø2 (R) 100.1 s		Ø4 19.9 s	
Ø5 20.2 s	Ø6 (R) 79.9 s		

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	7.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	123	25	315	146	23	260
Future Vol, veh/h	123	25	315	146	23	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
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	134	27	342	159	25	283

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	161	0	977 134
Stage 1	-	-	-	-	134 -
Stage 2	-	-	-	-	843 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1418	-	278 915
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	422 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1418	-	211 915
Mov Cap-2 Maneuver	-	-	-	-	211 -
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	320 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.7	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	720	-	-	1418	-
HCM Lane V/C Ratio	0.427	-	-	0.241	-
HCM Control Delay (s)	13.7	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2.1	-	-	0.9	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	5.2		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	416	242	175
Demand Flow Rate, veh/h	424	247	178
Vehicles Circulating, veh/h	3	171	250
Vehicles Exiting, veh/h	415	257	177
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.4	5.1	4.9
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	424	247	178
Cap Entry Lane, veh/h	1376	1159	1069
Entry HV Adj Factor	0.981	0.980	0.982
Flow Entry, veh/h	416	242	175
Cap Entry, veh/h	1350	1135	1050
V/C Ratio	0.308	0.213	0.166
Control Delay, s/veh	5.4	5.1	4.9
LOS	A	A	A
95th %tile Queue, veh	1	1	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	8	0	0	0	10	59	0	0	75	0
Future Vol, veh/h	0	0	8	0	0	0	10	59	0	0	75	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	9	0	0	0	11	64	0	0	82	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	168	168	82	173	168	64	82	0	0	64	0	0
Stage 1	82	82	-	86	86	-	-	-	-	-	-	-
Stage 2	86	86	-	87	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	796	725	978	790	725	1000	1515	-	-	1538	-	-
Stage 1	926	827	-	922	824	-	-	-	-	-	-	-
Stage 2	922	824	-	921	827	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	791	719	978	778	719	1000	1515	-	-	1538	-	-
Mov Cap-2 Maneuver	791	719	-	778	719	-	-	-	-	-	-	-
Stage 1	919	827	-	915	817	-	-	-	-	-	-	-
Stage 2	915	817	-	913	827	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.7		0		1.1		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	978	-	1538	-	-
HCM Lane V/C Ratio	0.007	-	-	0.009	-	-	-	-
HCM Control Delay (s)	7.4	0	-	8.7	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	19	19	44	21	48	35
Future Vol, veh/h	19	19	44	21	48	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	21	48	23	52	38

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	202	60	0	0	71
Stage 1	60	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	787	1005	-	-	1529
Stage 1	963	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	759	1005	-	-	1529
Mov Cap-2 Maneuver	759	-	-	-	-
Stage 1	963	-	-	-	-
Stage 2	854	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	4.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	865	1529
HCM Lane V/C Ratio	-	-	0.048	0.034
HCM Control Delay (s)	-	-	9.4	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	5.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	129	37	28	126	21	32
Future Vol, veh/h	129	37	28	126	21	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	40	30	137	23	35

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	180	99	0	0	167
Stage 1	99	-	-	-	-
Stage 2	81	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	810	957	-	-	1411
Stage 1	925	-	-	-	-
Stage 2	942	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	796	957	-	-	1411
Mov Cap-2 Maneuver	796	-	-	-	-
Stage 1	925	-	-	-	-
Stage 2	926	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	827	1411
HCM Lane V/C Ratio	-	-	0.218	0.016
HCM Control Delay (s)	-	-	10.6	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
PM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	972	657	224	157	512	240	292	1019	148	246	686	586
Future Volume (vph)	972	657	224	157	512	240	292	1019	148	246	686	586
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			637
Lane Group Flow (vph)	1057	714	243	171	557	261	317	1108	161	267	746	637
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	42.5		18.5	23.0	23.0	20.6	42.0		17.0	38.4	
Total Split (%)	31.7%	35.4%		15.4%	19.2%	19.2%	17.2%	35.0%		14.2%	32.0%	
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)	30.5	36.3	120.0	10.2	16.0	16.0	12.1	35.0	120.0	8.5	31.4	120.0
Actuated g/C Ratio	0.25	0.30	1.00	0.08	0.13	0.13	0.10	0.29	1.00	0.07	0.26	1.00
v/c Ratio	1.21	0.67	0.15	0.59	1.18	0.61	0.92	1.07	0.10	1.10	0.81	0.40
Control Delay	145.2	40.5	0.2	61.2	147.1	13.6	84.9	90.8	0.1	122.1	66.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.2	40.5	0.2	61.2	147.1	13.6	84.9	90.8	0.1	122.1	66.0	0.8
LOS	F	D	A	E	F	B	F	F	A	F	E	A
Approach Delay		90.6			97.0			80.4			49.9	
Approach LOS		F			F			F			D	
Queue Length 50th (ft)	~515	256	0	66	~272	8	127	~502	0	~121	319	0
Queue Length 95th (ft)	#646	326	0	103	#387	89	#212	#636	0	m#207	386	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1069	1583	314	471	427	346	1032	1583	243	926	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	1.21	0.67	0.15	0.54	1.18	0.61	0.92	1.07	0.10	1.10	0.81	0.40

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

Timings

1: Meridian Road & E Woodmen Road

Total Traffic Volumes

PM Peak Hour - Year 2040

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 78.2

Intersection LOS: E

Intersection Capacity Utilization 101.7%

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

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	42 s	18.5 s	42.5 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20.6 s	38.4 s	38 s	23 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 			 		 	 		 	
Traffic Volume (vph)	251	140	224	43	95	193	260	1751	161	123	1118	52
Future Volume (vph)	251	140	224	43	95	193	260	1751	161	123	1118	52
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.610			0.559			0.097			0.073		
Satd. Flow (perm)	2204	1863	1583	1041	1863	1583	181	3539	1583	136	3539	1583
Satd. Flow (RTOR)			255			255			177			245
Lane Group Flow (vph)	273	152	243	47	103	210	283	1903	175	134	1215	57
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	18.0	18.0	12.5	17.5	17.5	33.2	74.5	74.5	15.0	56.3	56.3
Total Split (%)	10.8%	15.0%	15.0%	10.4%	14.6%	14.6%	27.7%	62.1%	62.1%	12.5%	46.9%	46.9%
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)	16.8	13.4	13.4	14.4	10.4	10.4	81.5	67.3	67.3	61.9	56.0	56.0
Actuated g/C Ratio	0.14	0.11	0.11	0.12	0.09	0.09	0.68	0.56	0.56	0.52	0.47	0.47
v/c Ratio	0.75	0.73	0.60	0.30	0.64	0.57	0.75	0.96	0.18	0.82	0.74	0.07
Control Delay	59.5	73.5	12.1	46.3	71.2	9.0	37.1	9.0	0.1	54.4	47.1	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	59.5	73.5	12.1	46.3	71.2	9.0	37.1	9.0	0.1	54.4	47.1	0.1
LOS	E	E	B	D	E	A	D	A	A	D	D	A
Approach Delay		45.5			31.7			11.7			45.9	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)	96	118	0	31	78	0	126	333	1	64	521	0
Queue Length 95th (ft)	#152	#238	68	66	#144	39	m102	m216	m1	#174	600	m0
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	365	208	403	155	170	376	464	1983	965	163	1652	869
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	0.75	0.73	0.60	0.30	0.61	0.56	0.61	0.96	0.18	0.82	0.74	0.07

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 27.9 Intersection LOS: C
 Intersection Capacity Utilization 93.4% ICU Level of Service F
 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 & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
15 s	74.5 s		12.5 s	18 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
33.2 s	56.3 s		13 s	17.5 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	237	168	164	2071	1147	255
Future Volume (vph)	237	168	164	2071	1147	255
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.150			
Satd. Flow (perm)	3433	1583	279	3539	3539	1583
Satd. Flow (RTOR)		183				277
Lane Group Flow (vph)	258	183	178	2251	1247	277
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)	22.0	22.0	21.6	98.0	76.4	76.4
Total Split (%)	18.3%	18.3%	18.0%	81.7%	63.7%	63.7%
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)	13.3	13.3	90.7	91.7	74.2	74.2
Actuated g/C Ratio	0.11	0.11	0.76	0.76	0.62	0.62
v/c Ratio	0.68	0.54	0.55	0.83	0.57	0.26
Control Delay	60.7	13.3	7.5	9.3	15.2	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	13.3	7.5	9.3	15.2	1.9
LOS	E	B	A	A	B	A
Approach Delay	41.0			9.2	12.8	
Approach LOS	D			A	B	
Queue Length 50th (ft)	99	0	9	850	285	0
Queue Length 95th (ft)	144	68	m10	m881	376	35
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	414	352	373	2704	2187	1084
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	0.62	0.52	0.48	0.83	0.57	0.26

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 27 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 13.6

Intersection LOS: B





Intersection Capacity Utilization 76.5%

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 & Bent Grass Meadows Drive

 Ø2 (R) 98 s		 Ø4 22 s	
 Ø5 21.6 s	 Ø6 (R) 76.4 s		

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	147	25	268	142	27	297
Future Vol, veh/h	147	25	268	142	27	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
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	160	27	291	154	29	323

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	187	0	896
Stage 1	-	-	-	-	160
Stage 2	-	-	-	-	736
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1387	-	311
Stage 1	-	-	-	-	869
Stage 2	-	-	-	-	474
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1387	-	246
Mov Cap-2 Maneuver	-	-	-	-	246
Stage 1	-	-	-	-	869
Stage 2	-	-	-	-	374

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	728	-	-	1387	-
HCM Lane V/C Ratio	0.484	-	-	0.21	-
HCM Control Delay (s)	14.5	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2.7	-	-	0.8	-

HCM 6th Roundabout
6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	7.0		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	540	526	161
Demand Flow Rate, veh/h	551	536	164
Vehicles Circulating, veh/h	9	154	395
Vehicles Exiting, veh/h	681	405	165
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.5	8.0	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	551	536	164
Cap Entry Lane, veh/h	1367	1179	922
Entry HV Adj Factor	0.980	0.981	0.981
Flow Entry, veh/h	540	526	161
Cap Entry, veh/h	1340	1157	904
V/C Ratio	0.403	0.455	0.178
Control Delay, s/veh	6.5	8.0	5.7
LOS	A	A	A
95th %tile Queue, veh	2	2	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	0	10	0	0	0	21	56	0	0	55	0
Future Vol, veh/h	0	0	10	0	0	0	21	56	0	0	55	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	11	0	0	0	23	61	0	0	60	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	167	167	60	173	167	61	60	0	0	61	0	0
Stage 1	60	60	-	107	107	-	-	-	-	-	-	-
Stage 2	107	107	-	66	60	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	797	726	1005	790	726	1004	1544	-	-	1542	-	-
Stage 1	951	845	-	898	807	-	-	-	-	-	-	-
Stage 2	898	807	-	945	845	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	788	715	1005	773	715	1004	1544	-	-	1542	-	-
Mov Cap-2 Maneuver	788	715	-	773	715	-	-	-	-	-	-	-
Stage 1	937	845	-	885	795	-	-	-	-	-	-	-
Stage 2	885	795	-	935	845	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.6		0		2		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	1005	-	1542	-	-
HCM Lane V/C Ratio	0.015	-	-	0.011	-	-	-	-
HCM Control Delay (s)	7.4	0	-	8.6	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	18	18	54	18	39	27
Future Vol, veh/h	18	18	54	18	39	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	20	59	20	42	29

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	182	69	0	0	79
Stage 1	69	-	-	-	-
Stage 2	113	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	807	994	-	-	1519
Stage 1	954	-	-	-	-
Stage 2	912	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	784	994	-	-	1519
Mov Cap-2 Maneuver	784	-	-	-	-
Stage 1	954	-	-	-	-
Stage 2	886	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	877	1519
HCM Lane V/C Ratio	-	-	0.045	0.028
HCM Control Delay (s)	-	-	9.3	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	111	30	42	99	17	28
Future Vol, veh/h	111	30	42	99	17	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	33	46	108	18	30

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	166	100	0	0	154
Stage 1	100	-	-	-	-
Stage 2	66	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	824	956	-	-	1426
Stage 1	924	-	-	-	-
Stage 2	957	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	813	956	-	-	1426
Mov Cap-2 Maneuver	813	-	-	-	-
Stage 1	924	-	-	-	-
Stage 2	945	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	840	1426
HCM Lane V/C Ratio	-	-	0.182	0.013
HCM Control Delay (s)	-	-	10.2	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0