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**DEVIATION REVIEW
 AND DECISION FORM**

Procedure # R-FM-051-07
 Issue Date: 12/31/07
 Revision Issued: 00/00/00

DSD FILE NO.:

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General Property Information:

Address of Subject Property (Street Number/Name): 11505 Meridian Market VW
 Tax Schedule ID(s) #:5312101017
 Legal Description of Property: LOT 2 FALCON HIGHLANDS MARKET PLACE FIL NO. 2

Subdivision or Project Name: Falcon Highlands Market Place Filing No. 2 - Proposed Falcon Highlands Taco Bell Restaurant Development

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification; 2.3.7.D Turn Lane Design.

Specific Criteria from Which a Deviation is Sought: Table 2-7 Intersection spacing on an Urban Non-Residential Collector street. Per the ECM, on Major Collector roadways, intersection spacing shall be 660 feet (330 feet when intersecting local roadways; 2.3.7.D.1 - Left-turn lane design elements.

Proposed Nature and Extent of Deviation: The deviation is needed for the proposed full-movement access to Foxtail Meadow because the proposed spacing along Foxtail Meadow would be less than the ECM-required 660 feet from the Non-Residential Collector (Rolling Thunder Way) to the south and less than 330 feet between the access and the local intersection (Meridian Market View) to the north. The spacing from the centerline of Rolling Thunder to the proposed full-movement site access is 300 feet. The spacing from the centerline of the proposed site access to the center of the Foxtail Meadow/Meridian Market View is 240 feet.

Left-turn lane lengths: Allow left-turn lane lengths including storage plus abbreviated taper length (in the form of a center-two-way-left turn lane) north of the proposed site access point, but not the deceleration distance, on Foxtail Meadow, Non-Residential Collector. These turn lane lengths would be for the southbound left turn at the Foxtail Meadow/proposed site access intersection and the future northbound left turn at the Foxtail Meadow/Meridian Market View intersection. Given the proposed centerline intersection/access spacing - 240 feet - the request requires a deviation as the ECM prescribes deceleration length plus vehicle storage distance plus transition taper for left-turn lanes on collector roadways where turn lanes are required per section 2.3.7.D.1.

LSC recommends the applicant restripe the section of Foxtail Meadow for center two-way left-turn lane from just south of the access (just north of the north end of the southbound left-turn lane approaching the Rolling Thunder intersection) to the intersection of Foxtail Meadow/Meridian Market View. LSC recommends an "Intersection Ahead" yellow warning sign (W2-8 with three side roads shown) be placed on Foxtail Meadow upstream of the Walmart service access for southbound traffic and south of the proposed site access for northbound traffic. The site frontage on Foxtail Meadow, especially on the inside of the curve north of the access, should be kept clear of landscaping, signage, and other potential obstructions to sight distance to and from the site access. LSC recommends that this access remain a T intersection only, with no future access to Foxtail Meadow aligning with the access on the west side of Foxtail Meadow.

Applicant Information:

Applicant: Cygnet Land, LLC Email Address: cygnetlandllc@gmail.com
 Applicant is: Owner Consultant Contractor
 Mailing Address: 630 SOUTHPOINTE CT STE 200 Colo. Spgs. State: CO Postal Code: 80906
 Telephone Number: (719) 332-0201

Engineer Information:

Engineer: Jeffrey C. Hodsdon, P.E., PTOE Email Address: jeff@LSCTrans.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 545 East Pikes Peak Ave. Suite 210 Colo Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: CO
Telephone Number: 719-633-2868 Fax Number: 719-633-5430

Explanation of Request (Attached diagrams, figures and other documentation to clarify request):

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification; 2.3.7.D Turn Lane Design.

Specific Criteria from Which a Deviation is Sought: Table 2-7 Intersection spacing on an Urban Non-Residential Collector street. Per the ECM, on Major Collector roadways, intersection spacing shall be 660 feet (330 feet when intersecting local roadways; 2.3.7.D.1 - Left-turn lane design elements.

Proposed Nature and Extent of Deviation: Intersection Spacing: The deviation is needed for the proposed full-movement access to Foxtail Meadow because the proposed spacing along Foxtail Meadow would be less than the ECM-required 660 feet from the Non-Residential Collector (Rolling Thunder Way) to the south and less than 330 feet between the access and the local intersection (Meridian Market View) to the north. The spacing from the centerline of Rolling Thunder to the proposed full-movement site access is 300 feet. The spacing from the centerline of the proposed site access to the center of Foxtail Meadow/Meridian Market View is 240 feet.

Left-turn lane lengths: Allow left-turn lane lengths including storage plus abbreviated taper length (in the form of a center two-way left-turn lane) north of the proposed site access point, but not the deceleration distance, on Foxtail Meadow, Non-Residential Collector. These turn lane lengths would be for the southbound left turn at the Foxtail Meadow/proposed site access intersection and the future northbound left turn at the Foxtail Meadow/Meridian Market View intersection. Given the proposed centerline intersection/access spacing - 240 feet - the request requires a deviation as the ECM prescribes deceleration length plus vehicle storage distance plus transition taper for left-turn lanes on collector roadways where turn lanes are required per section 2.3.7.D.1.

LSC recommends the applicant restripe the section of Foxtail Meadow for center two-way left-turn lane from just south of the access (just north of the north end of the southbound left-turn lane approaching the Rolling Thunder intersection) to the intersection of Foxtail Meadow/Meridian Market View. LSC recommends an "Intersection Ahead" yellow warning sign (W2-8 with three side roads shown) be placed on Foxtail Meadow upstream of the Walmart service access for southbound traffic and south of the proposed site access for northbound traffic. The site frontage on Foxtail Meadow, especially on the inside of the curve north of the access, should be kept clear of landscaping, signage, and other potential obstructions to sight distance to and from the site access. LSC recommends that this access remain a T intersection only, with no future access to Foxtail Meadow aligning with the access on the west side of Foxtail Meadow.

ATTACHED TECHNICAL MEMORANDUM: Please refer to the attached technical memorandum with exhibits/figures which presents the site plan, anticipated site and nearby land uses, proposed access points (including the access proposed with this deviation request), the study area, estimated trip generation, and site-generated peak-hour turning movement traffic volumes. The memo also presents the projected future total peak-hour intersection traffic volumes, intersection levels of service and queuing analysis results.

Reason for the Requested Deviation: Access to the currently-vacant, 8.2-acre commercial parcel northeast of Foxtail Meadow Lane and Rolling Thunder Way is difficult due to significant grade along the north side of the parcel adjacent to Meridian Market View and due to access restriction to Meridian Road to the east. To allow for two access points to this parcel to the adjacent public streets (in addition to one planned internal connection to the Culvers access drive on the east side of the 8.2-acre parcel), a right-in/right out access is requested to Rolling Thunder Way and a full-movement access is proposed on Foxtail Meadow. As Rolling Thunder is a more significant roadway than Foxtail Meadow and given the width and numerous through and turn lanes along Rolling Thunder, it is logical to have the restricted access on Rolling Thunder and the site's only full-movement access on Foxtail Meadow. Foxtail Meadow, although a non-residential collector, is only one-quarter-mile in length and was primarily intended to provide local access given the higher classification of streets to the north, east, and south of the overall Falcon

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Highlands Marketplace commercial center.

Comparison of Proposed Deviation to ECM Standard: The section of Foxtail Meadow between Rolling Thunder and the proposed access is 300 feet, 360 feet short of the criteria (ECM standard - 660 feet); between the proposed access and Meridian Market View is 240 feet or 90 feet short of the criteria (ECM standard - 330-foot minimum).

Applicable Regional or National Standards used as Basis:

Application Consideration:

CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION

JUSTIFICATION

- The ECM standard is inapplicable to a particular situation.
- Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility.

Access to the currently vacant, 8.2-acre commercial parcel northeast of Foxtail Meadow and Rolling Thunder Way is difficult due to significant grade along the north side of the parcel and due to access restriction to Meridian Road to the east. To allow for two access points to this parcel, a right-in/right-out access is requested to Rolling Thunder Way and a full-movement access is proposed on Foxtail Meadow. Without the access points requested, the only access would be via the internal connection to the Culvers' access street which would not provide reasonable access. Moreover, the proposed access plan would significantly improve the circulation for the site - especially for the west half of the site including the lot proposed for the Taco Bell restaurant. The proposed access would provide a benefit to this site and the remainder of the Falcon Highlands Marketplace as it would provide an alternative to the Culvers' access drive and right-in only access from Meridian Road (which will be an indirect access into the northeast portion of this 8.2-acre site). It would provide for a significantly more functional egress from this site (the Culvers access road connection at Meridian Road is entry only). Without the left-in movement at this access it would be difficult to enter the site from southbound Foxtail Meadow, which includes traffic turning from eastbound Woodmen Road and motorists driving from the existing Falcon Highlands businesses via Meridian Market View.

- A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.

If at least one of the criteria listed above is not met, this application for deviation cannot be considered.

Criteria for Approval:

PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST

The request for a deviation is not based exclusively on financial considerations.

The request is not based exclusively on financial considerations, the request is based on the justification described above.

The deviation will achieve the intended result with a comparable or superior design

- The proposed access plan would provide a benefit to this site and the remainder of the Falcon Highlands Marketplace as it would provide an alternative to the Culvers' access drive and the right-in only access from Meridian Road (which will

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and quality of improvement.

be an indirect access into the northeast portion of this 8.2-acre site). It would provide for a significantly more functional egress from this site (the Culvers access road connection at Meridian Road is entry only). The design would be superior as the proposed access plan with these deviations would result in lower traffic demand on the Culvers access drive and the Meridian right-in-only access (lower than if the proposed access plan is not approved).

- The full-movement access would be located north of the southbound left-turn lane at the Foxtail Meadow/Rolling Thunder intersection. Therefore, the turn lane would not extend east of (across) the proposed access point.

- The full-movement configuration, with the left-in movement at this access, would allow motorists to enter the site from southbound Foxtail Meadow which includes traffic turning from eastbound Woodmen Road and motorists driving from the existing Falcon Highlands businesses via Meridian Market View.

- Provided that this access intersection remains a T intersection only in the future, with no future access to Foxtail Meadow aligning with the access on the west side of Foxtail Meadow (LSC recommended) a northbound left-turn lane into the future development site west of Foxtail Meadow would not be necessary (i.e., no need for "back-to-back" left-turn lanes between this access and the Rolling Thunder/Foxtail Meadow intersection).

- A future right-in/right-out (or right-in-only) access to Rolling Thunder for the parcel northwest of Rolling Thunder/Foxtail Meadow would result in fewer northbound left turns at the Foxtail Meadow/Meridian Market View intersection. This would benefit operations for along Foxtail Meadow.

- LSC recommends the applicant restripe the adjacent section of Foxtail Meadow for center two-way left-turn lane from just south of the access (just north of the north end of the southbound left-turn lane approaching the Rolling Thunder intersection) to the intersection of Foxtail Meadow/Meridian Market View.

- LSC recommends that this access remain a T intersection only, with no future access to Foxtail Meadow aligning with the access on the west side of Foxtail Meadow.

- Access Configuration: LSC recommends the access intersect Foxtail Meadow at a right angle (90 degrees) or as close to a right angle as possible. The access will need to accommodate truck turning movements. The full-movement configuration will help facilitate truck turning movements into/out of the site without curbed islands and/or median curb associated with a turn-movement restricted access.

The deviation will not adversely affect safety or operations.

- Intersection sight distance: Regarding sight distance at the access, there is not significant vertical curvature on Foxtail Meadow that could potentially limit sight distance.

- The plan shows a spacing of 300 feet between the access and the center of the Rolling Thunder intersection to the south and 240 feet to the intersection of Meridian Market View to the north. There is currently a clear line of sight to the north and south. The site frontage on Foxtail Meadow, especially on the inside of the curve north of the access, should be kept clear of landscaping, signage, and other potential obstructions to sight distance.

- The ECM-required stopping sight distance for a 40-mph design speed (35 mph posted speed limit) is 305 feet. Although the centerline spacing from Rolling Thunder is 300 feet, vehicles arriving from the south would have sufficient stopping sight distance on the approach to this access considering traffic will either be

turning from eastbound or westbound Rolling Thunder (slower-than-40-mph speed) or exiting the future office parcel access (south leg of the Rolling Thunder intersection). The stopping sight distance for southbound Foxtail Meadow traffic would begin upstream of the Foxtail Meadow/Meridian Market View intersection. Although there would be unobstructed sight to the access, LSC recommends that an "Intersection Ahead" yellow warning sign (W2-8 with three side roads shown) be placed on Foxtail Meadow upstream of the Walmart service access for southbound traffic and south of the proposed site access for northbound traffic.

- The required intersection sight distance from the access to the east is 445 feet for passenger vehicles. This distance would extend to just south of the Rolling Thunder/Foxtail Meadow intersection to the access drive into the parcel south of the intersection and north to the Walmart service access. There is currently a clear line of sight to the north and south. The site frontage on Foxtail Meadow, especially on the inside of the curve north of the access, should be kept clear of landscaping, signage, and other potential obstructions to sight distance. Motorists turning onto Foxtail Meadow in the direction of this access from either Foxtail Meadow/Meridian Market View or Rolling Thunder/Foxtail Meadow would be visible from the access.

- Intersection level of service: The projected level of service for traffic exiting the site at the RI/RO (southbound right-turn movement) is LOS B.

- Queuing Analysis: The queuing analysis (attached) indicates the following projected maximum queue lengths during the afternoon peak hour: northbound left turn at the Foxtail Meadow/Meridian Market View intersection - 27 feet; southbound left turn at the Foxtail Meadow/proposed site access intersection - 30 feet. Therefore, adequate storage will be available in a center, two-way left turn painted median between the two access points.

The deviation will not adversely affect maintenance and its associated cost.

This deviation will not change the maintenance cost.

The deviation will not adversely affect aesthetic appearance.

This deviation will not change the aesthetic appearance.

Owner, Applicant and Engineer Declaration:

To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

Signature of owner (or authorized representative)

Date

Signature of applicant (if different from owner)

Date

July 23, 2018

Signature of Engineer

Date

Engineer's Seal

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Review and Recommendation:
APPROVED by the ECM Administrator

_____ Date _____
This request has been determined to have met the criteria for approval. A deviation from Section _____ of ECM is hereby granted based on the justification provided. Comments:

_____ Additional comments or information are attached.

DENIED by the ECM Administrator

_____ Date _____
This request has been determined not to have met criteria for approval. A deviation from Section _____ of ECM is hereby denied. Comments:

_____ Additional comments or information are attached.



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July 20, 2018

Eric Hemingway
Cygnet Land, LLC
2960 Shoreham Circle
Colorado Springs, CO 80906

RE: Falcon Highlands Taco Bell
El Paso County, CO
Access Deviation Requests
Technical Memorandum
LSC #184470

Dear Mr. Hemingway,

LSC Transportation Consultants, Inc. has prepared this Traffic Technical Memorandum to accompany two deviation requests for access to the proposed Taco Bell development in El Paso County, Colorado. The Taco Bell site, and the larger 8.2-acre commercial parcel of which the Taco Bell site is a part, are located at the northeast corner of the intersection of Rolling Thunder Way/Foxtail Meadow Lane in the Falcon Highlands commercial development area. This report is intended to accompany the stand-alone deviation requests as a supplement. This report contains traffic data and analysis to support the deviation request forms.

LAND USE

Figure 1 shows the site location relative to the adjacent and nearby roadways. The proposed Taco Bell is planned to be constructed as a 2,700-square-foot fast-food restaurant with a drive-through window. The Taco Bell site is directly northeast of and adjacent to the Rolling Thunder Way/Foxtail Meadow Lane intersection. It is located in the southwest corner of the larger vacant 8.2-acre commercial parcel. A copy of the site plan is attached in Figure 2. The county parcel number for the 8.2-acre parcel is 5312101017.

SITE ACCESS

As shown on the attached site concept plan, two access points are proposed to serve the proposed Taco Bell and the remaining land within the 8.2 acres to be developed in the future.

South Access: A right-in/right-out (RI/RO) access to westbound Rolling Thunder Way is proposed. The spacing from the west right-of-way line of Meridian Road to the centerline of the proposed

right-in/right-out commercial site access is 325 feet (the intersection centerline distance is 400 feet). The spacing from the centerline of the proposed right-in/right-out site access to the center of the Foxtail Meadow/Rolling Thunder intersection is 305 feet.

West Access: Access to Foxtail Meadow Lane is proposed as a full-movement, stop-sign-controlled T-intersection. The site plan shows a spacing of 300 feet between the access and the center of the Rolling Thunder intersection to the south and 240 feet to the intersection of Meridian Market View to the north.

An internal access drive connection to the 8.2-acre parcel would also be provided in the future. This connection will be to the Culvers' access drive adjacent to the site in the northeast corner of the 8.2-acre parcel.

Adjacent Future Development Parcels

Several additional future land uses are anticipated for the remainder of the 8.19-acre Falcon Highlands shopping plaza, including sit-down restaurants and strip mall retail stores. Additional nearby future development includes 75,000 square feet of office space, single-family detached housing, a free-standing retail store, and RV/self-storage space. All anticipated nearby development was used to project short-term and long-term background traffic volumes at the site access points.

The area surrounding the site was divided into several traffic analysis zones (TAZs) in order to determine separate trip generation estimates for each proposed development, including the subject development- the Taco Bell.

Figure 3 shows the "traffic analysis zones" (TAZs) assigned by LSC and referenced within the tables in this report. The seven TAZs include undeveloped parcels within and west of the Falcon Highlands plaza between Woodmen Road and Rolling Thunder Way. El Paso County parcel numbers include the remainder of 5312101017 and all of parcels 5312100005, 5312100006, 5312101005, 5312101010, 5312101014, 5312101015, 5312101016, 5312101018, and 5312101019.

Anticipated future land uses for these parcels have been identified and trip generation has been estimated in this report for these parcels. These have been included in this report, as development of these parcels would likely result in additional vehicle turning movements at both site access point intersections and adjacent major intersections. Table 1 summarizes the land uses assigned by LSC to each traffic analysis zone.

The other nearby future land use specifically considered in this analysis (although not assigned a TAZ number) was Falcon Highlands Filing 3, which will include 156 single family homes in the future.

Table 1: Land Uses by Traffic Analysis Zone

TAZ	Description	ITE Land Use		Value	Units*
		Code	Description		
1	Walmart (existing)	813	Free-Standing Discount Superstore	195.448	KSF
	Culver's (existing)	932	High-Turnover (Sit-Down) Restaurant	6.863	KSF
	Shopping center (existing)	820	Shopping Center	48.221	KSF
2	Taco Bell	934	Fast-Food Restaurant w/ Drive-through Window	2.700	KSF
3	Future lots in Taco Bell shopping plaza	820	Shopping Center	2.400	KSF
		932	High-Turnover (Sit-Down) Restaurant	4.500	KSF
		932	High-Turnover (Sit-Down) Restaurant	3.100	KSF
		820	Shopping Center	25.000	KSF
		820	Shopping Center	9.000	KSF
4	Goodwill	815	Free-Standing Discount Store	17.800	KSF
5	Storage	151	Mini-Warehousing	55.825	KSF
		416	RV Storage	18.600	KSF
6	Shopping center	820	Shopping Center	12.000	KSF
7	Single-family housing	210	Single-Family Detached Housing	42	DU
8	Office building	710	General Office Building	75.000	KSF
KSF = x 1,000 square feet DU = dwelling units					

EXISTING TRAFFIC VOLUMES

Figure 4 shows the results of afternoon peak hour turning movement traffic counts at the intersections of Meridian Road/Rolling Thunder Way, Rolling Thunder Way/Foxtail Meadow Lane, and Foxtail Meadow Lane/Meridian Market View.

TRIP GENERATION

Estimates of the vehicle-trips projected to be generated by the proposed Taco Bell have been made using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Land use category/code “934 – Fast-Food restaurant with Drive-Through Window” and its corresponding trip generation rates have been used to develop trip generation estimates.

Table 2 below presents a summary of the estimated site trip generation. The detailed trip generation estimate for the development, including ITE rates for the proposed land use, is presented in Table 4.

The proposed Taco Bell is projected to generate about 276 (new/non-pass-by or diverted) vehicle trips on the average weekday during a 24-hour period. **Approximately 890 total daily trips are projected to enter and exit the site at the access point (“driveway trips”) on the average weekday.** During the afternoon peak hour, approximately 32 vehicles would enter, and 30 vehicles would exit the site.

Table 2: Estimated Taco Bell Vehicle-Trip Generation

Analysis Period	Weekdays		
	In	Out	Total
P.M. Peak Hour	32	30	62
Daily/24-Hour	445	445	890

A detailed trip generation estimate for the Taco Bell and future development within the “site” (study area), including ITE rates for the proposed land use and adjacent/nearby future development, is presented in Table 3 (attached). Also shown in the table are peak-hour and daily trip generation for the other future Falcon Highlands development parcels and parcels to the west which potentially travel through each of the two Taco Bell access point intersections to access their respective sites.

Internal Trips

Table 4Figure 5 includes estimates of internal trip capture to account for the 8.2-acre site being essentially part of a larger shopping center (including Walmart and adjacent smaller retail and restaurant businesses). The specific estimates of internal trip reductions are shown in Table 3.

Pass-by and Diverted Trips

The trips generated by the site have also been aggregated by trip type to account for the pass-by phenomenon. A pass-by trip is one made by a motorist who would already be on an adjacent road regardless of the proposed development, but who stops in at the site while passing by. The pass-by motorist would then continue on his or her way to a final destination in the original direction. For purposes of this report, pass-by trips are trips by motorists already traveling along Woodmen Road or Rolling Thunder Way.

Because site access is not proposed directly to Meridian Road or US Highway 24, these trips are technically considered “diverted trips” based on ITE terminology and therefore are referred to as such in this report. These trips would result in altered turning movements at the nearby major intersection of US Highway 24/Meridian Road and new turning movements at the intersection of Meridian Road/Rolling Thunder Way.

Table 4 (attached) shows the percent of total trips generated that are estimated to be diverted trips. The diverted trip percentage has been estimated by LSC based on pass-by, diverted, and primary trip data from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE with site-specific adjustments estimated by LSC.

The published ITE-average percent pass-by and percent diverted trips were modified due to the area roadway system specific to this site and peak hour traffic volumes.

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

An estimate of the directional distribution of site-generated vehicle trips to the study area roads and intersections is a necessary component in determining the site-generated traffic volumes. Figure 4 shows the directional distribution estimate for the primary site-generated trips. The figure shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: traffic counts conducted at major intersections adjacent to the proposed Taco Bell, the proposed land uses, the access plan, the area road system serving the site, the site's geographic location, and previously conducted LSC studies in the vicinity.

Site-Generated Traffic

Site-generated traffic volumes for the Taco Bell during the weekday evening peak hour are shown in Figure 6 for the following intersections:

- Full-movement site access/Foxtail Meadow Lane
- Right-in/right-out site access/Rolling Thunder Way
- Foxtail Meadow Lane/Meridian Market View
- Foxtail Meadow Lane/Rolling Thunder Way

Site-generated traffic volumes have been calculated by applying the directional distribution percentages estimated by LSC (from Figure 4) to the TAZ 2 (Taco Bell) primary trip generation estimates (from Table 1). The passby trips and diverted trips were assigned based in large part on the magnitude and direction of the afternoon peak hour traffic volumes projected for the area major streets/roads.

2040 FUTURE TOTAL TRAFFIC VOLUMES

Figure 7 shows the estimated future 2040 total traffic volumes at the study area intersections. These projected volumes include traffic from buildout of all the TAZ land uses shown in Table 1, Falcon Highlands Filing No. 3, as well as projected increases in through traffic volumes on Meridian Road and Rolling Thunder Way.

LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay, while LOS F indicates a high level of congestion or delay.

All turning movements at the following intersections are projected to operate at LOS D or better upon site buildout through the 2040 horizon year:

- Full-movement site access/Foxtail Meadow Lane
- Right-in/right-out site access/Rolling Thunder Way
- Foxtail Meadow Lane/Meridian Market View
- Foxtail Meadow Lane/Rolling Thunder Way

Please refer to the attached level of service reports for details.

QUEUING ANALYSIS

A queuing analysis was performed for the back-to-back left-turning movements between the proposed site full-movement access and Meridian Market View intersections on Foxtail Meadow Lane. Table presents the results of the analysis.

Table 4: Queuing Analysis Results

Turning Movement	Intersection	Storage Length*	Maximum Queue	
				2040 Total Traffic
NBL	Meridian Market View	35'		21'
SBL	Full-Movement Access	40'		30'

*Assumed length in SimTraffic – A TWLTL is recommended between the two access points, which would allow for flexible use of the center painted median.

Based on the analysis, the projected queues could be accommodated between the site access intersection and the Meridian Market View intersection to the north.

Short-term and long-term analyses assume back-to-back left-turn lanes between Meridian Market View and the full-movement site access on Foxtail Meadow Lane. The model was coded assuming back-to-back left-turn vehicle storage lengths of 35 feet and 40 feet for the northbound and southbound left turning movements, respectively, with a 50-foot taper length between. These specific turn bay lengths are those assumed in the SimTraffic model and are a function of the intersection spacing. However, a TWLTL is recommended between the two access points, which would allow for flexible use of the center painted median for northbound and southbound left turn queues.

These analyses have been run utilizing the 2040 Total traffic volumes from Figure 7.

DEVIATION REQUEST FORMS

Please refer to the two access deviation request forms. This memorandum is intended as a supplement to the deviation forms.

PROPOSED RIGHT-IN/RIGHT-OUT RECOMMENDATIONS

LSC recommends the applicant restripe the section of Foxtail Meadow for center two-way left-turn lane from just south of the access (just north of the north end of the southbound left-turn lane approaching the Rolling Thunder intersection) to the intersection of Foxtail Meadow/Meridian Market View. LSC recommends an "Intersection Ahead" yellow warning sign (W2-8 with three side roads shown) be placed on Foxtail Meadow upstream of the Walmart service access for southbound traffic and south of the proposed site access for northbound traffic. The site frontage on Foxtail Meadow, especially on the inside of the curve north of the access, should be kept clear of landscaping, signage, and other potential obstructions to sight distance to and from the site access. LSC recommends that this access remain a T-intersection only, with no future access to Foxtail Meadow aligning with the access on the west side of Foxtail Meadow.

PROPOSED FULL-MOVEMENT ACCESS RECOMMENDATIONS

LSC recommends the applicant construct a raised center median within Rolling Thunder Way (between the Foxtail Meadow intersection and the Meridian Road intersection) to physically prevent left turning movements. A dedicated westbound right-turn deceleration lane for the proposed access on the north side of Rolling Thunder Way east of the access could be added by the applicant if the County would prefer this over the use of the existing continuous westbound right-turn lane beginning at Meridian Road and ending at Foxtail Meadow.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:JAB:bjwb

Enclosures: Table 3
Figures 1-7
ALTA/NSPS Land Title Survey
Traffic Count Reports
Level of Service Reports

Table 3: Detailed Trip Generation Estimate

ITE		Trip Generation Rates ⁽¹⁾						Total ITE Trips Generated					Driveway Trips Generated					Non-Pass-by Trips Generated								
Code	Description	Value	Units	Avg Weekday Traffic		Avg Weekday Traffic		Avg Weekday Traffic	Avg Weekday Traffic		%	Avg Weekday Traffic		Avg Weekday Traffic		%	% Diverted	% Pass-by	Avg Weekday Traffic	Avg Weekday Traffic		Avg Weekday Traffic				
				A.M.	P.M.	A.M.	P.M.		In	Out		In	Out	In	Out					In	Out	In	Out	In	Out	In
813	Free-Standing Discount Superstore	195.448	KSF	90.86	1.47	1.06	1.86	1.86	17758	287	208	363	363	17758	287	208	363	363	51%	28%	21%	9057	146	106	185	185
820	Shopping Center	48.221	KSF	33.36	0.46	0.28	1.62	1.75	1609	22	14	78	84	1609	22	14	78	84	40%	26%	34%	643	9	5	31	34
815	Free-Standing Discount Store	17.800	KSF	53.12	0.81	0.36	2.42	2.42	946	14	6	43	43	946	14	6	43	43	48%	35%	17%	454	7	3	21	21
820	Shopping Center	12.000	KSF	33.36	0.46	0.28	1.62	1.75	400	6	3	19	21	400	6	3	19	21	40%	26%	34%	160	2	1	8	8
210	Single-Family Detached Housing	42	DU	11.14	0.21	0.62	0.66	0.39	468	9	26	28	16	468	9	26	28	16	100%	0%	0%	468	9	26	28	16
151	Mini-Warehousing	55.825	KSF	1.51	0.06	0.04	0.08	0.09	84	3	2	4	5	84	3	2	4	5	100%	0%	0%	84	3	2	4	5
416	RV Storage	18.600	KSF						0	0	0	0	0	0	0	0	0	0	100%	0%	0%	0	0	0	0	0
710	General Office Building	75.000	KSF	10.70	1.11	0.18	0.18	0.97	803	83	14	14	73	803	83	14	14	73	100%	0%	0%	803	83	14	14	73
932	High-Turnover (Sit-Down) Restaurant	6.863	KSF	470.95	1.00	0.50	16.99	15.68	3232	7	3	117	108	3232	7	3	117	108	31%	26%	43%	1002	2	1	36	33
820	Shopping Center	2.400	KSF	33.36	0.46	0.28	1.62	1.75	80	1	1	4	4	80	1	1	4	4	40%	26%	34%	32	0	0	2	2
932	High-Turnover (Sit-Down) Restaurant	4.500	KSF	127.15	5.95	4.86	5.91	3.94	572	27	22	27	18	572	27	22	27	18	31%	26%	43%	177	8	7	8	5
932	High-Turnover (Sit-Down) Restaurant	3.100	KSF	127.15	5.95	4.86	5.91	3.94	394	18	15	18	12	394	18	15	18	12	31%	26%	43%	122	6	5	6	4
820	Shopping Center	328.000	KSF	33.36	0.46	0.28	1.62	1.75	10942	151	92	530	574	10942	151	92	530	574	40%	26%	34%	4377	60	37	212	230
820	Shopping Center	9.000	KSF	33.36	0.46	0.28	1.62	1.75	300	4	3	15	16	300	4	3	15	16	40%	26%	34%	120	2	1	6	6
934	Fast-Food Restaurant w/ Drive-through Window	2.700	KSF	470.95	20.50	19.69	16.99	15.68	1272	55	53	46	42	1272	55	53	46	42	31%	26%	43%	394	17	16	14	13
				Total					38860	688	462	#####	#####	Total	38860	688	462	#####	#####		Total	17894	355	225	574	635

(1) Source: *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE)

(2) KSF = 1,000 square feet



Figure 1
Vicinity

Falcon Highlands Taco Bell (LSC# 184470)

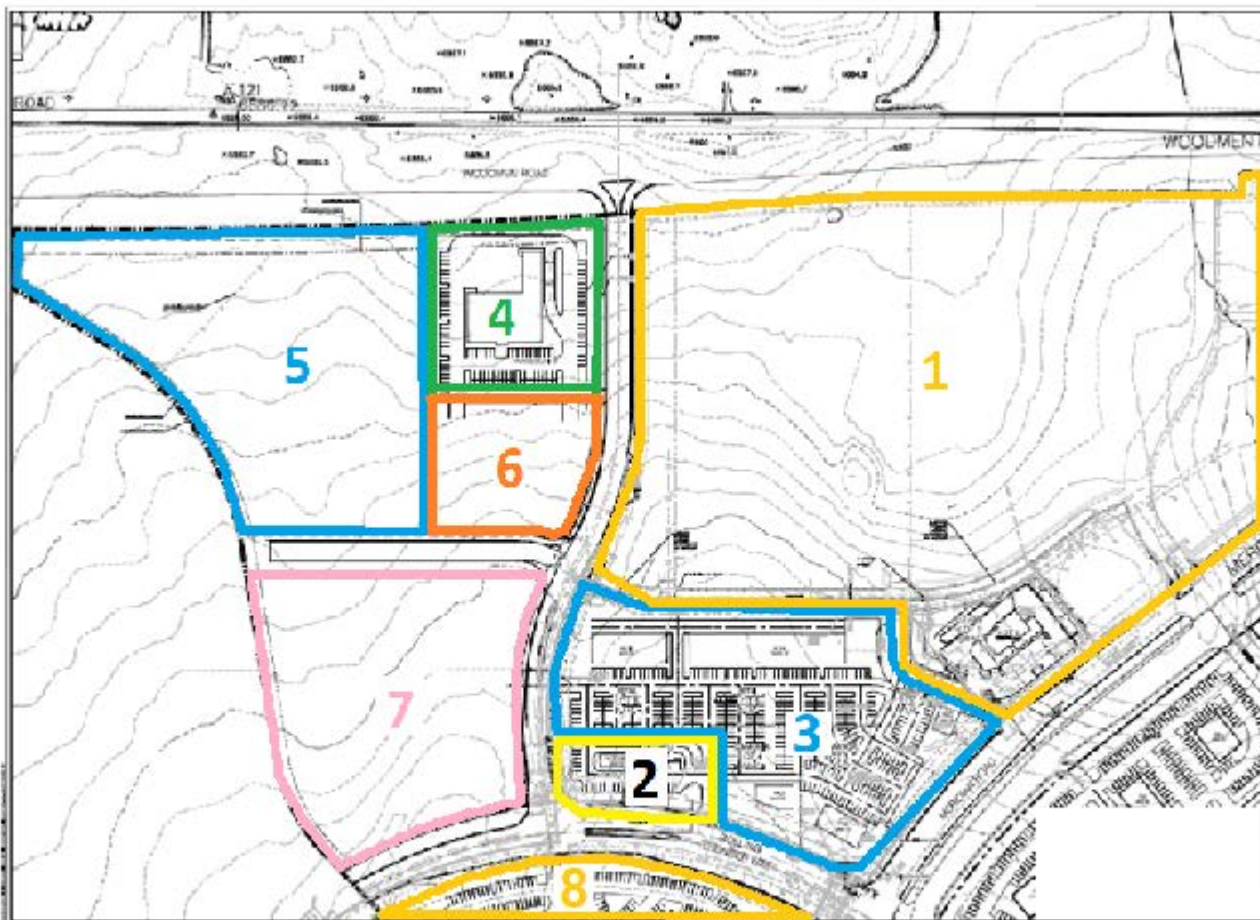
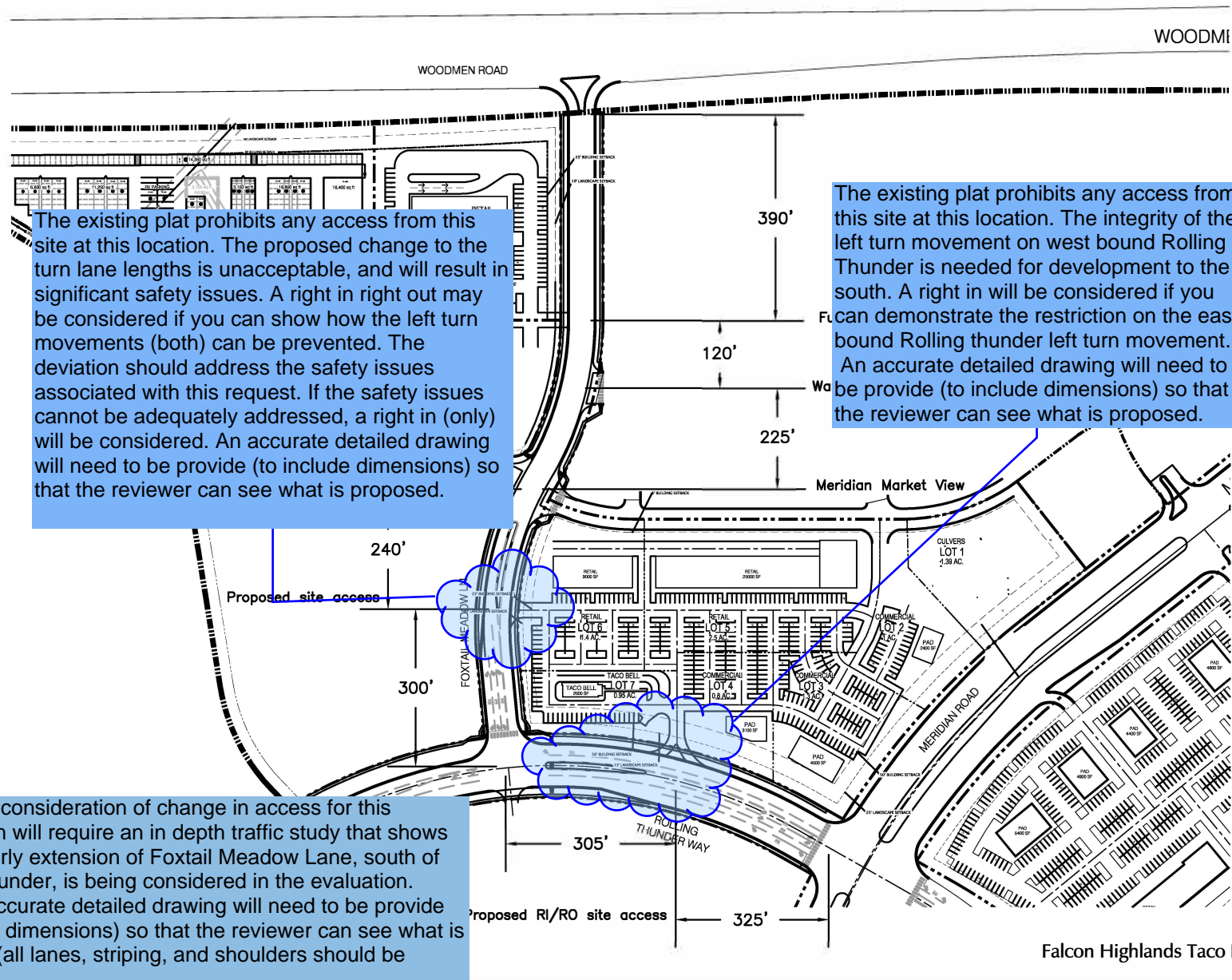


Figure 2

TAZ Map

Falcon Highlands (LSC# 184470)



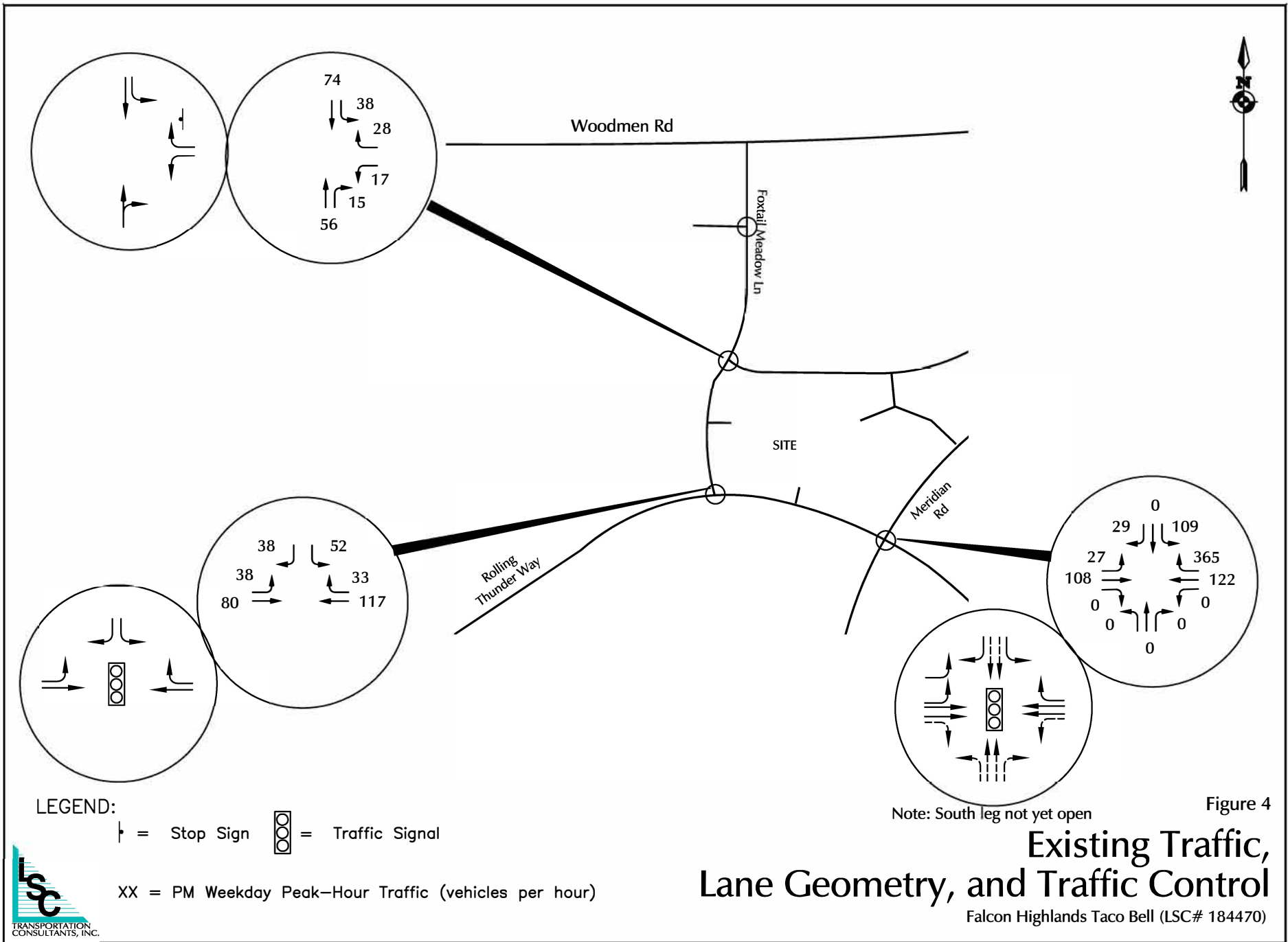
The existing plat prohibits any access from this site at this location. The proposed change to the turn lane lengths is unacceptable, and will result in significant safety issues. A right in right out may be considered if you can show how the left turn movements (both) can be prevented. The deviation should address the safety issues associated with this request. If the safety issues cannot be adequately addressed, a right in (only) will be considered. An accurate detailed drawing will need to be provide (to include dimensions) so that the reviewer can see what is proposed.

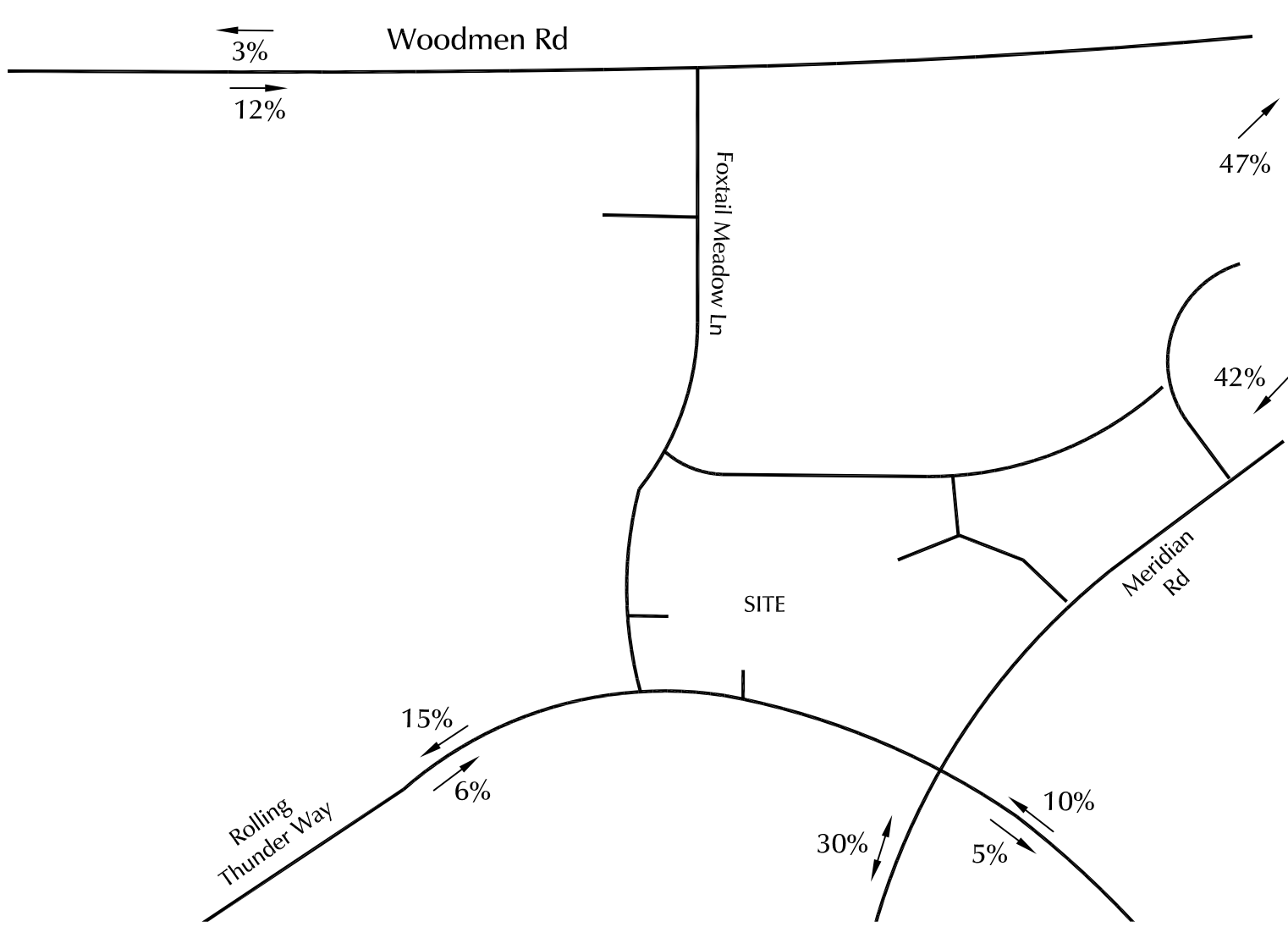
The existing plat prohibits any access from this site at this location. The integrity of the left turn movement on west bound Rolling Thunder is needed for development to the south. A right in will be considered if you can demonstrate the restriction on the east bound Rolling thunder left turn movement. An accurate detailed drawing will need to be provide (to include dimensions) so that the reviewer can see what is proposed.

Note: Any consideration of change in access for this subdivision will require an in depth traffic study that shows the southerly extension of Foxtail Meadow Lane, south of Rolling Thunder, is being considered in the evaluation. Also, an accurate detailed drawing will need to be provide (to include dimensions) so that the reviewer can see what is proposed (all lanes, striping, and shoulders should be shown).

Figure 3
Site Plan

Falcon Highlands Taco Bell (LSC# 184470)





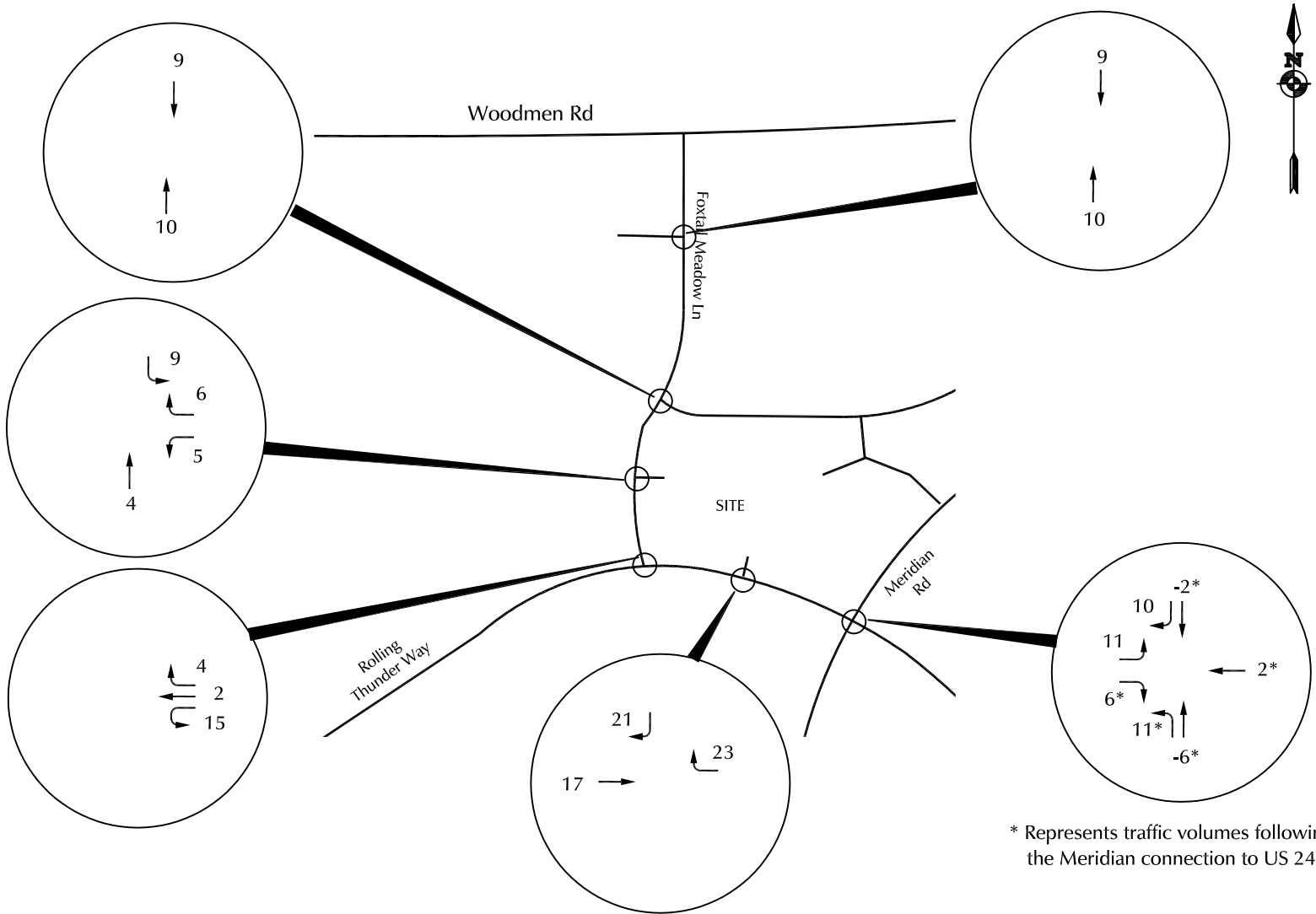
LEGEND:

 = Percent Directional Distribution (Primary Trips)

Figure 5
Directional Distribution

Falcon Highlands Taco Bell (LSC# 184470)





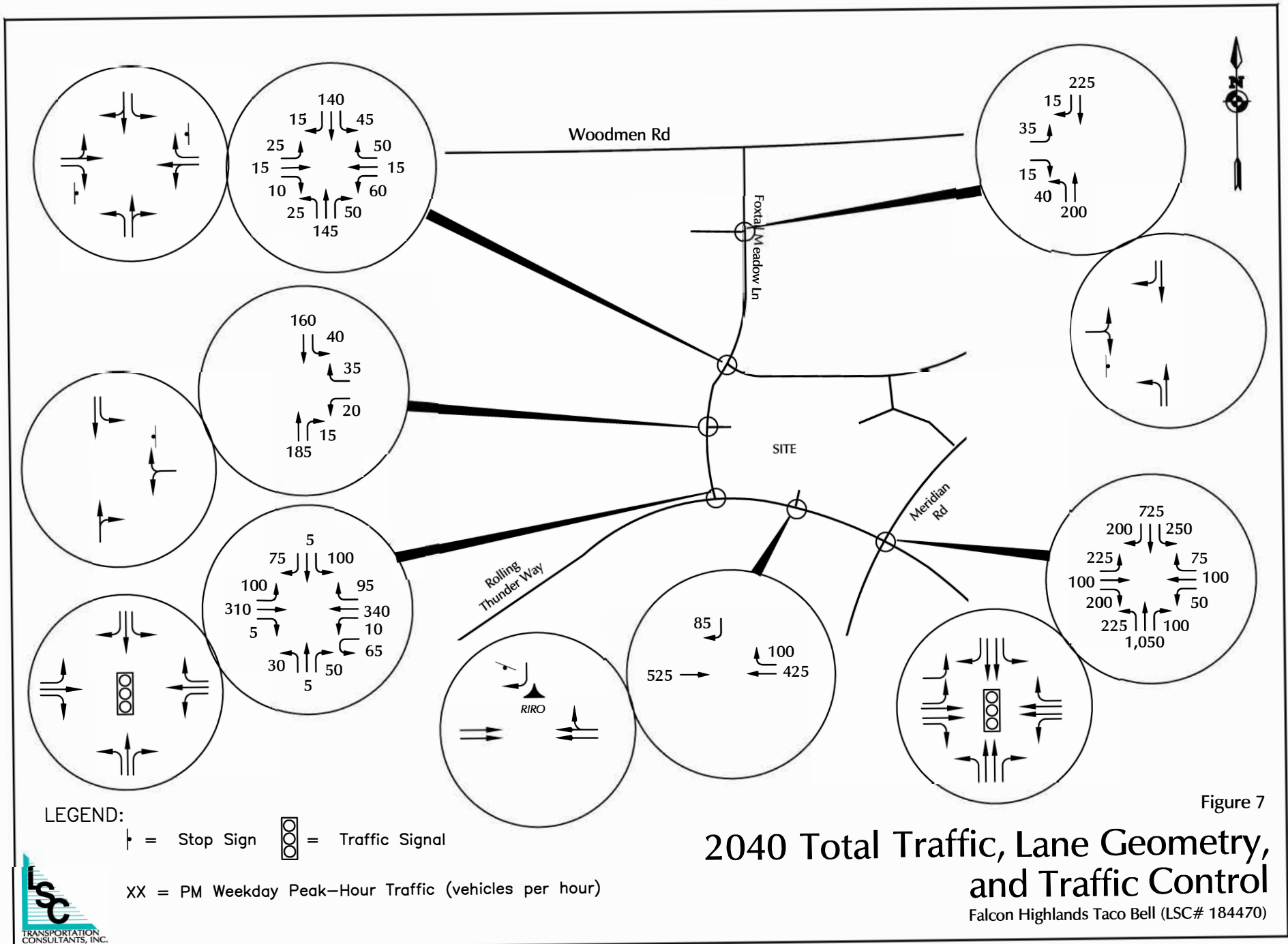
LEGEND:

XX = PM Weekday Peak-Hour Traffic (vehicles per hour)



Figure 6
Taco Bell Site-Generated Traffic

Falcon Highlands Taco Bell (LSC# 184470)



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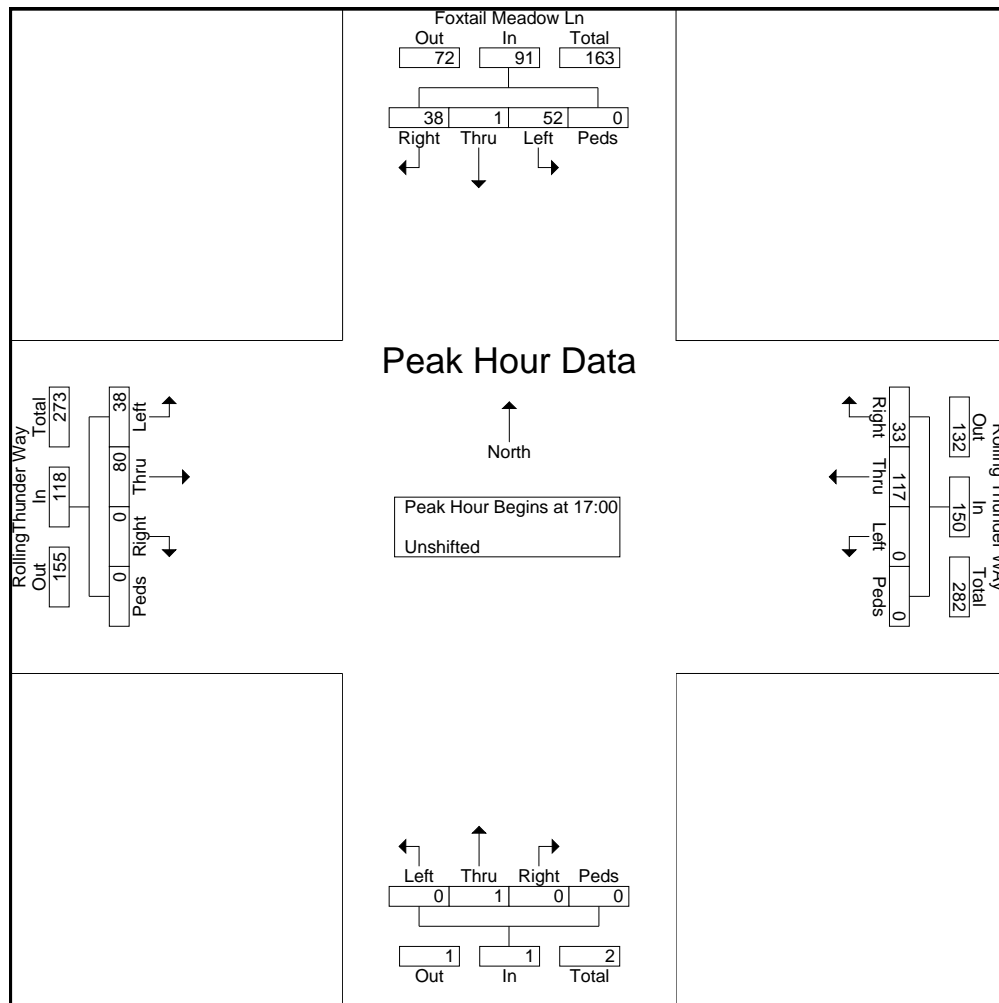
Default Comments
 Change These in The Preferences Window
 Select File/Preference in the Main Scree
 Then Click the Comments Tab

Groups Printed- Unshifted

Start Time	Foxtail Meadow Ln Southbound					Rolling Thunder WAY Westbound					Northbound					RollingThunder Way Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
16:00	13	0	8	0	21	0	22	11	0	33	0	0	0	0	0	6	20	0	0	26	80
16:15	9	0	12	0	21	0	33	5	0	38	0	0	0	0	0	8	16	0	0	24	83
16:30	8	0	6	0	14	0	29	9	0	38	0	0	0	0	0	4	17	0	0	21	73
16:45	8	0	8	0	16	0	27	5	1	33	0	0	0	0	0	7	23	0	0	30	79
Total	38	0	34	0	72	0	111	30	1	142	0	0	0	0	0	25	76	0	0	101	315
17:00	13	0	10	0	23	0	31	12	0	43	0	0	0	0	0	12	16	0	0	28	94
17:15	11	1	7	0	19	0	30	6	0	36	0	0	0	0	0	14	23	0	0	37	92
17:30	18	0	11	0	29	0	27	8	0	35	0	1	0	0	1	3	19	0	0	22	87
17:45	10	0	10	0	20	0	29	7	0	36	0	0	0	0	0	9	22	0	0	31	87
Total	52	1	38	0	91	0	117	33	0	150	0	1	0	0	1	38	80	0	0	118	360

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Start Time	Foxtail Meadow Ln Southbound					Rolling Thunder WY Westbound					Northbound					Rolling Thunder Way Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	13	0	10	0	23	0	31	12	0	43	0	0	0	0	0	12	16	0	0	28	94
17:15	11	1	7	0	19	0	30	6	0	36	0	0	0	0	0	14	23	0	0	37	92
17:30	18	0	11	0	29	0	27	8	0	35	0	1	0	0	1	3	19	0	0	22	87
17:45	10	0	10	0	20	0	29	7	0	36	0	0	0	0	0	9	22	0	0	31	87
Total Volume	52	1	38	0	91	0	117	33	0	150	0	1	0	0	1	38	80	0	0	118	360
% App. Total	57.1	1.1	41.8	0		0	78	22	0		0	100	0	0		32.2	67.8	0	0		
PHF	.722	.250	.864	.000	.784	.000	.944	.688	.000	.872	.000	.250	.000	.000	.250	.679	.870	.000	.000	.797	.957



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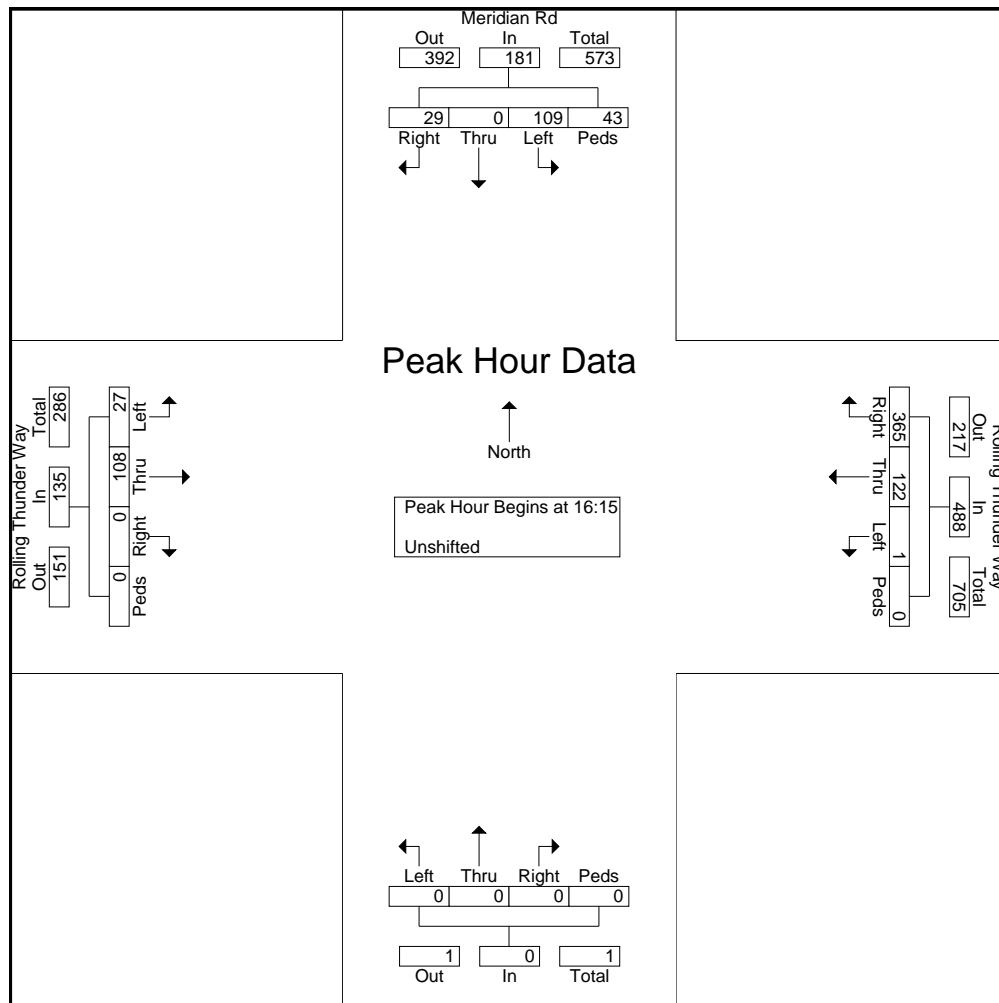
Default Comments
 Change These in The Preferences Window
 Select File/Preference in the Main Scree
 Then Click the Comments Tab

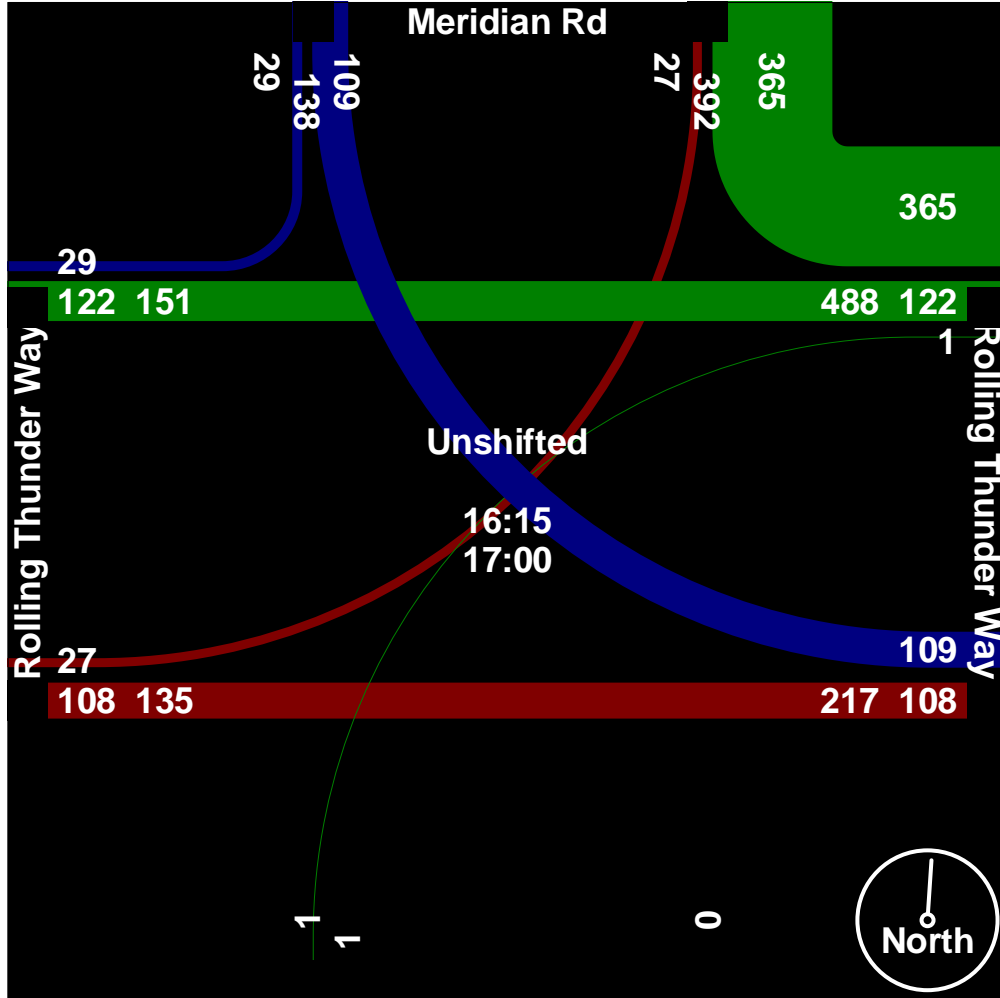
Groups Printed- Unshifted

Start Time	Meridian Rd Southbound					Rolling Thunder Way Westbound					Northbound					Rolling Thunder Way Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
16:00	22	0	9	11	42	0	34	76	0	110	0	0	0	0	0	7	16	0	0	23	175
16:15	27	0	14	15	56	0	23	94	0	117	0	0	0	0	0	3	27	0	0	30	203
16:30	33	0	5	7	45	1	47	86	0	134	0	0	0	0	0	6	25	0	0	31	210
16:45	20	0	5	12	37	0	29	94	0	123	0	0	0	0	0	6	28	0	0	34	194
Total	102	0	33	45	180	1	133	350	0	484	0	0	0	0	0	22	96	0	0	118	782
17:00	29	0	5	9	43	0	23	91	0	114	0	0	0	0	0	12	28	0	0	40	197
17:15	26	0	7	8	41	0	33	81	2	116	0	0	0	0	0	12	16	0	0	28	185
17:30	31	0	10	5	46	0	29	81	0	110	0	0	0	0	0	4	25	0	0	29	185
17:45	29	0	8	8	45	0	30	75	0	105	0	0	0	0	0	3	22	0	0	25	175
Total	115	0	30	30	175	0	115	328	2	445	0	0	0	0	0	31	91	0	0	122	742

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Start Time	Meridian Rd Southbound					Rolling Thunder Way Westbound					Northbound					Rolling Thunder Way Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	27	0	14	15	56	0	23	94	0	117	0	0	0	0	0	3	27	0	0	30	203
16:30	33	0	5	7	45	1	47	86	0	134	0	0	0	0	0	6	25	0	0	31	210
16:45	20	0	5	12	37	0	29	94	0	123	0	0	0	0	0	6	28	0	0	34	194
17:00	29	0	5	9	43	0	23	91	0	114	0	0	0	0	0	12	28	0	0	40	197
Total Volume	109	0	29	43	181	1	122	365	0	488	0	0	0	0	0	27	108	0	0	135	804
% App. Total	60.2	0	16	23.8		0.2	25	74.8	0		0	0	0	0		20	80	0	0		
PHF	.826	.000	.518	.717	.808	.250	.649	.971	.000	.910	.000	.000	.000	.000	.000	.563	.964	.000	.000	.844	.957





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Colorado Springs, CO 80905

719-633-2868

File Name : Foxtail Meadow Ln - Meridian Market View PM

Site Code : 00184470

Start Date : 6/5/2018

Page No : 1

Groups Printed- Bank 1

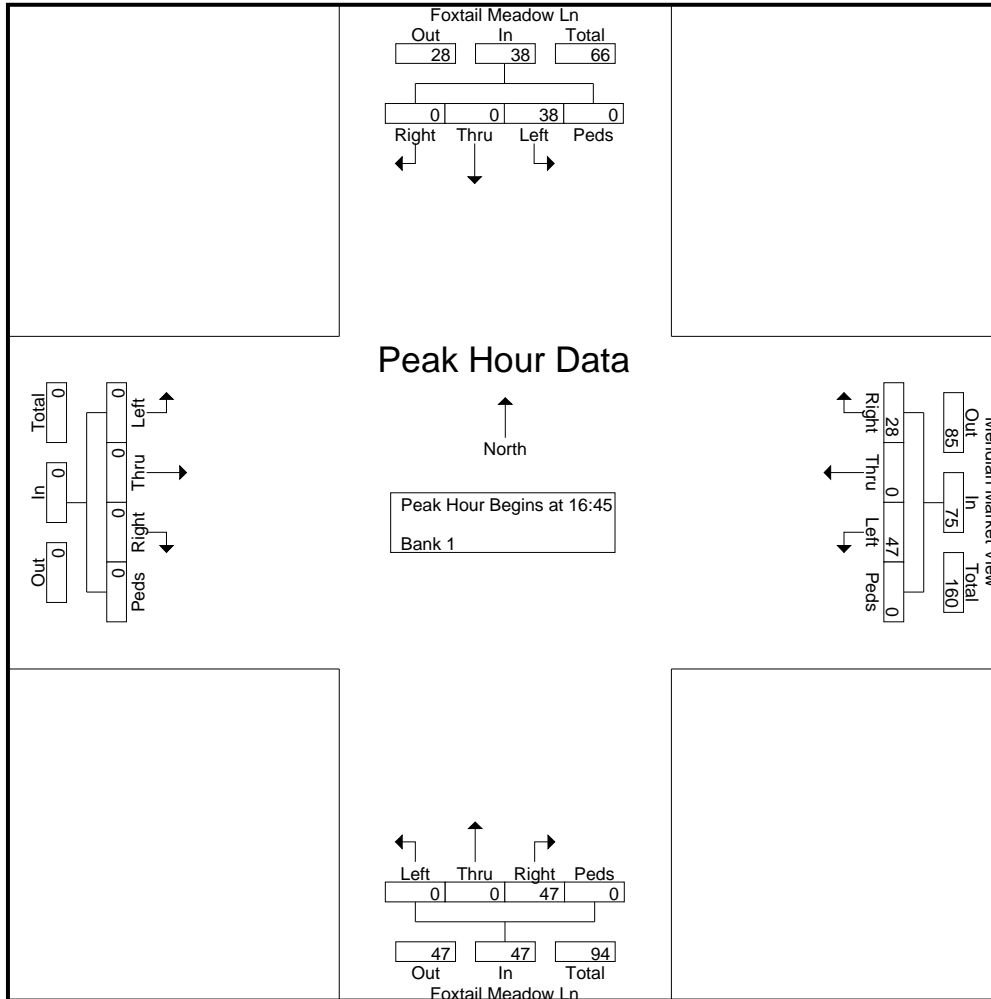
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	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
16:00	13	0	0	0	9	0	5	0	0	0	13	0	0	0	0	0	40
16:15	13	0	0	0	12	0	7	0	0	0	6	0	0	0	0	0	38
16:30	8	0	0	0	8	0	8	0	0	0	7	0	0	0	0	0	31
16:45	6	0	0	0	10	0	10	0	0	0	11	0	0	0	0	0	37
Total	40	0	0	0	39	0	30	0	0	0	37	0	0	0	0	0	146
17:00	14	0	0	0	14	0	8	0	0	0	12	0	0	0	0	0	48
17:15	7	0	0	0	10	0	3	0	0	0	16	0	0	0	0	0	36
17:30	11	0	0	0	13	0	7	0	0	0	8	0	0	0	0	0	39
17:45	8	0	0	0	10	0	6	0	0	0	12	0	0	0	0	0	36
Total	40	0	0	0	47	0	24	0	0	0	48	0	0	0	0	0	159
Grand Total	80	0	0	0	86	0	54	0	0	0	85	0	0	0	0	0	305
Apprch %	100	0	0	0	61.4	0	38.6	0	0	0	100	0	0	0	0	0	
Total %	26.2	0	0	0	28.2	0	17.7	0	0	0	27.9	0	0	0	0	0	

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File Name : Foxtail Meadow Ln - Meridian Market View PM
 Site Code : 00184470
 Start Date : 6/5/2018
 Page No : 2

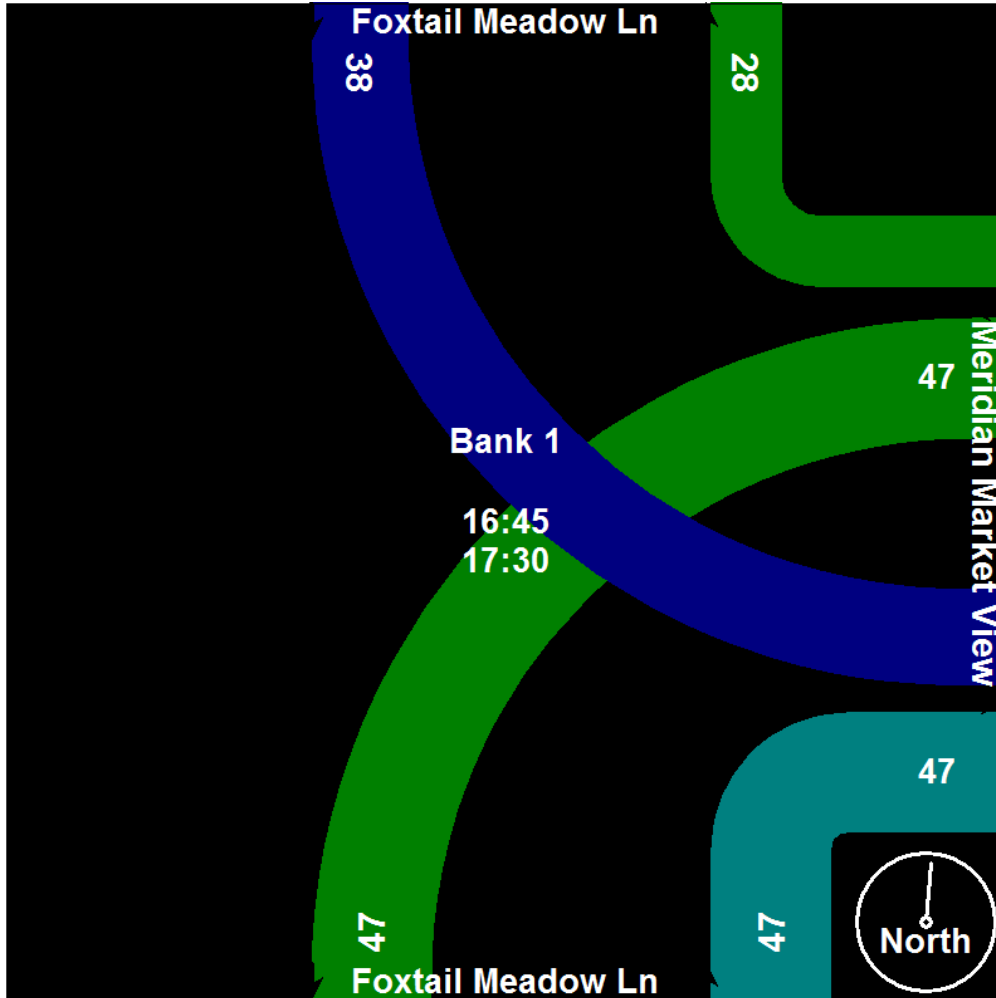
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	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	6	0	0	0	6	10	0	10	0	20	0	0	11	0	11	0	0	0	0	0	37
17:00	14	0	0	0	14	14	0	8	0	22	0	0	12	0	12	0	0	0	0	0	48
17:15	7	0	0	0	7	10	0	3	0	13	0	0	16	0	16	0	0	0	0	0	36
17:30	11	0	0	0	11	13	0	7	0	20	0	0	8	0	8	0	0	0	0	0	39
Total Volume	38	0	0	0	38	47	0	28	0	75	0	0	47	0	47	0	0	0	0	0	160
% App. Total	100	0	0	0		62.7	0	37.3	0		0	0	100	0		0	0	0	0		
PHF	.679	.000	.000	.000	.679	.839	.000	.700	.000	.852	.000	.000	.734	.000	.734	.000	.000	.000	.000	.000	.833



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File Name : Foxtail Meadow Ln - Meridian Market View PM
Site Code : 00184470
Start Date : 6/5/2018
Page No : 3



Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑↑			↑
Traffic Vol, veh/h	0	400	325	100	0	85
Future Vol, veh/h	0	400	325	100	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	476	374	109	0	92
























Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 242
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.93
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.319
Pot Cap-1 Maneuver	0	-	- 0 759
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	-	-	- - 759
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	759
HCM Lane V/C Ratio	-	-	-	0.122
HCM Control Delay (s)	-	-	-	10.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Lanes, Volumes, Timings
12: Foxtail Meadow & Rolling Thunder

07/22/2018

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	100	310	5	65	10	340	95	30	5	50	100	5
Future Volume (vph)	100	310	5	65	10	340	95	30	5	50	100	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		130		100		0	0		0	165	
Storage Lanes	1		1		1		1	1		1	1	
Taper Length (ft)	95				80			25			100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850			0.850		
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1770	1863	1583	0	1770	1863	1583	1770	1863	1583	1770	1863
Flt Permitted	0.276				0.558			0.754			0.753	
Satd. Flow (perm)	514	1863	1583	0	1039	1863	1583	1405	1863	1583	1403	1863
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			119				119			119		
Link Speed (mph)		30				30			30			30
Link Distance (ft)		433				318			447			305
Travel Time (s)		9.8				7.2			10.2			6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.75	0.75	0.75	0.92	0.92
Adj. Flow (vph)	109	337	5	71	11	370	103	40	7	67	109	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	337	5	0	82	370	103	40	7	67	109	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				24			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	pm+pt	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3		8			2			6
Permitted Phases	4		4	8	8		8	2		2	6	

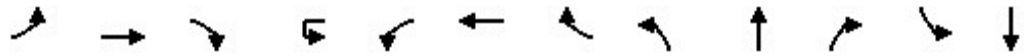
Lanes, Volumes, Timings
 12: Foxtail Meadow & Rolling Thunder

07/22/2018

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	75
Future Volume (vph)	75
Ideal Flow (vphpl)	1900
Storage Length (ft)	165
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	119
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Adj. Flow (vph)	82
Shared Lane Traffic (%)	
Lane Group Flow (vph)	82
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6

Lanes, Volumes, Timings
 12: Foxtail Meadow & Rolling Thunder

07/22/2018

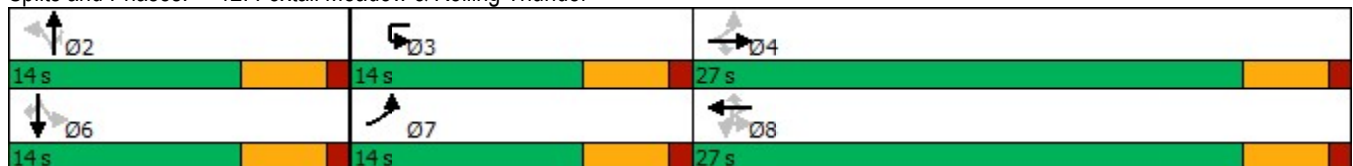


Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	7	4	4	3	8	8	8	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	14.0	27.0	27.0	14.0	27.0	27.0	27.0	14.0	14.0	14.0	14.0	14.0
Total Split (%)	25.5%	49.1%	49.1%	25.5%	49.1%	49.1%	49.1%	25.5%	25.5%	25.5%	25.5%	25.5%
Maximum Green (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	9.5	9.5	9.5	9.5	9.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	Max	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	25.5	25.5	25.5		15.9	15.9	15.9	18.8	18.8	18.8	18.8	18.8
Actuated g/C Ratio	0.47	0.47	0.47		0.30	0.30	0.30	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.25	0.38	0.01		0.27	0.67	0.19	0.08	0.01	0.11	0.22	0.01
Control Delay	8.1	9.3	0.0		17.6	23.9	3.7	16.4	16.0	1.6	17.8	16.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	9.3	0.0		17.6	23.9	3.7	16.4	16.0	1.6	17.8	16.0
LOS	A	A	A		B	C	A	B	B	A	B	B
Approach Delay		8.9				19.2			7.7			11.3
Approach LOS		A				B			A			B

Intersection Summary


Area Type:	Other
Cycle Length:	55
Actuated Cycle Length:	53.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	13.5
Intersection LOS:	B
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: Foxtail Meadow & Rolling Thunder



Lanes, Volumes, Timings
12: Foxtail Meadow & Rolling Thunder

























07/22/2018



Lane Group	SBR
Detector Phase	6
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.5
Total Split (s)	14.0
Total Split (%)	25.5%
Maximum Green (s)	9.5
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.5
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	18.8
Actuated g/C Ratio	0.35
v/c Ratio	0.13
Control Delay	2.5
Queue Delay	0.0
Total Delay	2.5
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
15: Meridian & Rolling Thunder

07/22/2018

												
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	50	100	75	225	1050	100	250	725	200	225	100	200
Future Volume (vph)	50	100	75	225	1050	100	250	725	200	225	100	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285	110		285		185	285		185		310	0
Storage Lanes	1	2		1		2	1		0		4	1
Taper Length (ft)	110			175			175				110	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.97	1.00
Frt		0.850	0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950	0.950	
Satd. Flow (prot)	1770	2787	1583	1770	3539	1583	1770	3539	1583	3433	3433	1583
Flt Permitted	0.685			0.950			0.183			0.950	0.955	
Satd. Flow (perm)	1276	2787	1583	1770	3539	1583	341	3539	1583	3433	3451	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			115			217			217
Link Speed (mph)	30			30			30			30		30
Link Distance (ft)	567			711			532			385		
Travel Time (s)	12.9			16.2			12.1			8.8		
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	109	82	237	1105	105	272	788	217	245	109	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	109	82	237	1105	105	272	788	217	245	109	217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12			12			12			48		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	1	1	1	2	1	1	2	1	1	1	1
Detector Template	Left	Right	Right	Left	Thru	Right	Left	Thru	Right	Left	Left	Right
Leading Detector (ft)	20	20	20	20	100	20	20	100	20	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	20	6	20	20	6	20	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)					94			94				
Detector 2 Size(ft)					6			6				
Detector 2 Type					Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	Perm	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Prot	Perm	Perm
Protected Phases	3			5	2		1	6		7		
Permitted Phases	8	8	8			2	6		6		4	4

Lanes, Volumes, Timings
15: Meridian & Rolling Thunder

07/22/2018

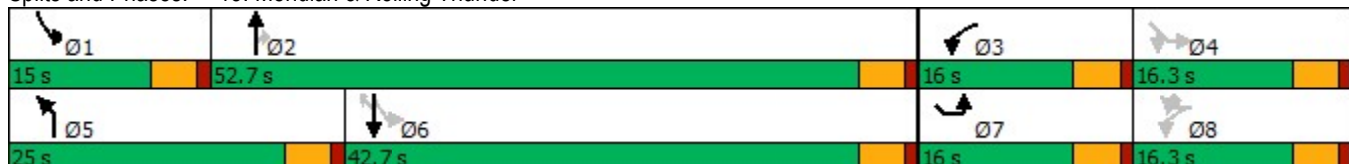


Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Detector Phase	3	8	8	5	2	2	1	6	6	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	16.0	16.3	16.3	25.0	52.7	52.7	15.0	42.7	42.7	16.0	16.3	16.3
Total Split (%)	16.0%	16.3%	16.3%	25.0%	52.7%	52.7%	15.0%	42.7%	42.7%	16.0%	16.3%	16.3%
Maximum Green (s)	11.5	11.8	11.8	20.5	48.2	48.2	10.5	38.2	38.2	11.5	11.8	11.8
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0	0	0	0
Act Effct Green (s)	16.8	9.1	9.1	17.1	48.2	48.2	51.8	41.5	41.5	10.8	14.2	14.2
Actuated g/C Ratio	0.17	0.09	0.09	0.18	0.50	0.50	0.54	0.43	0.43	0.11	0.15	0.15
v/c Ratio	0.21	0.42	0.28	0.76	0.62	0.12	0.81	0.52	0.27	0.64	0.21	0.52
Control Delay	29.8	46.3	2.3	53.5	19.9	2.7	35.7	22.8	3.8	49.6	39.2	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	46.3	2.3	53.5	19.9	2.7	35.7	22.8	3.8	49.6	39.2	10.6
LOS	C	D	A	D	B	A	D	C	A	D	D	B
Approach Delay	27.9				24.2			22.3			32.8	
Approach LOS	C				C			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	96.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	25.1
Intersection LOS:	C
Intersection Capacity Utilization:	68.5%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 15: Meridian & Rolling Thunder



HCM 6th TWSC
 29: Foxtail Meadow & Full-Movement Access

07/22/2018

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		Y	T
Traffic Vol, veh/h	20	35	185	15	40	160
Future Vol, veh/h	20	35	185	15	40	160
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	-	-	-	40	-
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	22	38	201	16	43	174

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	469	209	0	0	217
Stage 1	209	-	-	-	-
Stage 2	260	-	-	-	-
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	553	831	-	-	1353
Stage 1	826	-	-	-	-
Stage 2	783	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	535	831	-	-	1353
Mov Cap-2 Maneuver	535	-	-	-	-
Stage 1	800	-	-	-	-
Stage 2	783	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	1353
HCM Lane V/C Ratio	-	-	0.086	0.032
HCM Control Delay (s)	-	-	10.7	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection: 9: Foxtail Meadow & Meridian Market, Interval #1

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	L	L
Maximum Queue (ft)	36	26	49	45	20	26
Average Queue (ft)	21	7	34	26	4	8
95th Queue (ft)	44	25	47	50	22	27
Link Distance (ft)						
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					35	50
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 9: Foxtail Meadow & Meridian Market, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	L	TR	L
Maximum Queue (ft)	32	21	50	36	15	3	25
Average Queue (ft)	24	7	32	26	3	0	6
95th Queue (ft)	42	25	59	46	16	4	27
Link Distance (ft)						147	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					35		50
Storage Blk Time (%)					0		0
Queuing Penalty (veh)					0		0

Intersection: 9: Foxtail Meadow & Meridian Market, Interval #3

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	L	TR	L
Maximum Queue (ft)	42	21	61	53	21	6	16
Average Queue (ft)	23	7	36	28	5	1	8
95th Queue (ft)	47	25	66	59	21	6	27
Link Distance (ft)						147	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					35		50
Storage Blk Time (%)					0		
Queuing Penalty (veh)					1		

Intersection: 9: Foxtail Meadow & Meridian Market, Interval #4

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	L	TR	L
Maximum Queue (ft)	33	26	53	45	16	3	20
Average Queue (ft)	22	7	34	28	2	0	4
95th Queue (ft)	39	27	54	51	14	4	18
Link Distance (ft)							147
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					35	50	
Storage Blk Time (%)					0		
Queuing Penalty (veh)					0		

Intersection: 9: Foxtail Meadow & Meridian Market, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	L	TR	L
Maximum Queue (ft)	46	26	67	63	31	8	31
Average Queue (ft)	23	7	34	27	4	0	6
95th Queue (ft)	44	26	58	52	19	4	25
Link Distance (ft)							147
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					35	50	
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 12: Foxtail Meadow & Rolling Thunder, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	UL	T	R	L	T	R	L	T	R
Maximum Queue (ft)	54	69	6	67	137	57	28	18	33	69	13	37
Average Queue (ft)	34	35	1	31	80	23	13	3	19	35	2	19
95th Queue (ft)	56	76	6	65	152	57	38	15	42	74	13	40
Link Distance (ft)					254	254	402	402	402	212		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130	130		100						165	165	
Storage Blk Time (%)				0	4							
Queuing Penalty (veh)				0	3							

Intersection: 12: Foxtail Meadow & Rolling Thunder, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	UL	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	76	12	82	168	44	47	12	38	71	18	43
Average Queue (ft)	31	40	1	38	89	25	16	2	19	41	3	22
95th Queue (ft)	58	75	8	90	169	48	50	13	44	78	16	48
Link Distance (ft)					254	254	402	402	402			212
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	100						165		165
Storage Blk Time (%)				0	4							
Queuing Penalty (veh)				0	3							

Intersection: 12: Foxtail Meadow & Rolling Thunder, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	UL	T	R	L	T	R	L	T	R
Maximum Queue (ft)	62	85	3	93	164	35	55	23	53	87	17	43
Average Queue (ft)	39	46	0	38	88	18	27	8	30	44	3	22
95th Queue (ft)	69	89	4	88	164	36	59	29	54	87	15	49
Link Distance (ft)					254	254	402	402	402			212
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	100						165		165
Storage Blk Time (%)		0		0	5							
Queuing Penalty (veh)		0		0	4							

Intersection: 12: Foxtail Meadow & Rolling Thunder, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	UL	T	R	L	T	R	L	T	R
Maximum Queue (ft)	54	88	15	46	145	40	34	17	42	61	4	44
Average Queue (ft)	33	46	2	25	95	20	19	4	19	34	1	20
95th Queue (ft)	58	92	10	49	174	49	43	19	47	69	7	44
Link Distance (ft)					254	254	402	402	402			212
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	100						165		165
Storage Blk Time (%)		0			4							
Queuing Penalty (veh)		0			3							

Intersection: 12: Foxtail Meadow & Rolling Thunder, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	UL	T	R	L	T	R	L	T	R
Maximum Queue (ft)	70	97	16	102	196	70	63	29	59	91	22	53
Average Queue (ft)	34	42	1	33	88	22	18	4	22	39	2	21
95th Queue (ft)	61	84	8	75	166	49	49	20	48	78	13	45
Link Distance (ft)					254	254	402	402	402			212
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	100						165		165
Storage Blk Time (%)		0		0	4							
Queuing Penalty (veh)		0		0	3							

Intersection: 15: Meridian & Rolling Thunder, Interval #1

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	>	L	T	T	R	L	T	T	R
Maximum Queue (ft)	57	101	45	44	308	475	295	43	259	265	216	78
Average Queue (ft)	30	53	20	24	149	335	241	23	143	168	139	48
95th Queue (ft)	62	99	46	44	324	558	340	51	256	254	218	99
Link Distance (ft)		504				659				411	411	411
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	285		110	110	285		185	185	285			
Storage Blk Time (%)		0			0	23	2		1	0		
Queuing Penalty (veh)		1			0	195	13		2	1		

Intersection: 15: Meridian & Rolling Thunder, Interval #1

Movement	SE	SE	SE	SE	SE
Directions Served	<	<	L	L	R
Maximum Queue (ft)	124	135	40	66	80
Average Queue (ft)	68	81	12	26	30
95th Queue (ft)	126	134	38	66	70
Link Distance (ft)					288
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	310	310	310	310	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Meridian & Rolling Thunder, Interval #2

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	>	L	T	T	R	L	T	T	R
Maximum Queue (ft)	62	110	75	66	193	389	294	47	283	274	205	93
Average Queue (ft)	30	59	26	28	132	295	243	30	163	170	126	49
95th Queue (ft)	71	135	98	70	210	411	330	53	307	275	204	94
Link Distance (ft)		504				659				411	411	411
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	285		110	110	285		185	185	285			
Storage Blk Time (%)		5	1			22	3		2	0		
Queuing Penalty (veh)		9	1			185	23		6	0		

Intersection: 15: Meridian & Rolling Thunder, Interval #2

Movement	SE	SE	SE	SE	SE
Directions Served	<	<	L	L	R
Maximum Queue (ft)	117	133	62	55	69
Average Queue (ft)	68	83	18	35	34
95th Queue (ft)	136	147	64	69	71
Link Distance (ft)					288
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	310	310	310	310	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Meridian & Rolling Thunder, Interval #3

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	>	L	T	T	R	L	T	T	R
Maximum Queue (ft)	76	116	92	46	304	563	295	51	263	291	262	96
Average Queue (ft)	34	59	39	27	178	377	252	28	179	211	164	57
95th Queue (ft)	76	129	109	47	377	613	338	55	365	365	328	103
Link Distance (ft)		504				659				411	411	411
Upstream Blk Time (%)						2			3	3	0	
Queuing Penalty (veh)						0			0	14	1	
Storage Bay Dist (ft)	285		110	110	285		185	185	285			
Storage Blk Time (%)		2				28	3		15	0		
Queuing Penalty (veh)		4				248	23		59	1		

Intersection: 15: Meridian & Rolling Thunder, Interval #3

Movement	SE	SE	SE	SE	SE
Directions Served	<	<	L	L	R
Maximum Queue (ft)	115	124	38	66	97
Average Queue (ft)	72	90	13	28	43
95th Queue (ft)	126	134	41	59	95
Link Distance (ft)					288
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	310	310	310	310	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Meridian & Rolling Thunder, Interval #4

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	>	L	T	T	R	L	T	T	R
Maximum Queue (ft)	57	89	53	42	242	479	295	81	306	288	224	69
Average Queue (ft)	29	50	22	25	138	335	255	30	212	217	144	41
95th Queue (ft)	66	98	51	44	233	520	358	91	413	383	256	71
Link Distance (ft)		504				659				411	411	411
Upstream Blk Time (%)						0			4	3	0	
Queuing Penalty (veh)						0			0	13	0	
Storage Bay Dist (ft)	285		110	110	285		185	185	285			
Storage Blk Time (%)		0			0	26	3		21	0		
Queuing Penalty (veh)		0			3	219	22		75	0		

Intersection: 15: Meridian & Rolling Thunder, Interval #4

Movement	SE	SE	SE	SE	SE
Directions Served	<	<	L	L	R
Maximum Queue (ft)	100	126	44	63	73
Average Queue (ft)	54	74	16	25	32
95th Queue (ft)	107	132	44	66	71
Link Distance (ft)					288
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	310	310	310	310	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 15: Meridian & Rolling Thunder, All Intervals

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	R	>	L	T	T	R	L	T	T	R
Maximum Queue (ft)	83	152	118	78	375	649	295	93	341	343	293	112
Average Queue (ft)	31	55	27	26	149	336	248	28	174	191	143	49
95th Queue (ft)	69	117	82	53	298	537	343	66	344	329	259	94
Link Distance (ft)		504				659				411	411	411
Upstream Blk Time (%)						1			2	2	0	
Queuing Penalty (veh)						0			0	7	0	
Storage Bay Dist (ft)	285		110	110	285		185	185	285			
Storage Blk Time (%)		2	0		0	25	3		10	0		
Queuing Penalty (veh)		3	0		1	212	20		35	0		

Intersection: 15: Meridian & Rolling Thunder, All Intervals

Movement	SE	SE	SE	SE	SE
Directions Served	<	<	L	L	R
Maximum Queue (ft)	147	157	85	79	106
Average Queue (ft)	66	82	15	28	35
95th Queue (ft)	125	138	48	66	78
Link Distance (ft)					288
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	310	310	310	310	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 26: Rolling Thunder & RIRO, Interval #1

Movement	SB
Directions Served	R
Maximum Queue (ft)	11
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	250
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Rolling Thunder & RIRO, Interval #2

Movement	SB
Directions Served	R
Maximum Queue (ft)	15
Average Queue (ft)	2
95th Queue (ft)	23
Link Distance (ft)	250
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Rolling Thunder & RIRO, Interval #3

Movement	SB
Directions Served	R
Maximum Queue (ft)	11
Average Queue (ft)	2
95th Queue (ft)	17
Link Distance (ft)	250
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Rolling Thunder & RIRO, Interval #4

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	15	11
Average Queue (ft)	2	2
95th Queue (ft)	23	17
Link Distance (ft)	288	250
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: Rolling Thunder & RIRO, All Intervals

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	15	37
Average Queue (ft)	1	2
95th Queue (ft)	11	18
Link Distance (ft)	288	250
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Foxtail Meadow & Full-Movement Access, Interval #1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	48	24
Average Queue (ft)	26	4
95th Queue (ft)	52	22
Link Distance (ft)	238	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		40
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 29: Foxtail Meadow & Full-Movement Access, Interval #2

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	31	29
Average Queue (ft)	25	7
95th Queue (ft)	44	28
Link Distance (ft)	238	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		40
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Intersection: 29: Foxtail Meadow & Full-Movement Access, Interval #3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	53	24
Average Queue (ft)	32	10
95th Queue (ft)	59	34
Link Distance (ft)	238	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	40	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 29: Foxtail Meadow & Full-Movement Access, Interval #4

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	46	30
Average Queue (ft)	28	6
95th Queue (ft)	52	26
Link Distance (ft)	238	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	40	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 29: Foxtail Meadow & Full-Movement Access, All Intervals

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	63	35
Average Queue (ft)	28	7
95th Queue (ft)	52	28
Link Distance (ft)	238	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	40	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Zone Summary

Zone wide Queuing Penalty, Interval #1: 215
Zone wide Queuing Penalty, Interval #2: 229
Zone wide Queuing Penalty, Interval #3: 354
Zone wide Queuing Penalty, Interval #4: 336
Zone wide Queuing Penalty, All Intervals: 283