LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

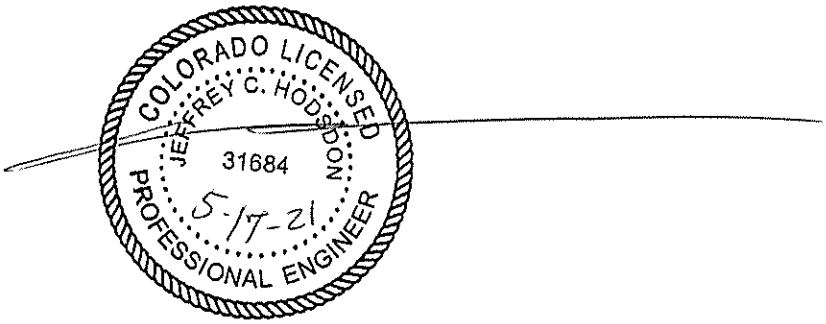
Bent Grass East Commercial
Filing No. 3
Updated Traffic Impact Analysis
PCD File No. SP2010

(LSC #204660)
May 17, 2021

If you have questions please reach out for a meeting to discuss the comments provided.

Traffic Engineer's Statement

This 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.



Developer's Statement

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

5/18/21
Date

Bent Grass East Commercial Filing No. 3

Updated Traffic Impact Analysis

Prepared for:
Land First, Inc.
1378 Promontory Bluff View
Colorado Springs, CO 80921

MAY 17, 2021

LSC Transportation Consultants, Inc.
Contacts: Kirstin D. Ferrin, P.E. & Jeffrey C. Hodsdon, P.E.

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May 17, 2021

Land First, Inc.
C/O Mr. Ron Waldthausen
1378 Promontory Bluff View
Colorado Springs, CO 80921-3945

RE: Bent Grass East
Commercial Filing No. 3
El Paso County, Colorado
Updated Traffic Impact Analysis
LSC #204660

Dear Ron:

LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the Bent Grass East Commercial Filing No. 3 development. The site is located southwest of the intersection of Meridian Park Drive and Bent Grass Meadows Drive in El Paso County, Colorado. Figure 1 shows the site location.

A mix of commercial uses is envisioned and access to the site will be from Bent Grass Meadows Drive and Meridian Park Drive.

REPORT CONTENTS

The report contains the following:

- The existing roadway and traffic conditions in the site's vicinity, including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits, etc.;
- The existing traffic volumes on the study-area roadways;
- The projected average weekday and peak-hour vehicle trips to be generated by the site at buildout;
- The assignment of the projected site-generated traffic volumes to the study-area roadways and intersections;
- The projected short-term and long-term total traffic volumes on the study-area roadway network;

- The projected levels of service at the intersections of Meridian Road/Bent Grass Meadows Boulevard, Meridian Park Drive/Bent Grass Meadows Drive and at the site access points. For consistency with other traffic reports completed within Bent Grass, the following offsite intersections have also been analyzed:
    - Woodmen frontage road/Bent Grass Meadows Drive
    - Woodmen Road/Golden Sage Drive
- Recommendations for roadway improvements and phasing of these improvements

LSC has completed the following studies for this site:

- *Bent Grass Subdivision PUD Traffic Impact Analysis* -- October 6, 2006
- *Bent Grass East Commercial – Preliminary Plan* -- January 25, 2013
- *Bent Grass East Commercial – Report Supplement #2* -- March 14, 2013
- *Bent Grass East Commercial Filing No. 2 Updated Traffic Impact Analysis* -- July 17, 2014

Other studies completed in the vicinity include:

- *Bent Grass Subdivision Filing 1 Updated Traffic Impact Analysis* -- July 14, 2014
- *Falcon Dental East Commercial Filing No. 2A* -- March 7, 2016
- *Bent Grass Meadows Drive/Meridian Road Traffic Signal Warrant Analysis* -- October 2, 2017
- *Falcon Marketplace Traffic Impact Analysis* -- October 23, 2017 (September 5, 2018 Revision)
- *Bent Grass Residential Filing No. 2 Traffic Impact Analysis* -- April 17, 2020
- *Bent Grass Meadows Drive & Meridian Road Updated Transportation Memorandum* -- September 4, 2020
- *Falcon Meadows at Bent Grass Updated Traffic Impact Analysis* -- December 11, 2020
- *Golden Sage and Woodmen Road Transportation Memorandum* -- December 30, 2020

LAND USE AND ACCESS

Land Use

The Bent Grass East Commercial development is located west of Meridian Road and south of Bent Grass Meadows Drive. It is partially developed with a veterinary clinic, a gas station with convenience store, and a dental clinic. There are currently two vacant parcels within the Bent Grass East Commercial development. The 5.05-acre Bent Grass East Commercial Filing No. 2B Tract BB and the 1.46-acre Lot 1A Bent Grass East Commercial Fil No 2A.

The currently-proposed Bent Grass East Commercial Filing 3 preliminary plan and plat will subdivide Tract BB into six lots and a tract for a roadway. The site is planned to be developed with about 5,000 square feet of floor space for fast-food restaurants, 18,000 square feet of general retail floor space, and 10,800 square feet of floor space that will be used for a mix of office and warehouse uses.

This TIA assumes the 1.46-acre Lot 1A Bent Grass East Commercial Fil No 2A will be developed with about 15,000 square feet of retail floor space in the future.

Access Locations

Bent Grass East Filing 3 is proposed to have one full-movement access point to Bent Grass Meadows Drive (an Urban Non-Residential Collector) about 525 feet west of Meridian Park Drive (an Urban Local). This access would be 505 feet east of Avena Road (an Urban Local). The proposed spacing exceeds the minimum intersection spacing of 330' for an Urban Non-Residential Collector when intersecting local roadways. An additional full-movement access point is proposed to Meridian Park Drive about 240 feet south of Bent Grass Meadows Drive aligning with the existing south 7-Eleven access. This exceeds the minimum intersection spacing of 175 feet for an Urban Local. As indicated in the sight distance section, given the site-specific conditions, there is sufficient sight distance for the proposed spacing.

Access Sight Distance

Bent Grass Meadows Drive Access

Figure 3 shows a sight distance analysis at the proposed access point to Bent Grass Meadows Drive. Based on a design speed of 40 miles per hour (mph) on Bent Grass Meadows Drive and the criteria contained in Table 2-21 of the *Engineering Criteria Manual* (*ECM)*, the required intersection sight distance at the proposed site access points is 455 feet. The required stopping sight distance from *ECM* Table 2-17 is also shown in the figure. The *ECM*-prescribed intersection sight distance and stopping sight distance can be met at the proposed intersection.

Meridian Park Drive Access

Figure 4 shows the sight-distance analysis at the proposed access point to Meridian Park Drive. As shown in Figure 4, the sight distance to the south to the terminus of Meridian Park Drive is unrestricted.

The *ECM*-standard intersection sight distance for an intersection on an Urban Local street is 280 feet (based on the criteria contained in Table 2-21 of the *ECM*). However, Meridian Park Drive ends just to the north at Bent Grass Meadows Drive. Therefore, site specific conditions are such that vehicles turning onto Meridian Park Drive from Bent Grass Meadows Drive will not be traveling at the *ECM*-standard speed of 25 mph at the point they turn onto the street in the southbound direction.

The proposed access is located 240 feet south of Bent Grass Meadows Drive (centerline to centerline). Figure 4 shows the available sight distance of 208 feet from the proposed access point to the north. As mentioned above, vehicles turning from Bent Grass Meadows onto southbound Meridian Park Drive (approaching the site access) will be traveling at a speed less than the *ECM* standard posted speed of 25 miles per hour for Urban Local streets. Should a future access be constructed north of Bent Grass Meadows Drive, those vehicles continuing on Meridian Park Drive will be travelling from a stop condition.

The required stopping sight distance from *ECM* Table 2-17 is also shown in the figure. The *ECM*-prescribed intersection sight distance and stopping sight distance can be met at the proposed intersection.

Based on the criteria contained in Table 2-17 of the *ECM*, the required stopping sight distance approaching the Meridian Park site access is 155 feet. This requirement is met in both directions.

PEDESTRIAN & BICYCLE FACILITIES

- Woodmen & Meridian are shown as proposed bike routes on the MTCP Non-Motorized Plan. Also shown is a proposed secondary regional trail west of the site.
- Generally, Bent Grass Meadows Drive is sufficiently wide for bicycles with the paved shoulder.
- Developing pedestrian connections along the north side of the Woodmen North Frontage Road, Bent Grass Meadows Drive, and Meridian Park Drive. Other area sections of sidewalk/trail connections are being added as development occurs.
- Sidewalks will be added along Bent Grass Meadows Drive with the connection south to the north terminus of the existing section adjacent to the School District 49 headquarters.
- This commercial subdivision will provide the required sidewalks to connect to the sidewalk along Bent Grass Meadows Drive.

EXISTING ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The roadways in the study area are identified below, followed by a brief description of each. Figure 1 shows the roadway system. Copies of the *2016 El Paso County Major Transportation Corridors Plan (MTCP), 2040 Roadway Plan,* and *2016 MTCP 2060 Corridor Preservation Plan* with the site location identified on each of them have been attached to this report.

Meridian Road is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan* as a four-lane Principal Arterial. Meridian Road was recently expanded from two lanes to four lanes between Woodmen Road and Rolling Thunder and may soon be connected to US Highway 24 (US Hwy 24). The posted speed limit is 55 miles per hour (mph).

Bent Grass Meadows Drive is a Non-Residential Collector that currently extends north from the Woodmen North frontage road for about 2,000 feet and west from Meridian Road for about one-half mile. Bent Grass Meadows Drive will be extended further west and then curve south to connect to the existing section north of the Woodmen frontage road, as part of the approved Bent Grass Residential Filing No. 2 development. The Bent Grass Meadows Drive/Meridian Road intersection is planned to be signalized in the short-term future once warrants for signalization are satisfied. This is anticipated to occur with development of that filing.

Woodmen Road is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan* as a four-lane Expressway in the vicinity of the site. The posted speed limit on Woodmen Road in the vicinity of Golden Sage Road is 55 mph.

Woodmen Frontage Road is a paved two-lane frontage road along the north side of Woodmen Road. The Woodmen frontage road extends from just west of Meridian Road to its current terminus west of Golden Sage Road. The posted speed limit on the Woodmen frontage road is 30 mph.

Meridian Park Drive is an Urban Local street which extends south from Bent Grass Meadows Drive about 575 feet. Meridian Park Drive could potentially be extended south if the Falcon Ranchettes subdivision is redeveloped and/or the intersection of Meridian Road and Owl Place is restricted to right-in/right-out. Although the speed limit is not posted, the assumed speed limit is 25 mph.

Existing Traffic Conditions

Figure 5 shows the existing morning and afternoon peak-hour traffic volumes at the key area intersections. The traffic volumes shown for the intersections of Woodmen/Golden Sage and the Woodmen frontage road/Golden Sage are from traffic counts conducted in January 2020 and December 2020. Note that the January 2020 counts were conducted prior to the completion of Bent Grass Meadows Drive between the Woodmen frontage road and Meridian Road, but before effects of the COVID-19 pandemic. The December 2020 counts were conducted following the completion of Bent Grass Meadows Drive between the Woodmen frontage road and Meridian Road, but during the COVID-19 pandemic.

The traffic volumes shown for the intersection of the Woodmen frontage road/Bent Grass Meadow are from traffic counts conducted in May 2019. The traffic volumes at the intersection of Meridian Road/Bent Grass Meadows Drive, the 7-Eleven access to Bent Grass Meadows Drive (which has since been closed) and the intersection of Meridian Park Drive/Bent Grass Meadows Drive were counted in September and October 2018 and again in October 2020. Note that all of these counts were conducted prior to the completion of Bent Grass Meadows Drive between the Woodmen frontage road and Meridian Road. The more recent October 2020 counts are slightly lower than the volumes counted two years previously. Figure 5 shows both the October 2018 counts and the October 2020 counts, as the more current counts were likely impacted by the COVID-19 pandemic. The traffic count reports are attached.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from “A” to “F.” LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (seconds per vehicle)	Unsignalized Intersections Average Control Delay (seconds per vehicle)(1)
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The intersections of Meridian Road/Bent Grass Meadows Drive, Meridian Park Drive/Bent Grass Meadows Drive, and Woodmen frontage road/Bent Grass Meadows Drive were analyzed to determine the existing levels of service based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The intersection of Woodmen Road/Golden Sage Drive was analyzed using Synchro. Figure 5 shows the level of service analysis results. The level of service reports are attached.

The eastbound left-turn movement at the stop-sign-controlled intersection of Meridian/Bent Grass Meadows is currently operating at LOS F during the morning peak hour and LOS E during the afternoon peak hour. The eastbound right-turn movement is currently operating at LOS D during the morning peak hour and LOS B during the afternoon peak hour. This intersection will soon be signalized and other improvements will be completed. The construction documents have been approved and construction is expected to begin in the spring of 2021. All movements at this intersection are projected to operate at LOS D or better following the construction.

All movements at the intersections of Bent Grass Meadows/Meridian Park, the Woodmen frontage road/Bent Grass Meadows Drive, and the Woodmen frontage road/Golden Sage Road are currently operating at LOS B or better during the peak hours.

All movements at the signal-controlled intersection of Woodmen/Golden Sage are currently operating at LOS D or better during the peak hours. However, County staff has recently raised a requirement for separate eastbound left-turn phasing at this intersection as part of the Bent Grass Residential Filing No. 2 application. LSC is currently working on construction documents for this improvement as part of that subdivision application.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the roadways without the Bent Grass West traffic. The short-term (Year 2021) background traffic volumes are shown in Figure 6. The background traffic volumes are based on the existing traffic volumes shown in Figure 5, with a portion of the volumes assumed to be rerouted as the counts were conducted prior to the completion of Bent Grass Meadows Drive (between the sections located north of the Woodmen frontage road and west of Meridian Road) and the closure of the 7-Eleven access to Bent Grass Meadows Drive. All 7-Eleven traffic was assumed to use the south access to Meridian Park Drive that will align with the proposed access for Bent Grass East Commercial Filing No. 3.

The short-term background traffic volumes also include additional traffic projected to be generated by buildout of Bent Grass Residential Filing No. 2, buildout of Falcon Meadows at Bent Grass, buildout of the initial phase of Banning Lewis Ranch North, and **buildout of Falcon Marketplace** located northwest of the intersection of Woodmen Road/Meridian Road. As buildout of these projects has been assumed, these short-term volumes may be conservative if commercial buildout takes several years to occur. The short-term background traffic volumes also assume a right-in-only access to Woodmen Road just west of Meridian Road. Through traffic on Meridian Road was assumed to have a 2 percent growth rate per year.

Figure 7 shows the projected 2040 background traffic volumes. These volumes were estimated by LSC, based on previous work completed in the area by LSC, including other Bent Grass Meadows developments, the Falcon Marketplace, and *the Banning Lewis Ranch North - Traffic Impact Study* prepared by SM Rocha, LLC, dated August 2019. The 2040 background traffic volumes assume buildout of the area north of Woodmen Road and west of Meridian Road. Appendix Table 1 shows the trip generation estimates for all existing and future land uses assumed to be built out in this area by 2040. Appendix Figure 1 shows the location of each traffic analysis zone referenced in the appendix tables.

A significant portion of the background traffic shown on Meridian Park Drive is due to Owl Lane redevelopment trip estimates from 10-15 years ago. Commercial development of the size and configuration that was common at that time likely no longer applies today for the Owl Lane area, and any commercial development would likely be significantly smaller and generate significantly fewer trips.

TRIP GENERATION

Estimates of the vehicle trips generated by Bent Grass East Commercial Filing No. 3 have been made using the nationally published trip generation rates found in *Trip Generation, 10th Edition* by the Institute of Transportation Engineers (ITE). The results of the trip generation estimate are shown in Table 2.

The total number of vehicle trips generated by the land uses has been reduced to account for the internal vehicle trips made within the site between land uses, without use of the external streets surrounding the site. As shown in Table 2, about five percent of the total trips were assumed to be internal to the site.

The total number of vehicle trips generated has been reduced to take into account the "pass by" phenomena. A pass-by trip is made by a motorist who would already be on the adjacent roadways regardless of the proposed development, but who stops in at the site while passing by. The motorist would then continue on his or her way to a final destination in the original direction. The pass-by percentages shown on Table 2 are from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2017* by ITE.

Bent Grass East Commercial Filing No. 3 can be expected to generate about 2,873 vehicle trips on the average weekday, with about half entering and half exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 163 vehicles would enter, and 129 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 145 vehicles would enter, and 154 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The estimated directional distribution of the site-generated traffic volumes on the adjacent roadways is an important factor in determining the site's traffic impacts. Figure 8 shows the directional distribution estimates for the site-generated traffic. The estimates have been based on the following factors: the land use proposed for the site and its location, the existing and planned street and roadway system in the vicinity, and the existing/projected traffic volumes.

The pass-by trips from Meridian Road were assigned based, in large part, on the magnitude and direction of the existing traffic volumes.

Trips with destination and/or origins within the area bound by Woodmen Road on the south and Meridian Road on the east have been assigned separately. In the short term, a portion of the trips generated by Bent Grass East Commercial development are estimated to travel to and from residential areas within the study area. Appendix Tables 1 and 2 show the internal trip assumptions and calculations.

When the external trip distribution percentages (from Figure 8) are applied to the trip-generation estimates (from Table 2), the resulting site-generated traffic volumes can be determined. Figure 9 shows the site-generated traffic-volume estimates.

TOTAL TRAFFIC

Figure 10 shows the projected short-term total traffic volumes at the site access points and key area intersections. The short-term-total traffic volumes are the sum of the short-term background traffic volumes from Figure 6 plus the site-generated traffic volumes from Figure 9.

Figure 11 shows the projected 2040 total traffic volumes at the site access points and key area intersections. The 2040 total traffic volumes are the sum of the 2040 background traffic volumes from Figure 7 plus the site-generated traffic volumes from Figure 9.

PROJECTED LEVELS OF SERVICE

The site access points, and key area intersections were analyzed to determine the projected levels of service, based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 6th Edition* (HCM) by the Transportation Research Board or using Synchro. Figures 6, 7, 10, and 11 show the level of service analysis results. The level of service technical reports are attached.

Meridian/Bent Grass Meadows

The intersection of Meridian/Bent Grass Meadows is currently two-way, stop-sign-controlled. It is our understanding that this intersection will be converted to traffic-signal control in the short-term future (See File Number CDR194). As a signal-controlled intersection, all movements are projected to operate at LOS D or better during the peak hours, based on both short-term and 2040 total traffic volumes.

Bent Grass Meadows/Meridian Park

The intersection of Bent Grass Meadows Drive/Meridian Park Drive is projected to operate at LOS B or better for all movements as a stop-sign-controlled intersection, based on the short-term total traffic volumes.

By 2040, it was assumed that the parcels north of Bent Grass Meadows would be developed with a mix of commercial, office and residential uses and would have an access that forms the north leg of the intersection. The 2040 total traffic volumes also assume Meridian Park Drive would be extended south to serve redevelopment of parcels currently served by Owl Lane. Based on the projected 2040 total traffic volumes and using the *HCM* unsignalized method of analysis procedures, the southbound approach is projected to operate at LOS E during the morning peak hour and LOS F during the afternoon peak hour. The upstream signal at Meridian/Bent Grass Meadows will creates gaps in westbound traffic. The *HCM* unsignalized method of analysis allows for the effect of an upstream signal. However, the southbound delay calculated by the *HCM* procedures at Meridian Park may be conservative. A SimTraffic simulation was run to better analyze the operational effects of the adjacent signal-controlled intersection. The projected 2040 peak-hour volumes were entered into the model and the model was run five times. The results

were then averaged. The average projected delay for the southbound left-turn movement at the intersection of Meridian Park/Bent Grass Meadows was about 34.6 seconds per vehicle during the morning peak hour and 27.8 seconds per vehicle during the afternoon peak hour. Based the SimTraffic simulation results and on the Level of Service delay ranges shown in Table 1, this movement would be considered to operate at LOS D during the peak hours.

Bent Grass Meadows/Private Road

The full-movement site private road connection to Bent Grass Meadows Drive is projected to operate at LOS C or better for all movements as a stop-sign-controlled intersection, based on the short-term and 2040 total traffic volumes.

Meridian Park Drive/Private Road

The full-movement site private road connection to Meridian Park Drive is projected to operate at LOS C or better for all movements as a stop-sign-controlled intersection, based on the short-term and 2040 total traffic volumes.

Woodmen/Golden Sage

The shared southbound right-turn and through lane at the intersection of Woodmen/Golden Sage is projected to operate at LOS E during the afternoon peak hour, based on the projected short-term total traffic volumes. These movements are projected to operate at LOS D or better once a separate southbound right-turn lane is constructed. All other movements at this intersection are projected to operate at LOS D or better during the peak hours, based on the projected short-term total and 2040 total traffic volumes. The analysis assumes the addition of protected/permitted phasing for the eastbound and westbound left-turn movements in the short-term.

Woodmen North Frontage Road/Golden Sage

The intersection of the Woodmen North Frontage Road/Golden Sage is currently stop-sign-controlled. All movements at this intersection are projected to operate at LOS D or better during the peak hours, based on the projected short-term total traffic volumes. By 2040, the westbound approach is projected to operate at LOS F during the afternoon peak hour. All movements are projected to operate at LOS C or better, if this intersection is converted to either traffic-signal control or reconstructed as a modern roundabout. Due to right-of-way and spacing constraints, the signal is most likely the primary future option. Table 3 shows a comparison of the level of service for each of the options. Due to the short spacing between the frontage road and Woodmen Road and the high volume of northbound right-turning vehicles at this intersection, LSC recommends a dual northbound right-turn to allow for better utilization of the dual eastbound left-turn lanes at the intersection of Woodmen/Golden Sage.

Possible Alternative to a Traffic Signal: A Modern Roundabout Intersection

Advantages

- The delay for all movements is projected to be lower with a modern roundabout than with traffic-signal control.
- Generally, modern roundabouts have safety advantages over signal-controlled intersections. This is because crashes tend to be lower speed, there are fewer conflict points, and the types (angle) of crashes tend to be those which generally result in less severe accidents. Granted, conventional T-intersections have significantly fewer conflict points than four-leg conventional intersections.
- A roundabout may be more aesthetically appealing than a traditional signal-controlled intersection and may have generally lower traffic-noise levels.
- Long-term operation and maintenance cost is likely to be lower with a roundabout than a traffic signal.

Disadvantages

- A roundabout could potentially require additional right-of-way and construction costs than a traffic signal. The required right-of-way may not be available.
- Due to the proximity to Woodmen Road, southbound queues extending from the signal at Woodmen Road have the potential to back into the circulating lanes of a roundabout.

Woodmen Frontage Road/Bent Grass Meadows

All movements at the stop-sign-controlled intersection of the Woodmen frontage road/Bent Grass Meadows are projected to operate at LOS C or better during the peak hours, based on the projected short-term and 2040 total traffic volumes.

QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for Bent Grass Meadows Drive between Meridian Road and Meridian Park Drive. The 2040 total morning and afternoon peak-hour traffic volumes were entered into the Synchro model. The intersection of Bent Grass Meadows/Meridian Park was assumed to be stop-sign-controlled. The simulation was run five times.

The maximum westbound left-turn queue on Bent Grass Meadows Drive is about 166 feet approaching Meridian Park Drive and about 55 feet approaching the proposed full-movement site access.

Please use County nomenclature as the ECM does not differentiate between residential and non-residential local roadways

ROADWAY CLASSIFICATIONS & CROSS SECTIONS

Private Roadway

LSC suggests a classification of "Commercial Local [private]" for the private road. This roadway should be classified as a "Local" Roadway – not a "residential local" roadway with individual residential lot access, on street parking, etc., rather a "commercial local" roadway, where access to adjacent parcels is the predominant function. The proposed roadway cross section is 24-feet wide. As a commercial street, higher traffic activity is expected and tolerated, compared to a residential street with a similar width.

Each individual lot will be required to provide sufficient on-site parking as on-street parking will not be allowed. The street.

Comments have been provided in the turn movement exhibit as the design vehicle encroaches into the opposing lane at the radii proposed.

A 24 ft. cross section is not sufficient for the traffic volume/impacts of this development. Based on the proposed uses, turn lanes may be required along this private roadway and a 24ft section would not provide the required width to add any future turn lanes. These comments have also been provided in the submitted deviation request for this private roadway.

This street is intended only to serve the adjacent commercial lots and not through traffic. Each lot will be required to provide sufficient on-site parking as on-street parking will not be allowed. With no on-street parking, two-way traffic will be maintained.

As this will be a relatively short, local commercial street serving a minimal number of commercial lots, a center two-way left-turn lane would not be necessary to separate left-turning traffic from through traffic at each of the internal lot driveway access points. The roadway has a short length and, as such, trip lengths will be short. The narrower width combined with the short length will geometrically limit higher speeds.

The site development plan for each individual lot will address lot access design and site circulation to accommodate the anticipated design vehicle – either single unit or multi-unit trucks. The radii at the intersections of the private road/Meridian Park Drive and the intersection of the private road/Bent Grass Meadows Boulevard can be adjusted to accommodate the design vehicle.

Meridian Park Drive

Meridian Park Dr is not identified on the *2016 El Paso County Major Transportation Corridors Plan* (*MTCP*). This roadway was approved and constructed as a Local with the development of the Bent Grass Commercial PUD. The land use currently proposed is consistent with the land use shown at the time the PUD was approved.

Meridian Park Drive should be classified as a "Local" street – not a "residential local" street (with individual residential lot access, on street parking, etc.) - rather a "commercial local" street, where access to adjacent parcels is the predominant function. Meridian Park drive was constructed with sufficient width to stripe a two-way, center left-turn lane if ever needed. Note: this project is proposing to consolidate lot access into one Meridian Park Drive location (plus one on Bent Grass Meadows Drive) via the proposed private road.

Use County nomenclature such as urban local roadway.

ECM criteria in 2.3.7 does not specify that thresholds do not apply to local roadways. The criteria indicates Minor arterials and lower classifications which would include local roadways. Please revise and provide the required auxiliary turn lanes on Meridian Park Drive and the proposed private roadway.

Meridian Park Drive [illegible] the TIS report includes previously estimated potential commercial development associated with the Owl Place area. Meridian Park Drive was required by EPC to extend to the south property line to allow for possible future access to the Owl Lane area and potentially a connection between [now] Falcon Marketplace and the south end of Meridian Park Drive. This was required to ensure access management on Meridian Road, as no full movement would be allowed between Eastonville and Bent Grass Meadows Drive. This connection was basically intended as a commercial "local frontage road" for the relatively short distance between Eastonville and Bent Grass Meadows Drive.

A significant portion of the ADT is due to Owl Lane redevelopment trip estimates from 10-15 years ago. Commercial development of the size and configuration that was common at that time likely no longer applies today for the Owl Lane area, and any commercial development would likely be significantly smaller and generate significantly fewer trips.

AUXILIARY TURN LANE ANALYSIS

Meridian Park Drive/Private Road -Northbound and Southbound Approaches

Applying auxiliary lanes thresholds is not required on roadways classified as "Local." Even if the street were considered subject to the turn-lane thresholds, the southbound projected through traffic at this access is low, even with the potential future Owl Lane redevelopment. As Meridian Park Drive/Bent Grass Meadows Drive is a T intersection, southbound traffic upstream of this access will have just turned from Bent Grass Meadows Drive – beginning travel southbound at a significantly lower speed than a 35 or 40 mph design speed.

Meridian Park drive was constructed with sufficient width to stripe a two-way, center left-turn lane if ever needed – for purposes of left-turn storage to avoid blockage of through traffic by left-turning traffic waiting for an acceptable gap in opposing traffic.

Private Street – Exiting Traffic Laneage

This subsection discusses the eastbound approach to Meridian Park Drive and Northbound Approach to Bent Grass Meadows Drive

Section 2.3.7.D describes the warrants for turn lanes generally in this manner: [...] lane is required for any access with a projected peak-hour right [or left] ingress turning volume of [...]. The word "ingress" refers to traffic turning from the major street (in this case, Bent Grass Meadows Drive or Meridian Park Drive) onto the minor street (in this case, the private road) or access.

We have evaluated this intersection for eastbound approach need for auxiliary speed change lanes for this site-specific case, considering the intent of the *ECM* criteria.

Per our previous discussion on other projects Red Rock acres and Rock Creek Mesa, the intent of this criteria is that if the threshold is met then turn lanes are required regardless if it is stop sign controlled. Please revise accordingly.

Although the projected left-turn volume on the private road eastbound at Meridian Park Drive exceeds 25 vph, separate turn lanes would not be needed as "speed change lanes" eastbound on the private road at Meridian Park Drive or northbound on the private road at Bent Grass Meadows Drive, as these access points will remain stop-sign controlled. There will be no significant speed differential between turning traffic and through traffic. As all traffic stops at the stop sign, there will be no need for auxiliary “speed change lane(s)” to mitigate speed differential. Even given the remote chance these access points might be signalized in the future, with very low straight through traffic across the intersecting “major” street, almost all traffic will turn left or right.

As the “speed differential” reason for a separate turn lane does not exist in this situation, the intent of the *ECM* with respect to the prescribed thresholds is not met. However, there would be a few situations where a separate left- and right-turn “bays” would potentially be beneficial or necessary: 1) for "Convenience" for right turning vehicles, not having to wait behind left-turning vehicles 2) to maintain satisfactory LOS (i.e., if a single lane approach has a low level of service which does not meet *ECM* criteria, and separate right- and left-turn lanes improves the LOS or 3) to reduce stop-sign approach queue length, if necessary, in the shared approach lane. The LOS is projected to be LOS D or better with the shared approach lane.

The 95th percentile approach queues for 2040 afternoon peak hour for the single-lane minor-street approaches on the private road are projected to be 90 feet (about 4 vehicles) for the eastbound approach to Meridian Park Drive and 54 feet (about 2-3 vehicles) for the northbound approach to Bent Grass Meadows Drive. LSC recommends these queue lengths be considered when placing the individual lot access points to the private road. Queue length estimates may need to be updated with each site development plan.

TRUCK ACCOMMODATION

Please refer to the Autoturn exhibit prepared by Classic Consulting for truck turns into/out of the private road and passage through the site on the private road. The site development plan for each individual lot will address lot access design and site circulation to accommodate the anticipated design vehicle – either single unit or multi-unit trucks. The radii at the intersections of the private road/Meridian Park Drive and the intersection of the private road/Bent Grass Meadows Boulevard can be adjusted to accommodate the design vehicle.

APPROVED CORRIDOR STUDIES

The *El Paso County 2016 Major Transportation Corridors Plan Update* does not identify any 2040 roadway improvements projects in the vicinity of the site and there are no other known approved corridor studies in the area.

Comments have been provided in the submitted turning exhibit. Please include the exhibit in the report.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Bent Grass East Commercial Filing No. 3 can be expected to generate about 2,873 vehicle trips on the average weekday, with about half entering and half exiting in a 24-hour period. During the morning peak hour about 163 vehicles would enter, and 129 vehicles would exit the site. During the afternoon peak hour, about 145 vehicles would enter and 154 vehicles would exit the site.

Level of Service

- The eastbound left-turn movement at the stop-sign-controlled intersection of Meridian/ Bent Grass Meadows is currently operating at LOS F during the morning peak hour and LOS E during the afternoon peak hour. However, a traffic signal is currently under construction at this intersection. Once the signal becomes operational, all movements are projected to operate at LOS D or better during the peak hours, based on the projected short-term and 2040 total traffic volumes.

- The intersection of Bent Grass Meadows/Meridian Park is projected to operate at an acceptable LOS as a stop-sign-controlled intersection, based on the projected short-term total traffic volumes. By 2040, it was assumed that the parcels north of Bent Grass Meadows would be developed with a mix of commercial, office, and residential uses and would have an access that forms the north leg of the intersection. The 2040 total traffic volumes also assume Meridian Park Drive would be extended south to serve potential future redevelopment of parcels currently served by Owl Lane (LSC is not aware of any current plans). Based on the projected 2040 total traffic volumes, the northbound and southbound approaches are projected to operate at LOS D, based on projected delay from a traffic simulation analysis.

- The site access points (private road connections) to Bent Grass Meadows and Meridian Park are projected to operate at LOS C or better for all movements during the peak hours as stop-sign-controlled intersections, based on the projected short-term and 2040 total traffic volumes.

- Off Site Intersections

    - All movements at the stop-sign-controlled intersection of the Woodmen frontage road/Golden Sage are projected to operate at LOS D or better during the peak hours, based on the projected short-term total traffic volumes. By 2040, alternate intersection control, such as a traffic signal or a modern roundabout, will likely be needed to maintain an acceptable level of service for this intersection.

    - The intersection of the Woodmen frontage road/Bent Grass is projected to operate at LOS C or better for all movements during the peak hours as a stop

sign-controlled intersection, based on the projected short-term and 2040 total traffic volumes.

- The shared southbound right-turn and through lane at the intersection of Woodmen/Golden Sage is projected to operate at LOS E during the afternoon peak hour, based on the projected short-term total traffic volumes. These movements are projected to operate at LOS D or better, once a separate southbound right-turn lane is constructed. This analysis has been included, although the traffic impact from this project is less than five percent during the morning peak hour, as this and other TIS reports for projects in this Bent Grass/Latigo/Falcon Marketplace "sub area" have called out cost sharing for these improvements. The improvements table includes a recommendation for a fair-share contribution to this improvement. All other movements at this intersection are projected to operate at LOS D or better during the peak hours, based on the projected short-term and 2040 total traffic volumes.

Roadway Improvements

- Auxiliary Turn Lanes

  - The existing section of Bent Grass Meadows Drive between Meridian Road and Meridian Park Drive has recently been widened to allow for a three-lane eastbound approach at Meridian/Bent Grass Meadows. As part of this improvement, Bent Grass Meadows has been restriped to remove the existing westbound left-turn lane for the 7-Eleven access, which has been closed, and lengthen the existing westbound left-turn bay approaching Meridian Park Drive. The restriped lane will be about 195 feet long plus an 85-foot taper. Based on the queueing analysis discussed above, the proposed 195-foot lane will provide adequate storage for the projected queues.

  - A westbound left-turn lane already exists on Bent Grass Meadows Drive approaching the west site access. The roadway was originally striped with a 110-foot-long westbound left-turn lane approaching the access location. Based on the criteria contained in the *ECM* and a design speed of 40 miles per hour, this left-turn lane should be 215 feet long plus a 160-foot taper. The existing lane should be restriped to meet the *ECM* criteria with this project. Once the parcels north of Bent Grass Meadows Drive develop and a north leg is constructed at the Bent Grass Meadows/Meridian Park intersection, it will not be possible to provide back-to-back left-turn lanes that meet the *ECM* criteria in both directions. A deviation to the criteria contained in the *ECM* may be required with that future development. The maximum westbound left-turn queue on Bent Grass Meadows Drive is about 46 feet approaching the proposed full-movement site access. This queue could be accommodated by the existing 110-foot left turn lane.

Please indicate the length of the existing eastbound left turn lane. Are the current back to back left turns equal in length? Is it appropriate for the roadway to be widened at this intersection to allow for both left turn lanes to be accommodated?

Use County nomenclature i.e. urban local

- Based on the classification of Local, no auxiliary lanes are recommended on Meridian Park Drive approaching the proposed private roadway. Please refer to the Auxiliary Turn Lanes section of the report for additional details/discussion.

- Private roadway:

    - A deviation has been submitted for the private road cross section.

    - Based on the proposed cross section of the private roadway, no on-site auxiliary lanes are shown approaching either Bent Grass Meadows Drive or Meridian Park Drive. These intersection approaches are projected to operate at LOS D or better for all movements with single-lane approaches.

    - The queuing analysis projects 95th percentile approach queues for 2040 afternoon peak hour for the single-lane minor street approaches on the private road to be 90 feet (about 4 vehicles) for the eastbound approach to Meridian Park Drive and 54 feet (about 2-3 vehicles) for the northbound approach to Bent Grass Meadows Drive. LSC recommends these queue lengths be considered when placing the individual lot access points to the private road. . Queue length estimates may need to be updated with each site development plan as lot users become known and to verify projections of area traffic conditions.

    - The site development plan for each individual lot will address lot access design and site circulation to accommodate the anticipated design vehicle – either single-unit or multi-unit trucks.

    - The radii at the intersections of the private road/Meridian Park Drive and the intersection of the private road/Bent Grass Meadows Boulevard can be adjusted to accommodate the design vehicle.

- Table 4 identifies the future roadway improvements that will be needed in the vicinity of the site. Table 4 also gives a recommended trigger for when each improvement will be needed.

- Table 5 shows the percentage of the projected 2040 total traffic due to Bent Grass East Commercial Filing No. 3. These percentages could be used to determine the pro-rata share of the cost of intersection improvements.

Deviations

- A deviation for the internal-street cross section of the private roadway through the site is being included with this resubmittal.

Transportation Impact Fees

- Bent Grass East Commercial Filing No. 3 will not be required to participate in the Countywide Transportation Improvement Fee Program, as it is located within the Woodmen Road Metropolitan District. Woodmen Road district fees would apply.

* * * * *

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH:KDF:jas

Enclosures: Tables 2-5
Figures 1-11
Appendix Tables 1 and 2
Appendix Figure 1
MTCP Maps
Traffic Count Reports
Level of Service Reports
Queueing Reports

Tables 2-5

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Table 2
Trip Generation Estimate
Bent Grass East Commercial Filing No. 3

Lot	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Afternoon Peak Hour In	Trip Generation Rates [1] Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Total Trips Generated Morning Peak Hour In	Total Trips Generated Morning Peak Hour Out	Total Trips Generated Afternoon Peak Hour In	Total Trips Generated Afternoon Peak Hour Out	Internal Trips	Total External Trips Generated Average Weekday Traffic	Total External Trips Generated Morning Peak Hour In	Total External Trips Generated Morning Peak Hour Out	Total External Trips Generated Afternoon Peak Hour In	Total External Trips Generated Afternoon Peak Hour Out	Pass-By Trips [2]	New External Trips Generated Average Weekday Traffic
1	934	Fast-Food Restaurant with Drive-Through Window	2.5 KSF[3]	470.95	20.50	19.69	16.99	15.68	1,177	51	49	42	39	5%	1,118	48	47	40	37	50%	559
2	934	Fast-Food Restaurant with Drive-Through Window	2.5 KSF	470.95	20.50	19.69	16.99	15.68	1,177	51	49	42	39	5%	1,118	48	47	40	37	50%	559
3	820	Shopping Center[4]	6.0 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	488	18	11	20	22	34%	322
4	820	Shopping Center	6.0 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	488	18	11	20	22	34%	322
5	820	Shopping Center	6.0 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	488	18	11	20	22	34%	322
6	770	Business Park	10.8 KSF	76.88	1.29	0.23	0.48	1.36	830	14	2	5	15	5%	789	13	2	5	14	0%	789
									4,726	**173**	**136**	**152**	**162**		**4,490**	**163**	**129**	**145**	**154**		**2,873**

Notes:
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)
(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2017" by ITE
(3) KSF = thousand square feet
(4) The "Shopping Center" trip generation rates were calculated using the fitted rate equations based on the total floor area of retail floor space within the Bent Grass East Commercial development
(Includes 18 KSF within Fil No. 2 Tract BB and 15 KSF within Fil No. 2A Lot 1A)

Source: LSC Transportation Consultants, Inc.

Table 3
Level of Service Comparison
Golden Sage Drive/Woodmen frontage road
Bent Grass East Commercial Filing No. 3

		2040 Total Traffic									
		AM Peak					PM Peak				
				Northbound					Northbound		
Scenario		**Eastbound**	**Westbound**	**Left**	**Right**	**Overall**	**Eastbound**	**Westbound**	**Left**	**Right**	**Overall**
Stop-Sign Control	**Delay**	7.3	23.4	Free	Free	- - -	9.1	58.5	Free	Free	- - -
	LOS	A	C				A	F			
Modern Roundabout	**Delay**	5.6	6.2	3.2	Free	3.5	5.8	7.4	3.5	Free	3.8
	LOS	A	A	A		A	A	A	A		A
Traffic Signal Control With Single Northbound Right-Turn Lane	**Delay**	3.8	5.9	21.8	6.2	7.0	4.7	7.7	23.1	6.7	8.7
	LOS	A	A	C	A	A	A	A	C	A	A
Traffic Signal Control With Dual Northbound Right-Turn Lane[(1)]	**Delay**	3.9	6.5	13.5	7.8	7.8	5.4	10.8	20.2	6.9	11.8
	LOS	A	A	B	A	A	A	B	C	A	B

Note:
(1) Dual northbound right-turn lanes will allow for better utilization of the dual eastbound left-turn lanes at the intersection of Golden Sage/Woodmen

Source: LSC Transportation Consultants, Inc. Nov-20

Table 4

Roadway System Improvements

Bent Grass Commercial Filing No. 3

	Description	Trigger		Timing	Reponsiblity	Associated Project
	Meridian Road/Bent Grass Meadows Road					
A	Signalize Meridian/Bent Grass Meadows	Remove existing stop-sign and replace with traffic signal control.	When warrant(s) are met -- 2 of the 3 conditions of the "Crash Experience" warrant are currently met. The current number of reported crashes (susceptible to correction with a signal) exceeds the threshold as do the associated traffic volume thresholds.	Under Construction	Bent Grass Metro District/ Challenger Homes	Bent Grass Residential Filing No. 2
B	Right-turn acceleration lane on Meridian at Bent Grass Meadows	This improvement has been completed				
	Bent Grass Meadows Dr					
C	Construct Bent Grass Meadows Drive between the existing sections located north of the Woodmen frontage road and west of Meridian Road	This improvement has been completed				
D	Restrict westbound left-turn at 7-Eleven access	This improvement has been completed				
E	Close 7-Eleven Access	This improvement has been completed				
F	Modify pavement markings to extend westbound left-turn lane approaching Meridian Park Drive	Restripe with a 195 foot long westbound left-turn lane plus an 85-foot taper	This improvement is part of an ongoing approved project		Bent Grass Metro District	Bent Grass Residential Filing No. 2
G	Modify pavement markings to extend westbound left-turn lane approaching the site access	Restripe with a 215 foot westbound left-turn lane plus 160 foot taper	Westbound left-turn volume > 25 vehicles per hour	With Bent Grass East Commercial Filing No. 3	Applicant	Bent Grass East Commercial Filing No. 3
	Woodmen frontage road/Bent Grass Meadows Dr					
H	Eastbound left-turn lane on Woodmen frontage road approaching Bent Grass Meadows Dr.	ECM criteria indicates the left-turn lane would need to be 315 feet long (155 feet of deceleration length plus 160 feet of storage length) plus a 160-foot taper based on the design speed of 40 mph.	When the eastbound left-turn volume exceeds 25 vehicles per hour	With the completion of Bent Grass Meadows Dr between the Woodmen frontage road and Meridian Road	Challenger Homes	Falcon Meadows at Bent Grass
	Woodmen/Golden Sage					
I	Add protected/permitted phasing for left-turn movements	Prepare a traffic signal modification plan and furnish/install new traffic signal heads for protected-permissive phasing and other necessary hardware, software needed to implement this phase; modify existing signal timing plan.	If/when needed to maintain acceptable level of service/traffic operations and/or to control vehicle queues. .	--Prior to the opening of the Bent Grass Meadows Boulevard to the public, signal modification plans should be prepared, and coordination with EPC DPW (and possibly the City of Colorado Springs) will be a necessary step(s) toward future implementation of this left turn phase. Steps should be taken such that the phase can be implemented shortly after it has been determined that it should be implemented. This determination would be made by monitoring the traffic volumes and operations once Bent Grass Meadows Drive connection is opened to traffic to determine if the phase should be added at that time.	Bent Grass Metro District* - pro-rata share (based on total traffic volumes) of the cost of the improvement.(1) Note: Other potential responsibility for participation: In addition to the yet-to-be developed properties within the Bent Grass Metro District service area and the Falcon Marketplace development, other future developers of currently vacant lane within the "travel shed" of the north leg (and potentially the south leg) of the Golden Sage/Woodmen and Golden Sage/Woodmen N. Frontage Road intersection may also be assigned as responsible participants in future or completed (if a cost recovery agreement is put in place) traffic/roadway improvements.	Bent Grass Residential Filing No. 2
J	Lengthening of the current eastbound single left-turn deceleration lane on Woodmen approaching Golden Sage Road	Provide a 240-foot transition taper (20:1 taper ratio), 290 feet of deceleration distance plus sufficient vehicle stacking distance. CURRENT: 175-foot taper plus a 465-foot left-turn lane which translates to a 175-foot taper, 290-foot deceleration distance, and 175 feet of stacking distance. SHORT TERM: Adequate stacking is available in the current turn lane - calculated queue length 204 feet. LONG TERM: Lengthen single left-turn lane and/or future implementation of dual left-turn lanes (if capacity needs dictate). If a dual left is implemented in the future, consideration will need to be given to the configuration on Golden Sage and at the Golden Sage/Woodmen Frontage Road intersection to receive the dual left-turn movement.	The estimated "trigger" of 40 PM peak hour eastbound left turns above the estimated short term total volume (from Figure 16a of the TIS) approximately translates to and additional 589 directional ADT for residential trips making this turning movement (based on the ITE single family trip ratio). This estimated threshold may be reached with a combination of site-generated trips and background trips.	AS NEEDED TO MAINTAIN ADEQUATE LEVEL OF SERVICE AND VEHICLE STACKING DISTANCE ." This is estimated to be when the eastbound left turn turning volume reaches approximately 200 vehicles per hour during the PM peak. This translates to about 40 vehicles per hour over the estimated short term total volume from Figure 16a of the Falcon Marketplace TIS. Note: Short term total volumes assume the Meridian extension to Highway 24 to be open.	Challenger Homes(1) Note: Yet-to-be developed properties within the Bent Grass Metro District service area and the Falcon Marketplace development, other future developers of currently vacant lane within the "travel shed" of the north leg (and potentially the south leg) of the Golden Sage/Woodmen and Golden Sage/Woodmen N. Frontage Road intersection may also be assigned as responsible participants in future or completed (if a cost recovery agreement is put in place) traffic/roadway improvements.	Future
K	Southbound exclusive right-turn lane on Golden Sage Road approaching Woodmen Road	A continuous right-turn lane within the 150 feet between the Woodmen Frontage Road and Woodmen Road	The estimated "trigger" of 5-30 AM peak hour southbound right turns above the estimated short term total volume (from Figure 16a of the Falcon Marketplace TIS) approximately translates to an additional 85-510 directional ADT for residential trips making this turning movement (based on the ITE single family trip ratio). This estimated threshold may be reached with a combination of site-generated trips and background trips.	AS NEEDED TO MAINTAIN ADEQUATE LEVEL OF SERVICE AND VEHICLE STACKING DISTANCE ." A preliminary trigger could be a southbound right turn volume of about 150-175 vehicles per hour. This translates to about 5 to 30 vehicles per hour over the projected short term volume from Figure 16a of the Falcon Marketplace TIS. This may be conservative due to the westbound right turn acceleration lane on Woodmen Road. Additional study may indicate a higher threshold based on empirical data collection and analysis.	Bent Grass Metro District - pro-rata share (based on total traffic volumes) of the cost of the improvement. (1)Note: Other potential responsibility for participation: In addition to the yet-to-be developed properties within the Bent Grass Metro District service area and the Falcon Marketplace development, other future developers of currently vacant lane within the "travel shed" of the north leg (and potentially the south leg) of the Golden Sage/Woodmen and Golden Sage/Woodmen N. Frontage Road intersection may also be assigned as responsible participants in future or completed (if a cost recovery agreement is put in place) traffic/roadway improvements	Future
L	Signalization of Golden Sage Road/Woodmen Frontage Road or reconstruction as a modern roundabout; Future additional laneage may be necessary at this intersection to accommodate vehicle queues and for traffic operations.	Remove existing stop-signs and replace with traffic signal control or reconstruct as modern roundabout	If/when needed to maintain acceptable level of service/traffic operations and/or to control vehicle queues. Fair-share participation by the development or the district on behalf of the district members.	If/when needed to maintain acceptable level of service/traffic operations and/or to control vehicle queues.	Bent Grass Metro District* - pro-rata share (based on total traffic volumes) of the cost of the improvement. (1)Note: Other potential responsibility for participation: In addition to the yet-to-be developed properties within the Bent Grass Metro District service area and the Falcon Marketplace development, other future developers of currently vacant lane within the "travel shed" of the north leg (and potentially the south leg) of the Golden Sage/Woodmen and Golden Sage/Woodmen N. Frontage Road intersection may also be assigned as responsible participants in future or completed (if a cost recovery agreement is put in place) traffic/roadway improvements.	Future

Notes: *Note: It is our understanding that the specifics of the district participation will need to be included in the SIA/revised development agreement to be completed and finalized prior to the development of lots beyond the initial 49 lots. If for some reason the District is unable or unwilling to participate, or if determination by the district is delayed, the applicant would be responsible. In this case, an escrow agreement between the applicant and the County would be prepared and finalized). We understand that staff would like for that the applicant to understand the estimated/approximate costs associated with their fair share of future improvements at Golden Sage/Woodmen. LSC will provide preliminary fair share cost estimates utilizing available information from the Falcon Marketplace SIA. This will be provided by March 31st to the applicant and staff.

(1) See Table 5 for pro-rata percentage calculations

Source: LSC Transportation Consultants, Inc. *May-21*

FYI: Prorata share contribution may be required toward final construction, paving and associated repairs to Bent Grass Meadows Drive southwest of the site, including design and construction of an eastbound left turn lane on Woodmen Frontage Road at Bent Grass Meadows Drive at the final plat stage should these improvements not be financially guaranteed or constructed by others. Conditions of approval are being drafted to that effect.

Table 5

Prorata Share Contribution Calculations

Bent Grass East Commercial Filing No. 3

Item	Improvement Description and Estimated Cost			AM	PM	AM + PM
J	Add protected/permitted phasing at Woodmen/Golden Sage		Site-Generated Traffic[1] (vehicles per hour)	5	4	9
			2040 Total Traffic[1] (vehicles per hour)	325	451	776
			%	1.54%	0.89%	1.16%
	Estimated Improvement Cost:	**$ 33,750**	Estimated Fair-Share Portion for this project based on calculated AM + PM percentage:			**$ 391**
K	Lengthening of the current eastbound single left-turn deceleration lane on Woodmen approaching Golden Sage Road		Site-Generated Traffic[1] (vehicles per hour)	5	4	9
			2040 Total Traffic[1] (vehicles per hour)	325	451	776
			%	1.54%	0.89%	1.16%
	Estimated Improvement Cost:	**$ 200,000**	Estimated Fair-Share Portion for this project based on calculated AM + PM percentage:			**$ 2,320**
L	Southbound exclusive right-turn lane on Golden Sage Road approaching Woodmen Road		Site-Generated Traffic[2] (vehicles per hour)	4	6	10
			2040 Total Traffic[2] (vehicles per hour)	395	393	788
			%	1.01%	1.53%	1.27%
	Estimated Improvement Cost:	**$ 100,000**	Estimated Fair-Share Portion for this project based on calculated AM + PM percentage:			**$ 1,269**
M	Signalization of Golden Sage Road/Woodmen Frontage Road or reconstruction as a modern roundabout; Future additional laneage may be necessary at this intersection to accommodate vehicle queues and for traffic operations.		Site-Generated Traffic[3] (vehicles per hour)	13	14	27
			2040 Total Traffic[3] (vehicles per hour)	984	1188	2172
			%	1.32%	1.18%	1.24%
	Estimated Improvement Cost:	**$ 350,000**	Estimated Fair-Share Portion for this project based on calculated AM + PM percentage:			**$ 4,351**

Notes:
(1) Eastbound left-turn volume at the intersection of Woodmen/Golden Sage
(2) Southbound right-turn volume at the intersection of Woodmen/Golden Sage
(3) Sum of all traffic volumes at the intersection of Golden Sage/Woodmen frontage road

Source: LSC Transportation Consultants, Inc. November 2020

Figures 1-11

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Figure 1

Vicinity Map

Bent Grass East Commercial Filing 3 (LSC #204660)

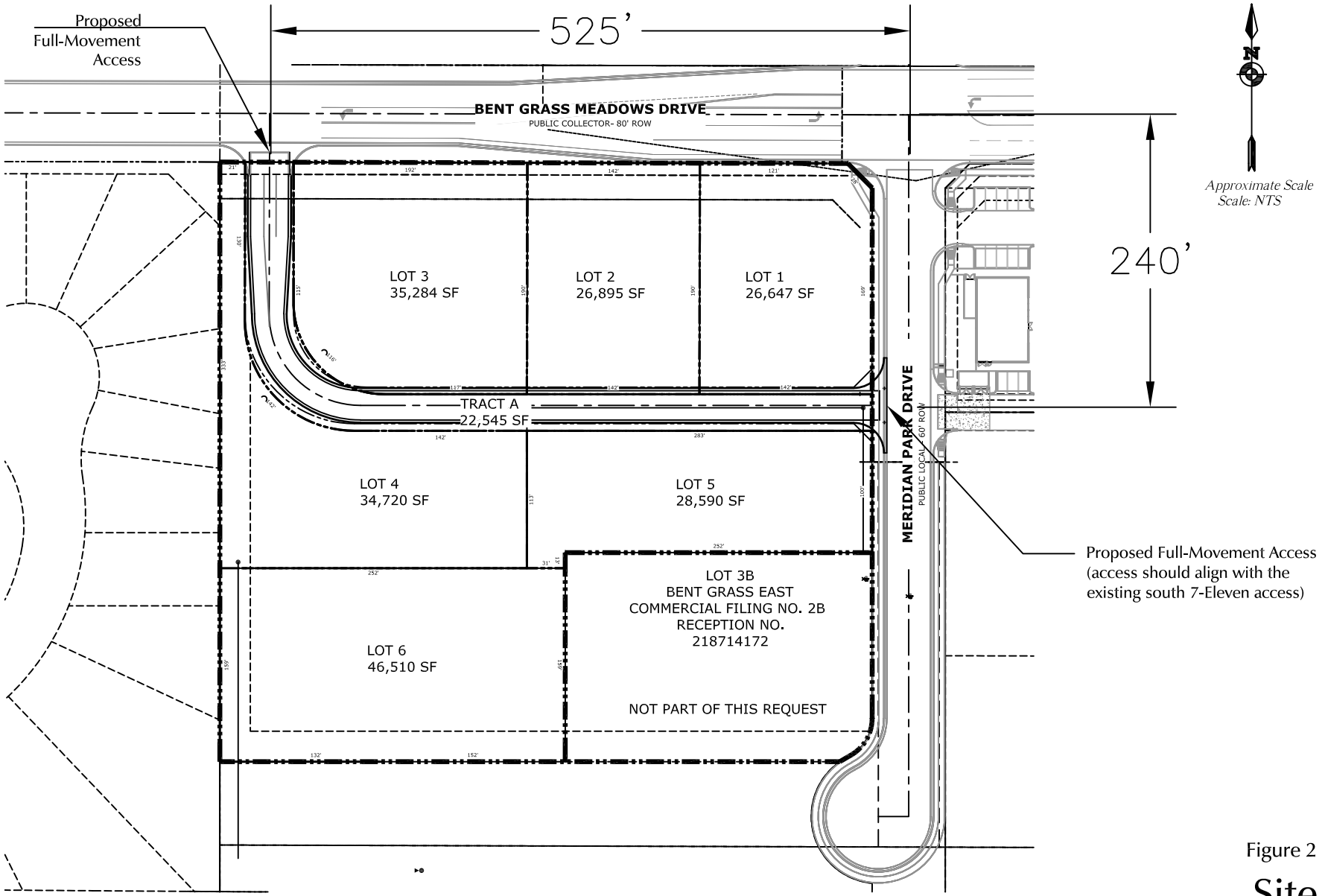


Figure 2

Site Plan

Bent Grass East Commercial Filing 3 (LSC #204660)

TRANSPORTATION CONSULTANTS, INC.

LEGEND:

ECM Required Intersection Sight Distance
(445' from Table 2-21 based on a design speed limit of 40mph)

ECM Required Stopping Sight Distance
(305' from Table 2-17 based on a design speed limit of 40mph)

Approximate Scale
Scale: NTS

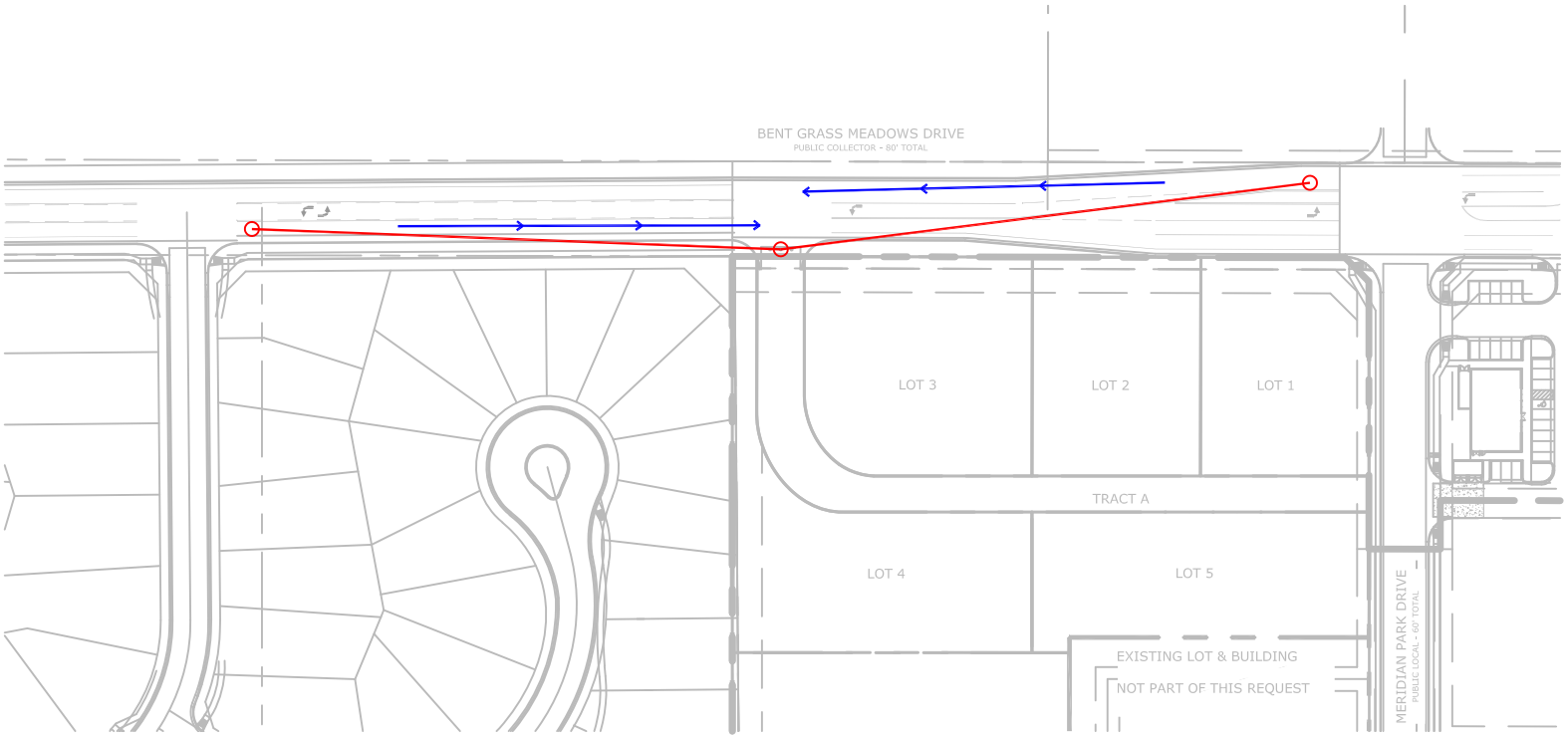


Figure 3

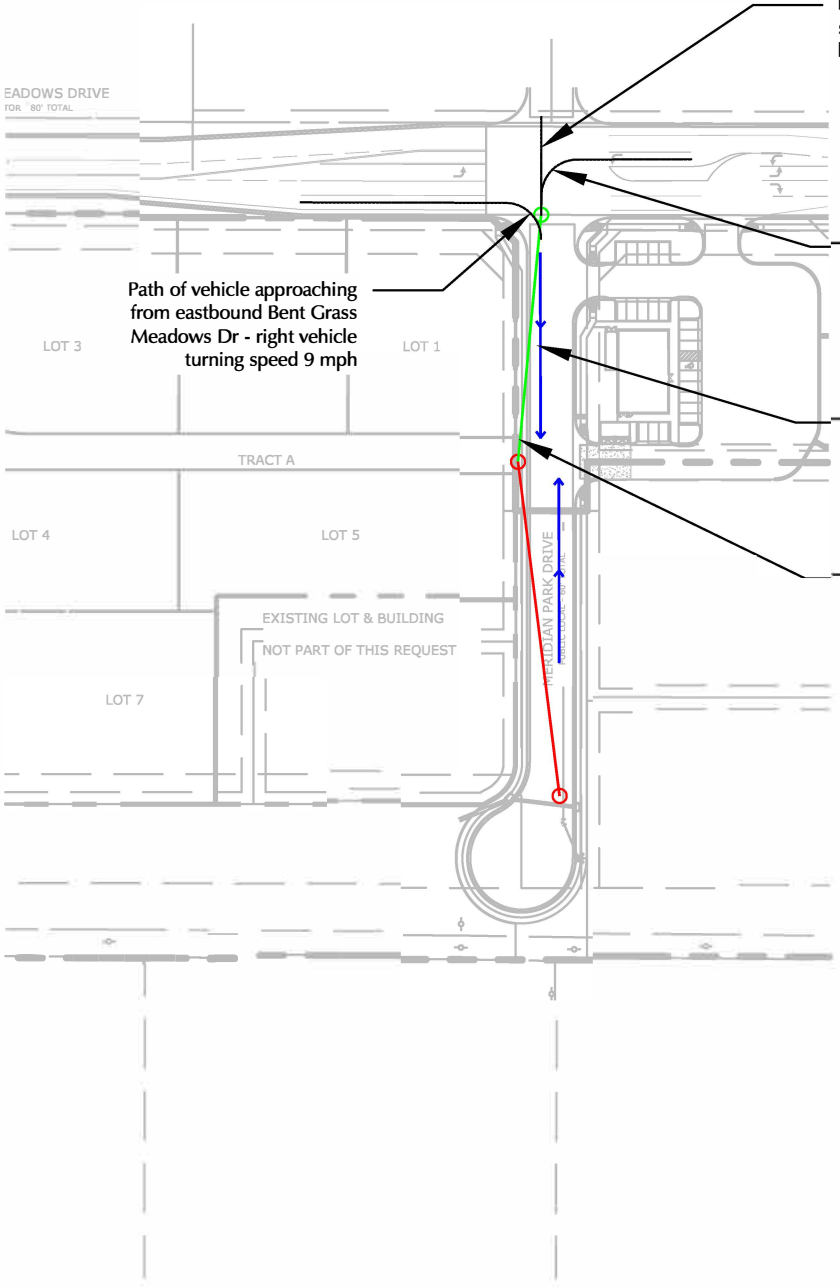
Bent Grass Meadows Dr. Access Sight Distance Analysis

Bent Grass East Commercial Filing 3 (LSC #204660)

LSC TRANSPORTATION CONSULTANTS, INC.

ECM Required Intersection Sight Distance
(280' from Table 2-21 based on a design speed of 25mph)

ECM Required Stopping Sight Distance
(155' from Table 2-17 based on a design speed of 25mph)



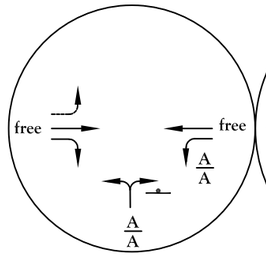
Approximate Scale
Scale: NTS

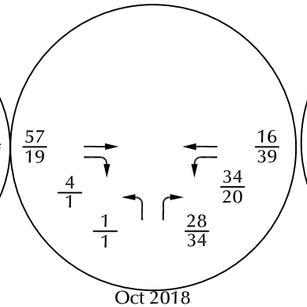
Figure 4

Meridian Park Dr. Access Sight Distance Analysis

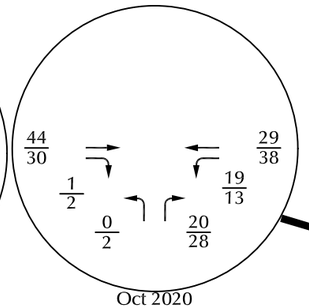
Bent Grass East Commercial Filing 3 (LSC #204660)

TRANSPORTATION CONSULTANTS, INC.

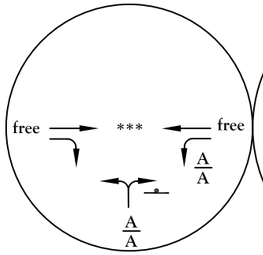


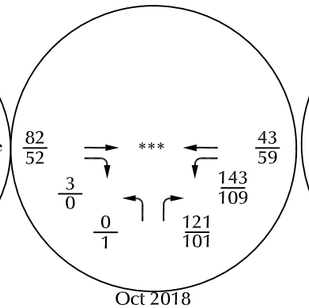


Oct 2018

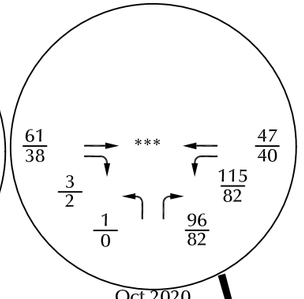


Oct 2020

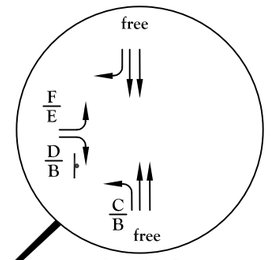




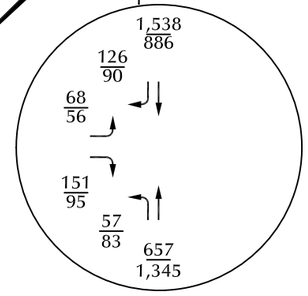
Oct 2018



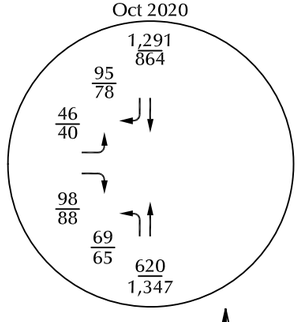
Oct 2020

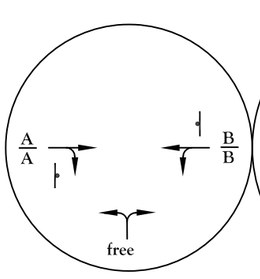


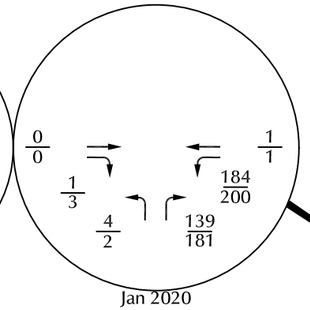
Sept 2018



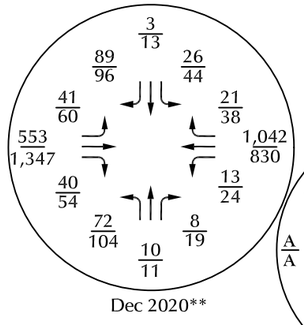
Oct 2020



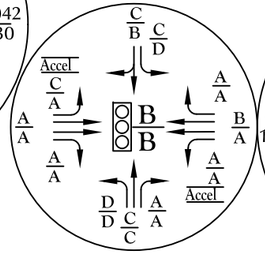


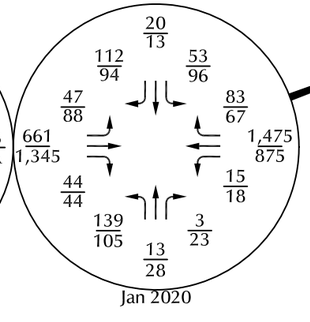


Jan 2020

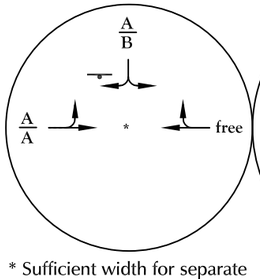


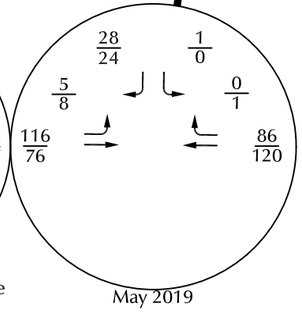
Dec 2020**





Jan 2020





May 2019

* Sufficient width for separate SB left- and right-turn lanes

**This traffic count was conducted following the completion of Bent Grass Meadows Drive between the Woodmen frontage road and Meridian Ranch. All other counts were conducted prior to this connection being made.
***This access was closed after the traffic counts were conducted.

LEGEND:

= Stop Sign

= Traffic Signal

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

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX = Average Daily Traffic (vehicles per day)

N

Approximate Scale
Scale: 1"= 1,200'

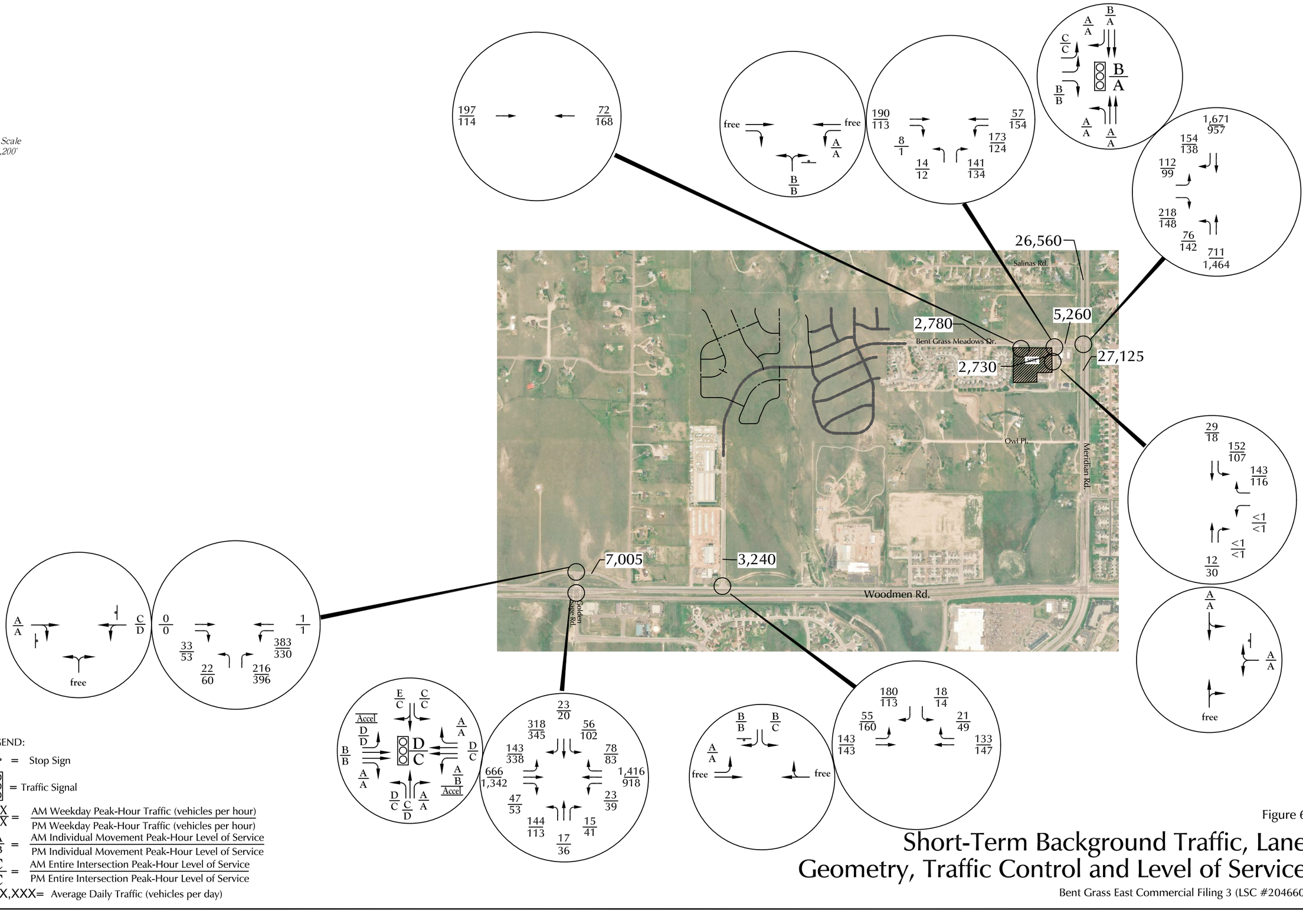
Figure 5

Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass East Commercial Filing 3 (LSC #204660)

LSC TRANSPORTATION CONSULTANTS, INC.

Approximate Scale
Scale: 1"= 1,200'



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{C}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

X,XXX= Average Daily Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

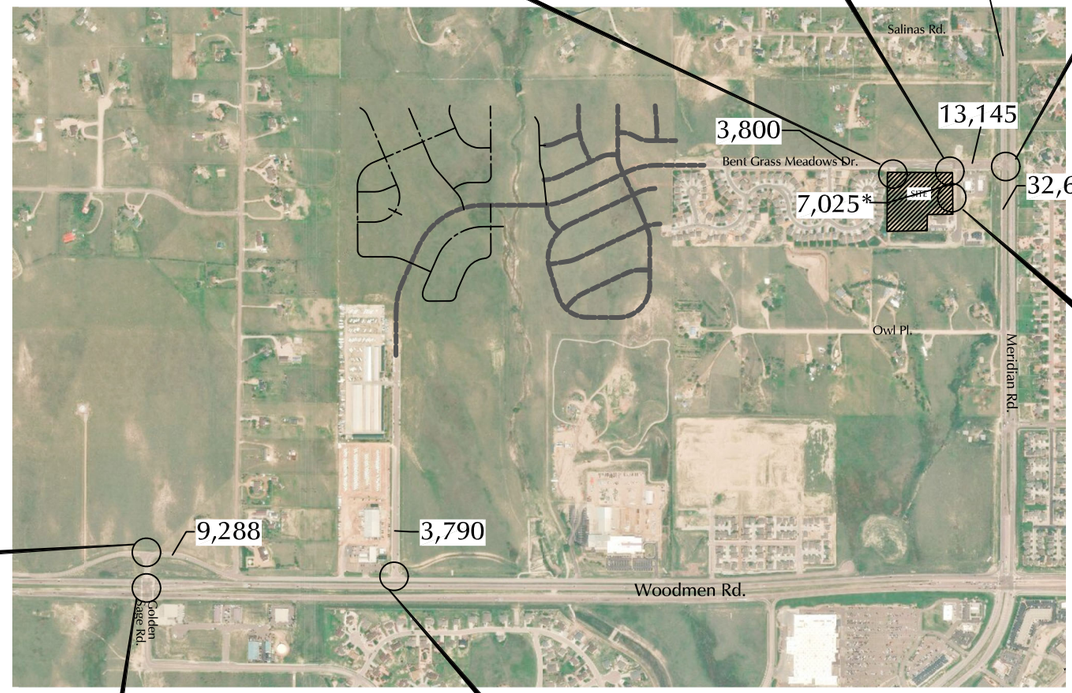
Figure 6

Short-Term Background Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass East Commercial Filing 3 (LSC #204660)

Approximate Scale
Scale: 1"= 1,200'

*Note: The background traffic volumes on Meridian Park Drive south of Bent Grass East Commercial are based on the land uses shown in Appendix Table 1. These trip estimates are from 10-15 years ago. Commercial development of the size and configuration that was common at that time likely no longer applies today for the Owl Lane area, and any commercial development would likely be significantly smaller and generate significantly fewer trips.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

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

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

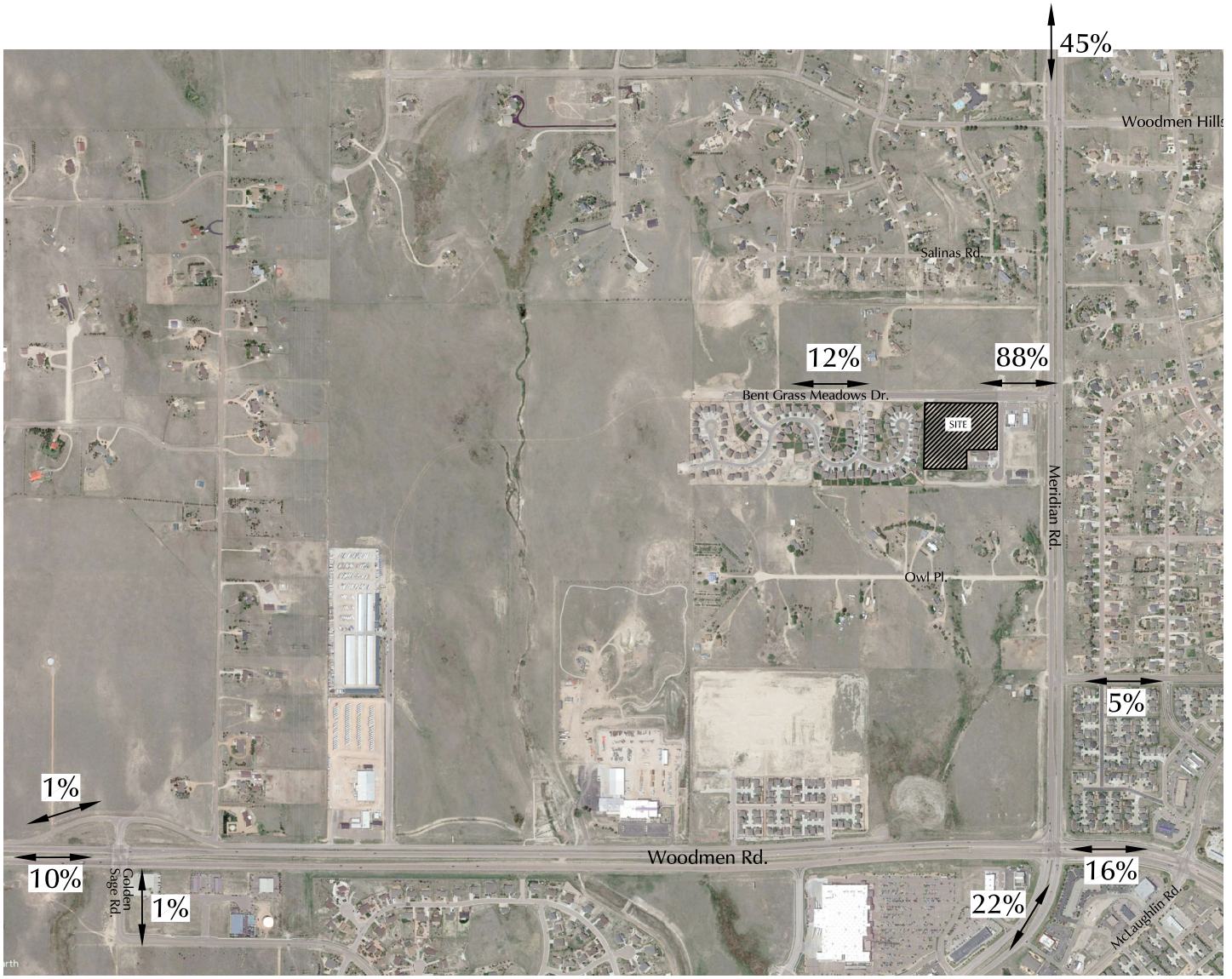
X,XXX= Average Daily Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 7

Year 2040 Background Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass East Commercial Filing 3 (LSC #204660)



N

Approximate Scale
Scale: 1"= 1,200'

LEGEND:

XX% = Percent Directional Distribution of Primary External Traffic

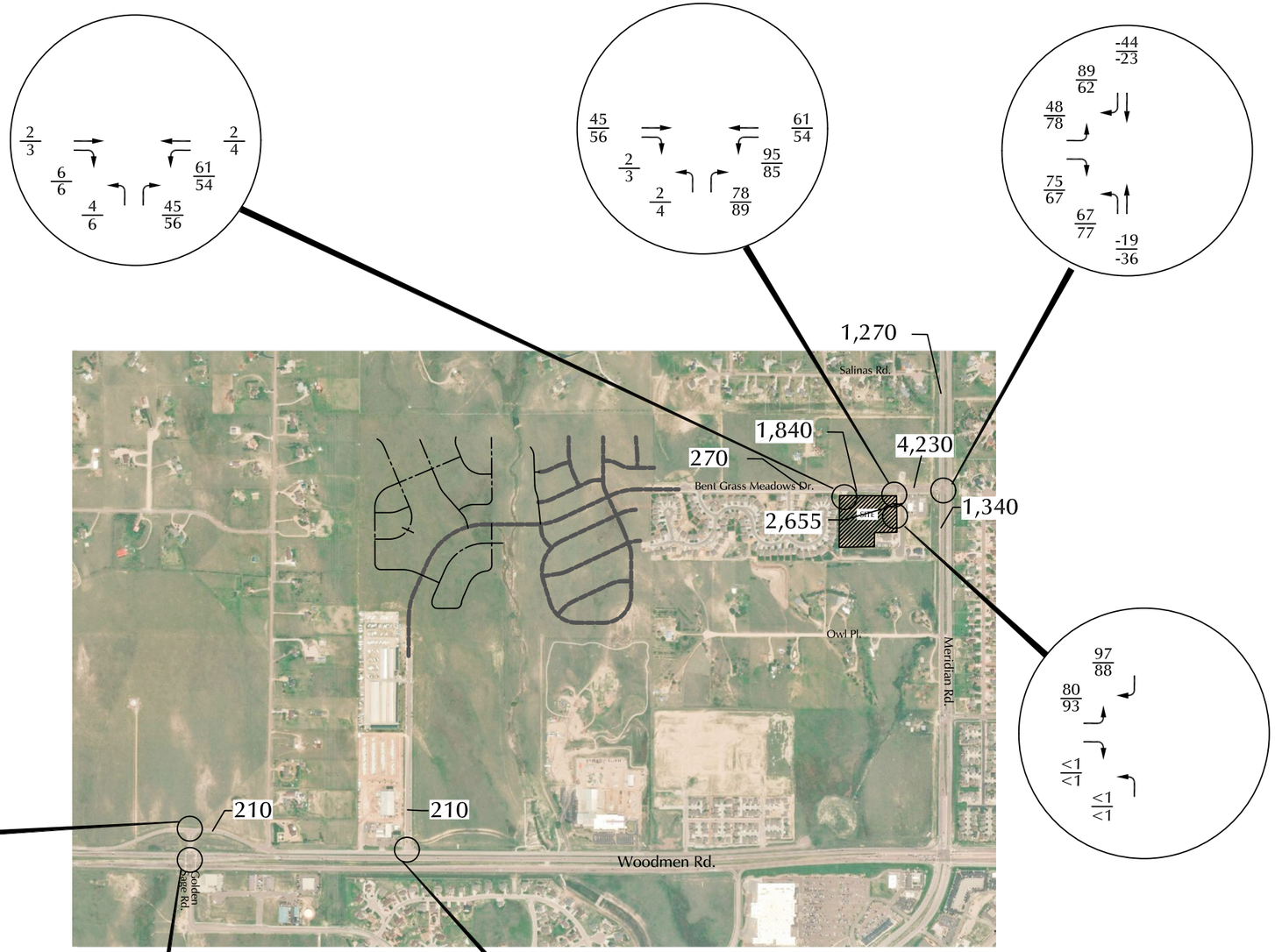
Figure 8

Directional Distribution of Site-Generated Traffic

Bent Grass East Commercial Filing 3 (LSC #204660)

LSC TRANSPORTATION CONSULTANTS, INC.

Approximate Scale
Scale: 1"= 1,200'



LEGEND:

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

X,XXX= Average Daily Traffic (vehicles per day)

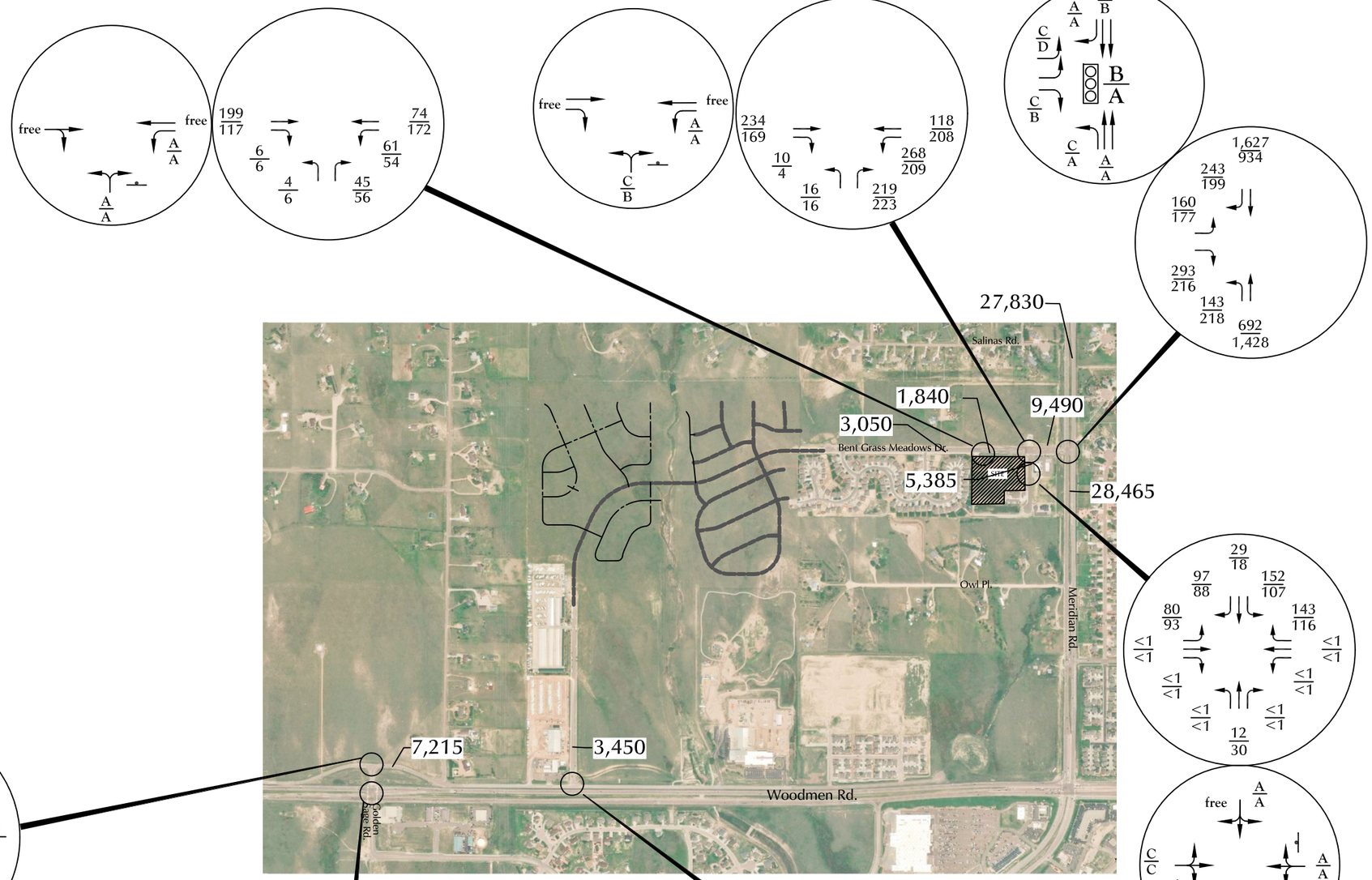
TRANSPORTATION CONSULTANTS, INC.

Figure 9

Site Generated Traffic

Bent Grass East Commercial Filing 3 (LSC #204660)

Approximate Scale
Scale: 1"= 1,200'



LEGEND:

= Stop Sign

= Traffic Signal

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

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 10

Short-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass East Commercial Filing 3 (LSC #204660)

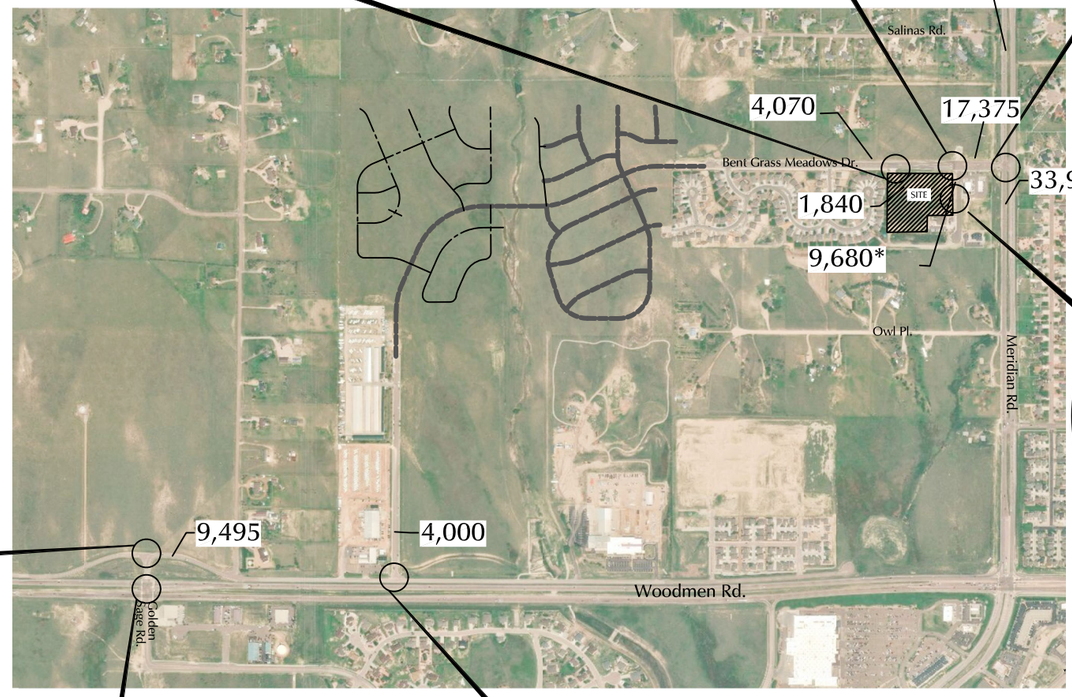
Approximate Scale
Scale: 1"= 1,200'

Notes:

*The background traffic volumes on Meridian Park Drive south of Bent Grass East Commercial are based on the land uses shown in Appendix Table 1. These trip estimates are from 10-15 years ago. Commercial development of the size and configuration that was common at that time likely no longer applies today for the Owl Lane area, and any commercial development would likely be significantly smaller and generate significantly fewer trips.

**Note: the existing cross section of Meridian Park Drive can accommodate a center two-way left-turn lane, if ever needed.

***Although the HCM unsignalized method of analysis results in a projected LOS F during the morning and afternoon peak hours based on simulation analysis, this movement is projected to operate at LOS C during the morning peak hour and LOS D during the afternoon peak hour. Please refer to the report narrative for details.



LEGEND:

= Stop Sign

= Traffic Signal

= Modern Roundabout

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 11

Year 2040 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass East Commercial Filing 3 (LSC #204660)

Appendix Tables 1 and 2

TRANSPORTATION
CONSULTANTS, INC.

Appendix Table 1
Bent Grass Commercial East Filing No. 3
Study Area Buildout Trip Generation Estimate

TAZ	Name	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Future Trips Generated Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	TAZ Internal Trips	Total Future Trips Internal to The TAZ Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Future Trips Internal to The Study Area Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Pass-By Trips [4]	New Future External Trips Generated Average New Weekday Traffic
	Bent Grass Residential Fil 2 South	210	Single-Family Detached Housing	121 DU[3]	9.44	0.19	0.56	0.62	0.37	1,142	22	67	75	44	0%	0	0	0	0	0	145	7	17	7	5	0%	997
	Bent Grass Residential Fil 2 North	210	Single-Family Detached Housing	58 DU	9.44	0.19	0.56	0.62	0.37	548	11	32	36	21	0%	0	0	0	0	0	70	4	8	3	2	0%	478
1	Bent Grass West	210	Single-Family Detached Housing	16 DU	9.44	0.19	0.56	0.62	0.37	151	3	9	10	6	0%	0	0	0	0	0	19	1	2	0	0	0%	132
	Bent Grass West	210	Single-Family Detached Housing	92 DU	9.44	0.19	0.56	0.62	0.37	868	17	51	57	34	0%	0	0	0	0	0	110	6	12	5	3	0%	758
	Bent Grass West	210	Single-Family Detached Housing	93 DU	9.44	0.19	0.56	0.62	0.37	878	17	52	58	34	0%	0	0	0	0	0	112	6	12	5	3	0%	766
2	Bent Grass School	520	Elementary School	500 Students	1.89	0.36	0.31	0.08	0.09	945	181	154	41	44	0%	0	0	0	0	0	473	91	39	10	22	0%	472
		210	Single-Family Detached Housing	54 DU	9.44	0.19	0.56	0.62	0.37	510	10	30	34	20	0%	0	0	0	0	0	65	4	8	3	2	0%	445
3	Single Family/Retail/Office	820	Shopping Center	11.5 KSF[4]	83.44	2.93	1.80	3.40	3.69	960	34	21	39	42	2%	19	1	0	1	1	10	0	0	0	0	34%	614
		710	General Office Building	17 KSF	10.74	1.15	0.19	0.19	0.98	183	20	3	3	17	8%	19	0	1	1	1	2	0	0	0	0	0%	162
		820	Shopping Center	24.4 KSF	83.44	2.93	1.80	3.40	3.69	2,036	72	44	83	90	2%	41	1	1	2	2	20	1	1	1	1	34%	1,303
4	Retail/Office	710	General Office Building	50 KSF	10.74	1.15	0.19	0.19	0.98	537	57	9	9	49	8%	41	1	1	2	2	5	0	0	0	0	0%	491
5	Bent Grass Residential Filing 1	210	Single-Family Detached Housing	0 DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0%	0
	Bent Grass East Commercial Existing	---	Gas Station/Vet Clinic/Dental Clinic	------	---	---	---	---	---	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	50%	0
		934	Fast-Food Restaurant with Drive-Through Window	2.5 KSF	470.95	20.50	19.69	16.99	15.68	1,177	51	49	42	39	5%	59	3	2	2	2	12	1	1	0	1	50%	547
		934	Fast-Food Restaurant with Drive-Through Window	2.5 KSF	470.95	20.50	19.69	16.99	15.68	1,177	51	49	42	39	5%	59	3	2	2	2	12	0	0	0	1	50%	547
		820	Shopping Center	6 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	26	1	1	1	1	5	0	0	0	0	34%	317
6	Bent Grass East Commercial Fil No. 3	820	Shopping Center	6 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	26	1	1	1	1	5	0	0	0	0	34%	317
		820	Shopping Center	6 KSF	85.72	3.16	1.94	3.48	3.77	514	19	12	21	23	5%	26	1	1	1	1	5	0	0	0	0	34%	317
		770	Business Park	10.8 KSF	76.88	1.29	0.23	0.48	1.36	830	14	2	5	15	5%	42	1	0	0	1	8	0	0	0	0	0%	780
	Bent Grass East Commercial Fil. No. 2A Lot 1A	820	Shopping Center	15 KSF	85.72	3.16	1.94	3.48	3.77	1,286	47	29	52	57	5%	64	2	1	3	3	13	0	0	1	1	34%	794
7	Bent Grass Industrial (5301000017)	110	General Light Industrial	54 KSF	4.96	0.62	0.08	0.08	0.55	268	33	5	4	30	0%	0	0	0	0	0	0	0	0	0	0	0%	268
8	Bent Grass West	210	Single-Family Detached Housing	82 DU	9.44	0.19	0.56	0.62	0.37	774	15	46	51	30	0%	0	0	0	0	0	99	5	11	4	3	0%	675
9	Falcon Mini-Storage	151	Mini-Warehouse	3.74 Storage Units (100s)	—	—	—	—	—	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0%	0
10	Man Cave at Bentgrass	---	RV/Vehicle Storage	0.65 Occupied Spaces (100s)	20.00	2.28	1.37	1.98	2.81	13	1	1	1	2	0%	0	0	0	0	0	0	0	0	0	0	0%	13
		151	Mini-Warehouse	1.04 Storage Units (100s)	17.96	0.71	0.68	0.98	0.98	19	1	1	1	1	0%	0	0	0	0	0	0	0	0	0	0	0%	19
11	Mountain View Electric	—	Mountain View Electric	— —	—	—	—	—	—	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0%	0
		110	General Light Industrial	218 KSF	4.96	0.62	0.08	0.08	0.55	1,081	134	18	18	119	0%	0	0	0	0	0	0	0	0	0	0	0%	1,081
		820	Shopping Center	318 KSF	41.52	0.61	0.37	1.93	2.09	13,203	193	118	614	665	0%	0	0	0	0	0	132	4	2	6	6	20%	10,457
12	Owl Lane Redevelopment	210	Single-Family Detached Housing	140 DU	9.44	0.19	0.56	0.62	0.37	1,322	26	78	87	51	0%	0	0	0	0	0	168	8	19	8	5	0%	1,154
		220	Multifamily Housing Low-Rise	120 DU	7.32	0.11	0.35	0.35	0.21	878	13	43	42	25	0%	0	0	0	0	0	112	6	12	5	3	0%	766
13	Falcon School District 49	—	Administration Office/Bus Barn	— —	—	—	—	—	—	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0%	0
14	Latigo (5301002007)	140	Manufacturing	29.34 Acres	33.92	3.95	0.44	1.95	2.59	995	116	13	57	76	0%	0	0	0	0	0	0	0	0	0	0	0%	995
15	Courtyards at Woodmen Hills West	210	Single-Family Detached Housing	0 DU	9.44	0.19	0.56	0.62	0.37	0	0	0	0	0	0%	0	0	0	0	0	0	0	0	0	0	0%	0
		866	Pet Supply Superstore[5]	15 KSF	38.24	0.53	0.33	1.69	1.69	574	8	5	25	25		54	1	2	3	2	6	0	0	0	0	10%	463
		850	Supermarket	123 KSF	78.26	2.11	1.29	3.76	3.62	9,626	259	159	463	445		909	17	26	48	37	96	5	3	4	4	36%	5517
		944	Gasoline/Service Station	18 VFP[6]	168.56	6.20	5.96	6.94	6.94	3,034	112	107	125	125		286	5	8	15	12	30	1	1	1	1	56%	1196
		934	Fast-Food Restaurant with Drive-Through Window[7]	2.5 KSF	496.12	0.42	0.39	16.98	15.67	1,240	1	1	42	39		380	0	0	12	17	12	0	0	1	1	50%	424
		820	Shopping Center	5 KSF	55.14	0.77	0.47	2.36	2.51	276	4	2	12	13		26	1	0	1	1	3	0	0	0	0	34%	163
16	Falcon Marketplace	848	Tire Store	7.72 KSF	24.87	1.82	1.07	1.78	2.37	192	14	8	14	18	(8)	18	0	1	1	1	2	0	0	0	0	28%	124
		934	Fast-Food Restaurant with Drive-Through Window	3.5 KSF	496.12	23.16	22.26	16.98	15.67	1,736	81	78	59	55		532	26	12	17	24	17	0	0	1	1	50%	593
		934	Fast-Food Restaurant with Drive-Through Window[7]	2.5 KSF	496.12	0.42	0.39	16.98	15.67	1,240	1	1	42	39		380	0	0	12	17	12	0	0	1	1	50%	424
		610	Clinic	7.8 KSF	31.45	2.19	2.19	2.12	3.06	245	17	17	17	24		40	3	16	10	5	2	0	0	0	0	0%	203
		820	Shopping Center	8 KSF	55.14	0.77	0.47	2.36	2.51	441	6	4	19	20		42	1	1	2	2	4	0	0	0	0	34%	261
		937	Coffee/Donut Shop With Drive-Through Window	1.3 KSF	818.58	51.30	49.28	21.40	21.40	1,064	67	64	28	28		326	21	10	9	12	11	0	0	0	0	89%	80
	TOTAL									**52,991**	**1,766**	**1,406**	**2,370**	**2,450**		**3,415**	**90**	**87**	**146**	**147**	**1,797**	**150**	**148**	**66**	**66**		**35,113**

Notes:
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)
(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, Third Edition" by ITE
(3) DU = dwelling unit
(4) KSF = thousand square feet
(5) Daily and morning peak-hour trip generation rates for Pet Supply Superstore are estimates by LSC
(6) VFP = vehicle fueling position
(7) The AM peak-hour trip generation rates have been reduced by LSC as the proposed fast-food restaurant does not serve breakfast
(8) Based on the NCHRP 684 Internal Trip Capture Estimate Tool

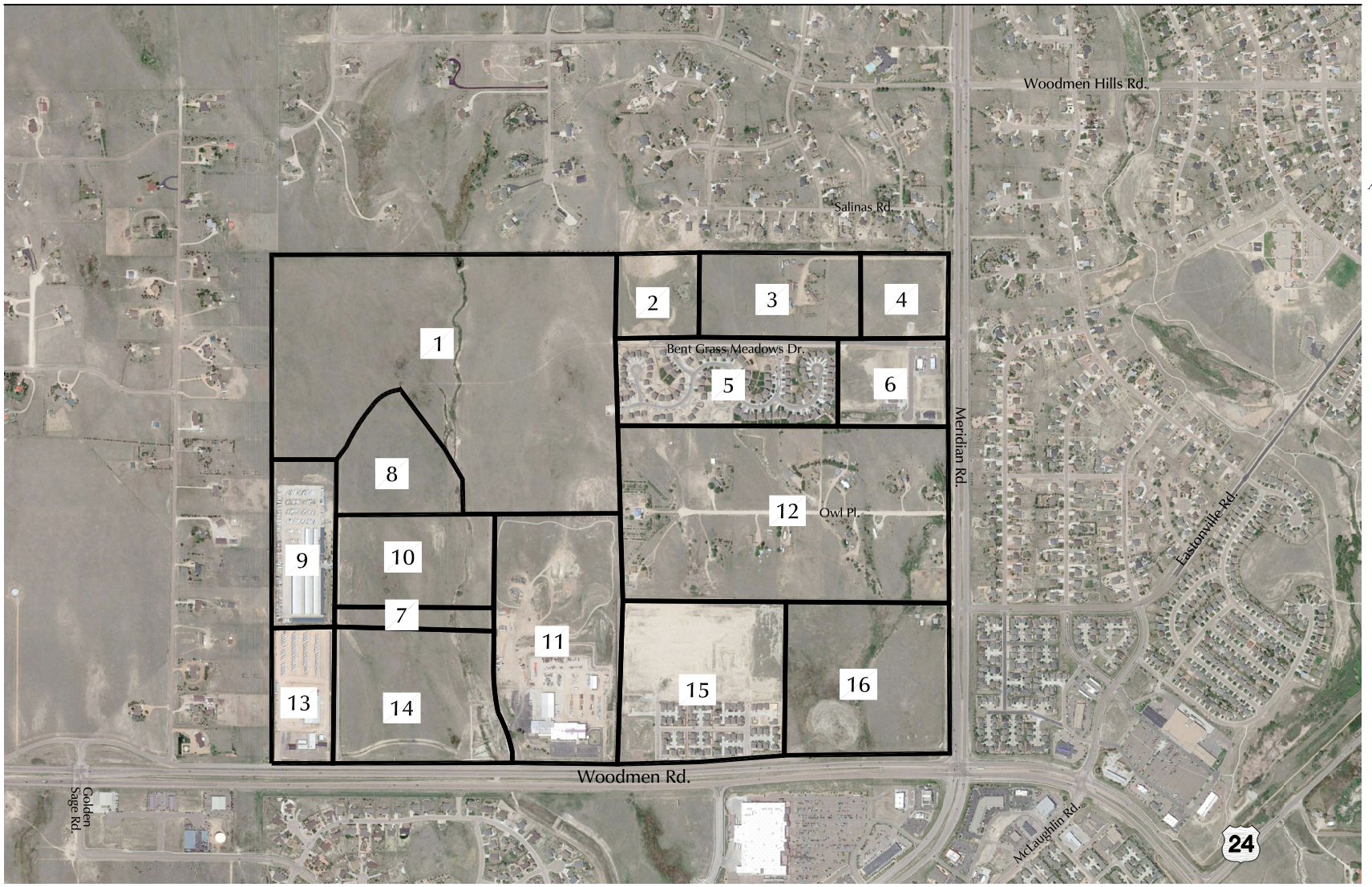
Source: LSC Transportation Consultants, Inc. *Jan-21*

Appendix Table 2
Bent Grass Commercial East Filing No. 3
Buildout Internal Trip Estimate

Land Use	Raw ITE Trip Generation (Individual Driveway Trips)						Percent Internal Trips						Total Internal Trips				
	Daily	AM Peak Hour		PM Peak Hour			Daily	AM Peak Hour		PM Peak Hour			Daily	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out			In	Out	In	Out			In	Out	In	Out
Single-Family Detached Housing	6,193	121	365	408	240												
Multifamily Housing (Low-Rise)	878	13	43	42	25												
						School	7%	29%	22%	5%	4%		473	39	91	22	10
						Other	6%	6%	3%	4%	7%		426	8	12	19	18
	7,071	**134**	**408**	**450**	**265**	**Total**	13%	35%	25%	9%	11%		**899**	**47**	**103**	**41**	**28**
Elementary School	945	181	154	41	44		50%	50%	25%	25%	50%		473	91	39	10	22
Retail/Office	42,599	1,166	806	1,798	1,913		1%	1%	1%	1%	1%		426	12	8	18	19
Industrial/Manufacturing	2,376	285	38	81	228		0%	0%	0%	0%	0%		0	0	0	0	0
TOTAL Non-Residential	**45,920**	**1,632**	**998**	**1,920**	**2,185**								**899**	**103**	**47**	**28**	**41**
TOTAL	**52,991**	**1,766**	**1,406**	**2,370**	**2,450**								**1,798**	**150**	**150**	**69**	**69**

Appendix Figure 1

TRANSPORTATION
CONSULTANTS, INC.



N

Approximate Scale
Scale: 1"= 1,200'

TRANSPORTATION CONSULTANTS, INC.

Appendix Figure 1

Traffic Analysis Zone Map

Bent Grass East Commercial Filing 3 (LSC #204660)

MTCP Maps

TRANSPORTATION
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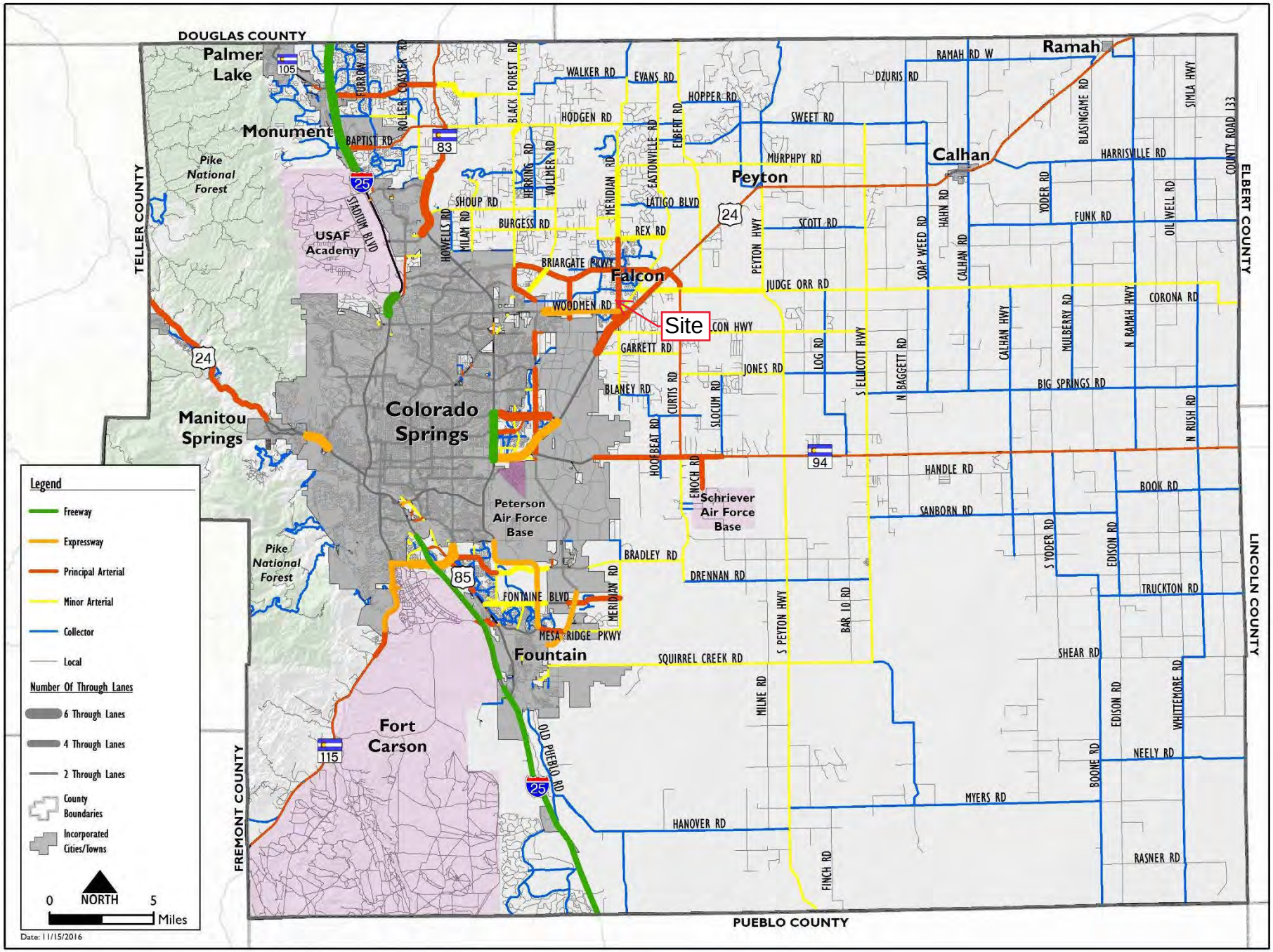
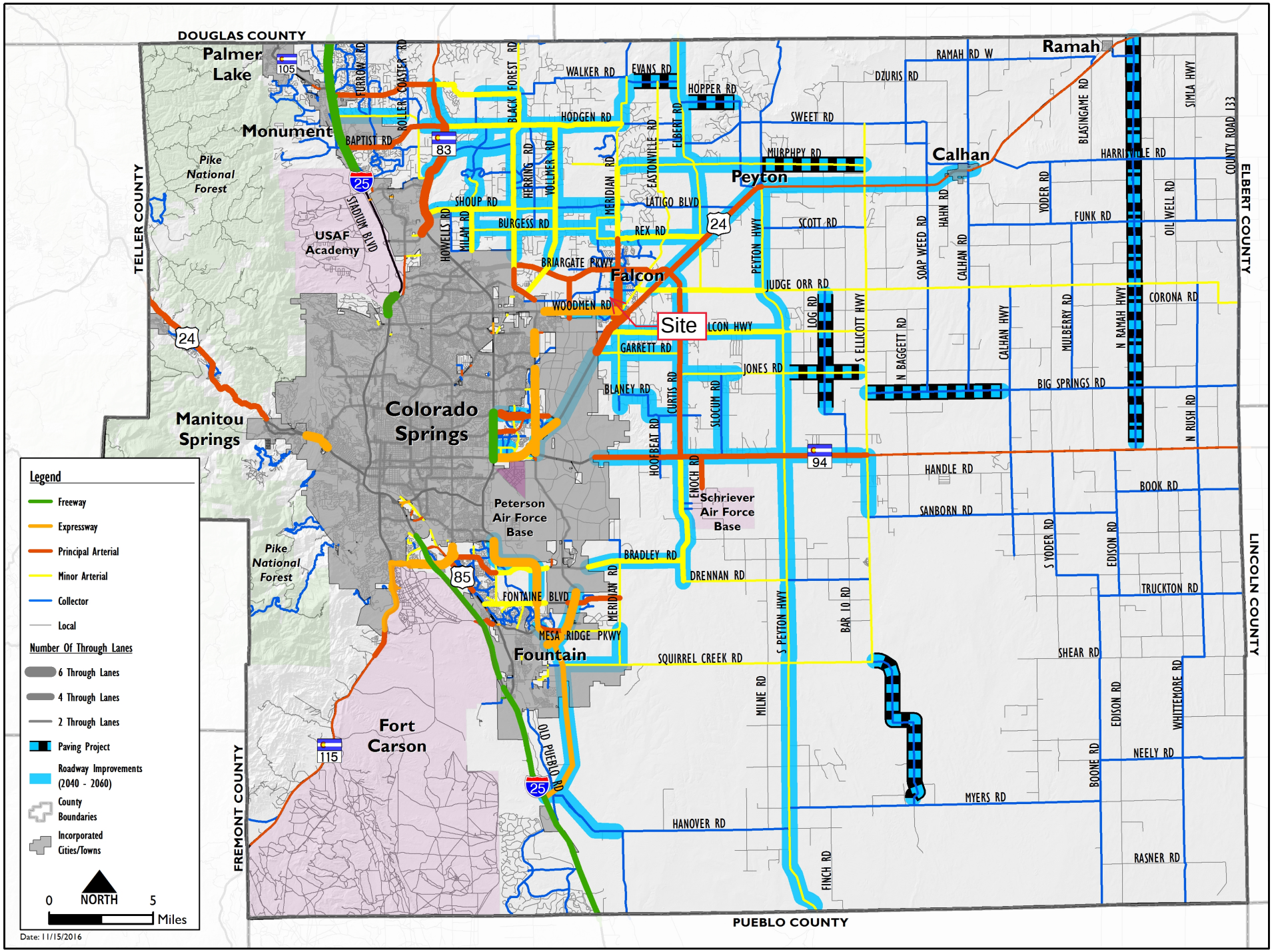


Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation



Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Rd AM
Site Code : 00194460
Start Date : 12/8/2020
Page No : 1

Groups Printed- Unshifted

	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
07:00 AM	17	1	13	0	31	1	242	5	0	248	13	4	0	0	17	7	127	6	0	140	436
07:15 AM	8	0	20	0	28	4	289	7	0	300	20	2	1	0	23	7	138	4	0	149	500
07:30 AM	8	2	30	0	40	3	318	7	0	328	29	3	2	0	34	10	138	11	1	160	562
07:45 AM	7	0	21	0	28	4	211	3	0	218	11	2	2	0	15	8	133	17	0	158	419
Total	40	3	84	0	127	12	1060	22	0	1094	73	11	5	0	89	32	536	38	1	607	1917
08:00 AM	3	1	18	0	22	2	224	4	2	232	12	3	3	0	18	16	144	8	1	169	441
08:15 AM	10	2	23	0	35	3	210	6	0	219	14	2	3	0	19	18	165	4	0	187	460
08:30 AM	6	0	22	0	28	1	247	6	0	254	16	0	1	0	17	7	161	9	0	177	476
08:45 AM	10	3	12	0	25	3	170	8	0	181	19	2	0	0	21	12	142	14	0	168	395
Total	29	6	75	0	110	9	851	24	2	886	61	7	7	0	75	53	612	35	1	701	1772
Grand Total	69	9	159	0	237	21	1911	46	2	1980	134	18	12	0	164	85	1148	73	2	1308	3689
Apprch %	29.1	3.8	67.1	0		1.1	96.5	2.3	0.1		81.7	11	7.3	0		6.5	87.8	5.6	0.2		
Total %	1.9	0.2	4.3	0	6.4	0.6	51.8	1.2	0.1	53.7	3.6	0.5	0.3	0	4.4	2.3	31.1	2	0.1	35.5	

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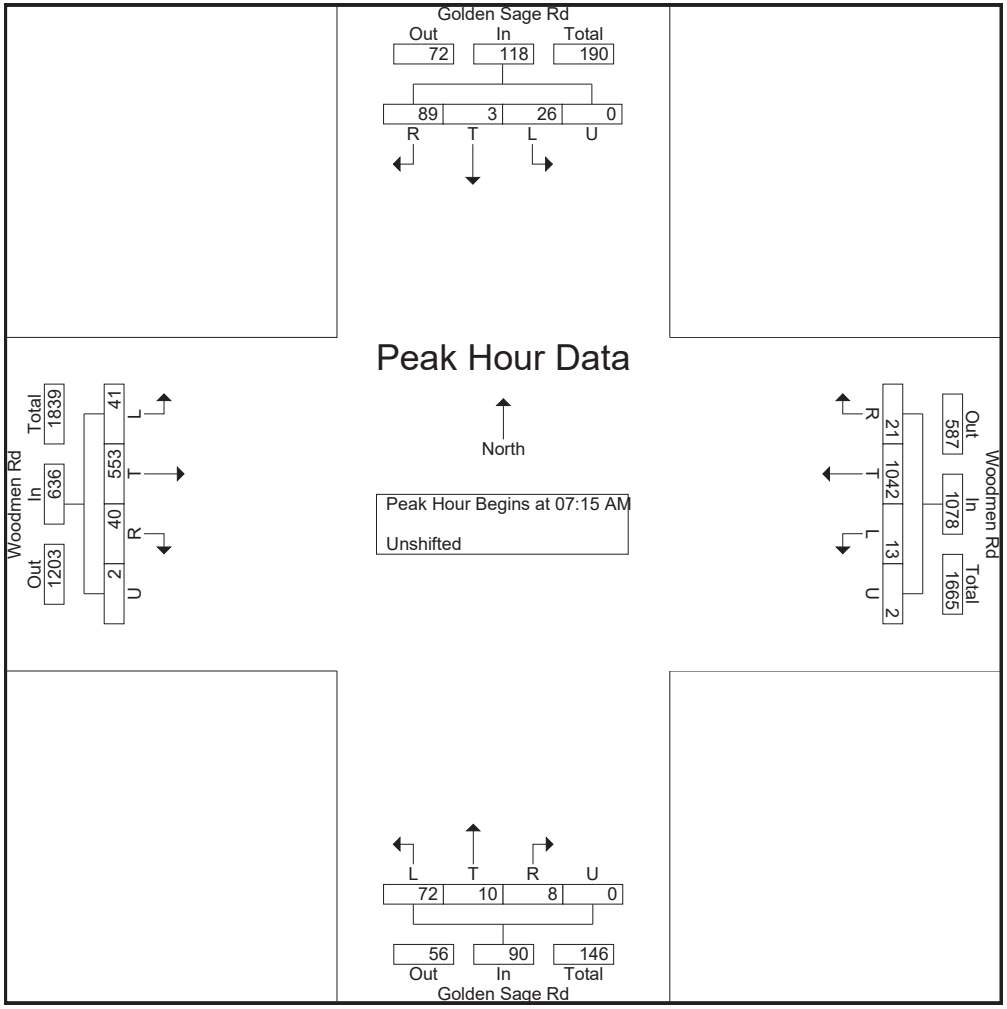

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545 E Pikes Peak Ave, Suite 210
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719-633-2868

File Name : Golden Sage Rd - Woodmen Rd PM
Site Code : 00194460
Start Date : 12/3/2020
Page No : 1

Groups Printed- Unshifted

	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**L**	**T**	**R**	**U**	**App. Total**	**Int. Total**
04:00 PM	23	0	12	0	35	8	260	13	0	281	18	3	7	0	28	13	279	30	1	323	667
04:15 PM	13	1	15	0	29	4	220	8	0	232	16	2	4	0	22	16	332	19	0	367	650
04:30 PM	15	1	17	0	33	1	245	10	0	256	14	4	2	0	20	14	316	16	0	346	655
04:45 PM	11	0	13	0	24	2	223	12	2	239	21	2	3	0	26	10	335	8	1	354	643
Total	62	2	57	0	121	15	948	43	2	1008	69	11	16	0	96	53	1262	73	2	1390	2615
05:00 PM	9	3	16	0	28	2	225	8	0	235	27	3	2	0	32	15	336	17	0	368	663
05:15 PM	7	4	12	0	23	5	190	13	2	210	32	4	11	0	47	18	325	19	0	362	642
05:30 PM	17	2	28	0	47	15	192	5	0	212	24	2	3	0	29	17	378	10	0	405	693
05:45 PM	10	2	5	0	17	3	145	9	1	158	12	4	2	0	18	15	278	16	1	310	503
Total	43	11	61	0	115	25	752	35	3	815	95	13	18	0	126	65	1317	62	1	1445	2501
Grand Total	105	13	118	0	236	40	1700	78	5	1823	164	24	34	0	222	118	2579	135	3	2835	5116
Apprch %	44.5	5.5	50	0		2.2	93.3	4.3	0.3		73.9	10.8	15.3	0		4.2	91	4.8	0.1		
Total %	2.1	0.3	2.3	0	4.6	0.8	33.2	1.5	0.1	35.6	3.2	0.5	0.7	0	4.3	2.3	50.4	2.6	0.1	55.4	

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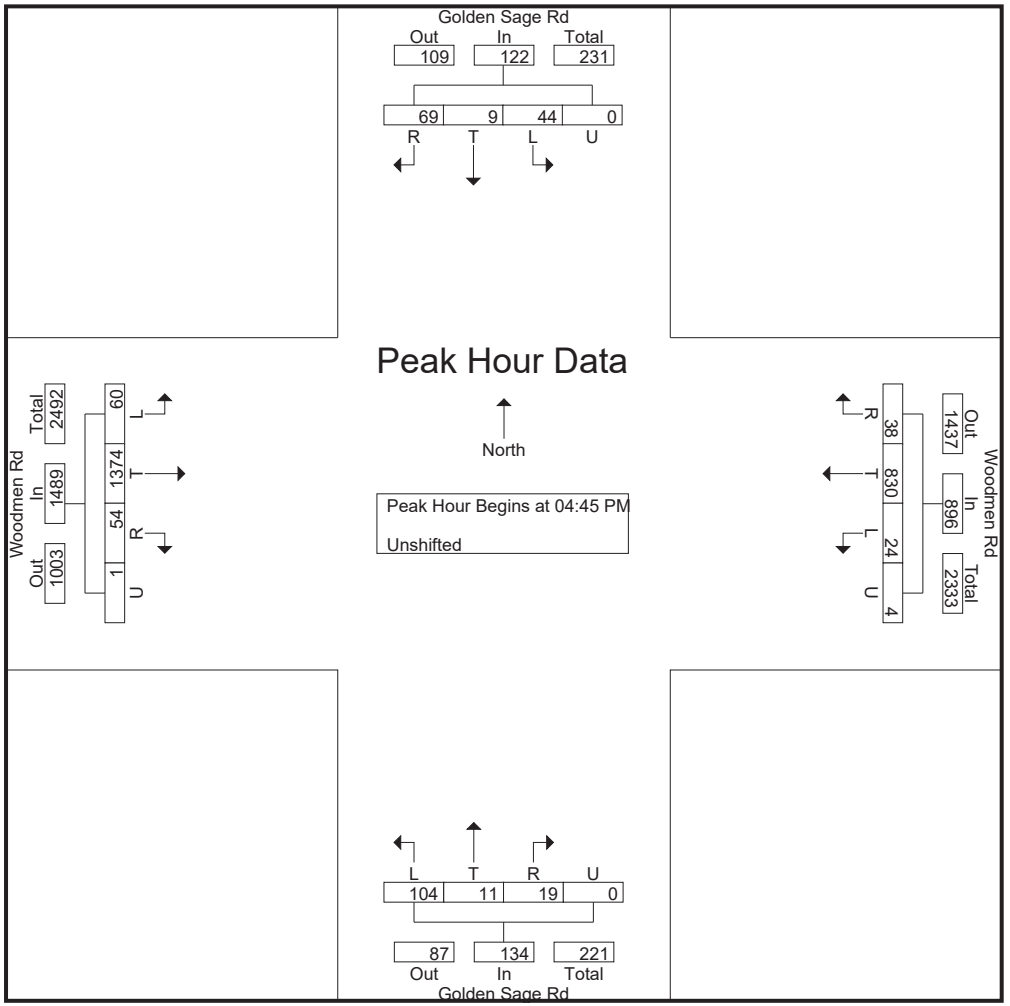

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File Name : Golden Sage Rd - Woodmen Rd AM 1-20
Site Code : 00194460
Start Date : 1/21/2020
Page No : 1

Groups Printed- Unshifted

	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	5	1	25	0	31	0	195	48	1	244	20	2	0	0	22	10	107	0	0	117	414
06:45 AM	12	5	28	0	45	4	355	30	0	389	24	4	0	0	28	14	151	9	0	174	636
Total	17	6	53	0	76	4	550	78	1	633	44	6	0	0	50	24	258	9	0	291	1050
07:00 AM	17	7	29	0	53	2	340	25	0	367	42	2	1	0	45	13	158	13	0	184	649
07:15 AM	8	4	30	0	42	3	424	16	0	443	44	3	1	0	48	12	171	11	0	194	727
07:30 AM	16	4	25	1	46	6	356	12	0	374	29	4	1	0	34	8	181	11	0	200	654
07:45 AM	7	1	7	0	15	2	293	17	0	312	13	5	0	0	18	16	209	20	0	245	590
Total	48	16	91	1	156	13	1413	70	0	1496	128	14	3	0	145	49	719	55	0	823	2620
08:00 AM	9	1	14	0	24	3	239	12	1	255	18	0	0	0	18	16	165	13	1	195	492
08:15 AM	13	2	12	0	27	2	267	19	1	289	18	3	2	0	23	28	142	6	1	177	516
Grand Total	87	25	170	1	283	22	2469	179	3	2673	208	23	5	0	236	117	1284	83	2	1486	4678
Apprch %	30.7	8.8	60.1	0.4		0.8	92.4	6.7	0.1		88.1	9.7	2.1	0		7.9	86.4	5.6	0.1		
Total %	1.9	0.5	3.6	0	6	0.5	52.8	3.8	0.1	57.1	4.4	0.5	0.1	0	5	2.5	27.4	1.8	0	31.8	

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Site Code : 00194460
Start Date : 1/21/2020
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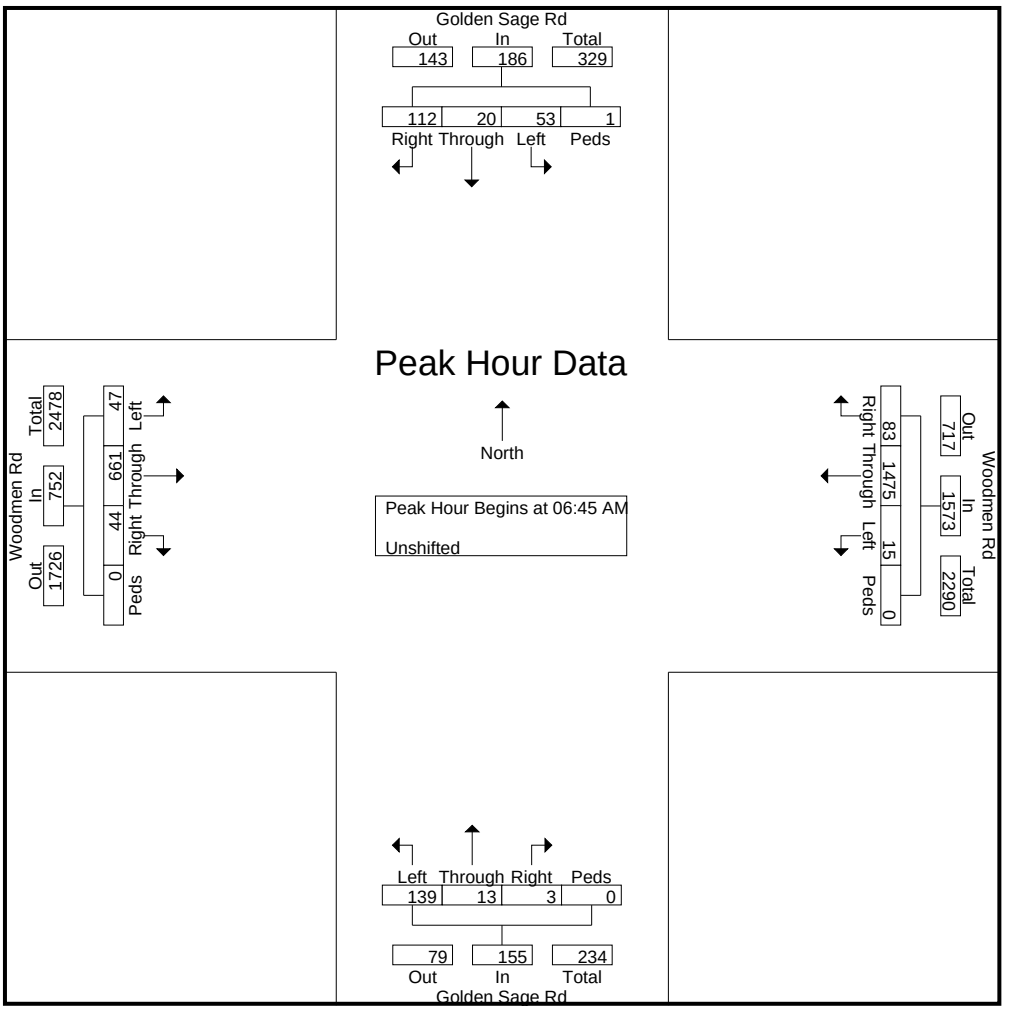
	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 6:45:00 AM																					
6:45:00 AM	12	5	28	0	45	4	355	**30**	0	389	24	**4**	0	0	28	**14**	151	9	0	174	636
7:00:00 AM	**17**	**7**	29	0	**53**	2	340	25	0	367	42	2	**1**	0	45	13	158	**13**	0	184	649
7:15:00 AM	8	4	**30**	0	42	3	**424**	16	0	**443**	**44**	3	1	0	**48**	12	171	11	0	194	**727**
7:30:00 AM	16	4	25	**1**	46	**6**	356	12	0	374	29	4	1	0	34	8	**181**	11	0	**200**	654
Total Volume	53	20	112	1	186	15	1475	83	0	1573	139	13	3	0	155	47	661	44	0	752	2666
% App. Total	28.5	10.8	60.2	0.5		1	93.8	5.3	0		89.7	8.4	1.9	0		6.2	87.9	5.9	0		
PHF	.779	.714	.933	.250	.877	.625	.870	.692	.000	.888	.790	.813	.750	.000	.807	.839	.913	.846	.000	.940	.917



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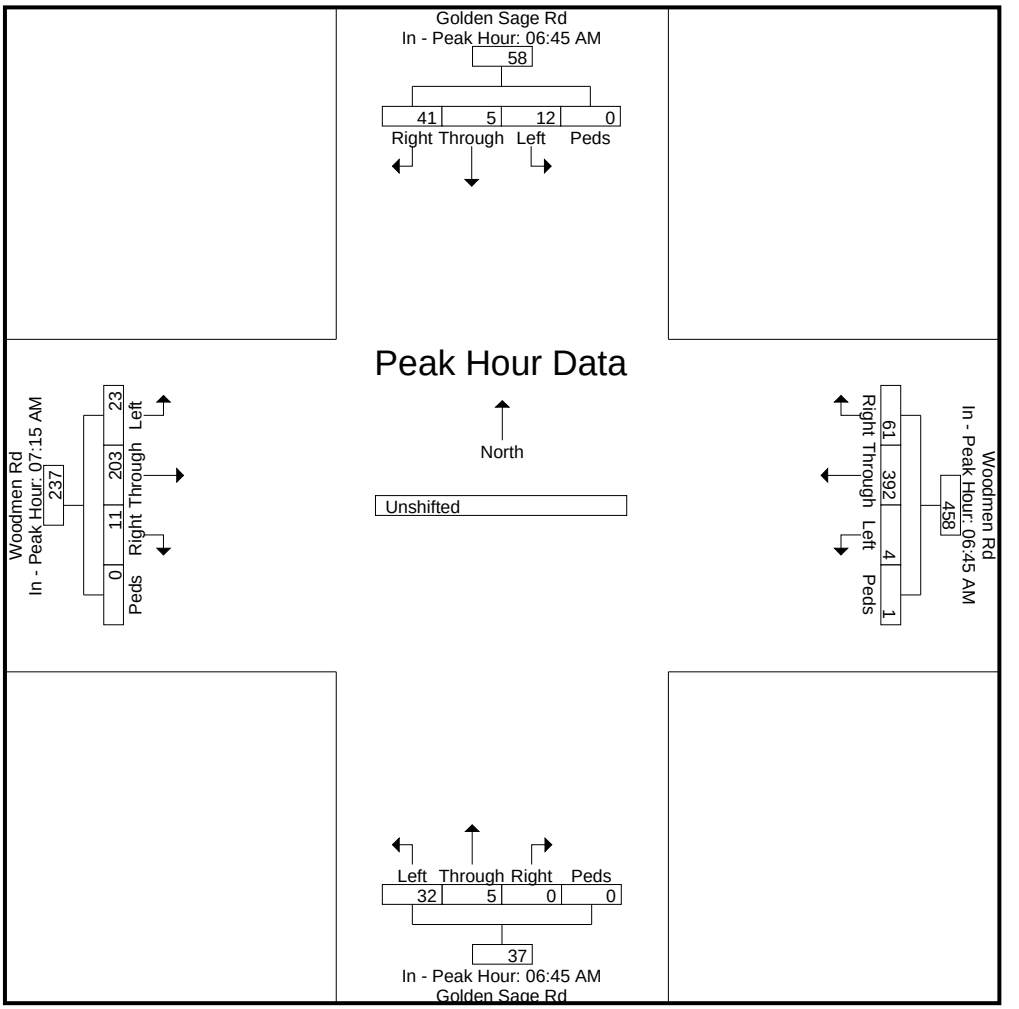
	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	6:45:00 AM					6:45:00 AM					6:45:00 AM					7:15:00 AM					
+0 mins.	12	5	28	0	45	4	355	**30**	0	389	24	**4**	0	0	28	12	171	11	0	194	
+5 mins.	**17**	**7**	29	0	**53**	2	340	25	0	367	42	2	**1**	0	45	8	181	11	0	200	
+10 mins.	8	4	**30**	0	42	3	**424**	16	0	**443**	**44**	3	1	0	**48**	**16**	**209**	**20**	0	**245**	
+15 mins.	16	4	25	**1**	46	**6**	356	12	0	374	29	4	1	0	34	16	165	13	**1**	195	
Total Volume	53	20	112	1	186	15	1475	83	0	1573	139	13	3	0	155	52	726	55	1	834	
% App. Total	28.5	10.8	60.2	0.5		1	93.8	5.3	0		89.7	8.4	1.9	0		6.2	87.1	6.6	0.1		
PHF	.779	.714	.933	.250	.877	.625	.870	.692	.000	.888	.790	.813	.750	.000	.807	.813	.868	.688	.250	.851	



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04:00 PM	17	2	26	0	45	7	205	16	0	228	23	9	5	0	37	21	272	23	2	318	628
04:15 PM	7	1	22	0	30	5	241	26	0	272	26	5	6	0	37	28	325	12	1	366	705
04:30 PM	21	4	24	0	49	1	241	20	1	263	26	8	4	0	38	24	313	3	1	341	691
04:45 PM	29	3	19	2	53	1	202	24	0	227	16	4	0	0	20	18	341	10	1	370	670
Total	74	10	91	2	177	14	889	86	1	990	91	26	15	0	132	91	1251	48	5	1395	2694
05:00 PM	18	1	27	0	46	2	254	11	2	269	27	7	1	0	35	19	328	11	0	358	708
05:15 PM	7	2	6	0	15	8	192	9	1	210	32	10	12	0	54	23	340	17	0	380	659
05:30 PM	42	7	42	1	92	7	227	23	0	257	30	7	10	0	47	28	336	6	0	370	766
05:45 PM	21	1	18	0	40	1	180	12	1	194	19	5	5	0	29	18	326	9	0	353	616
Total	88	11	93	1	193	18	853	55	4	930	108	29	28	0	165	88	1330	43	0	1461	2749
Grand Total	162	21	184	3	370	32	1742	141	5	1920	199	55	43	0	297	179	2581	91	5	2856	5443
Apprch %	43.8	5.7	49.7	0.8		1.7	90.7	7.3	0.3		67	18.5	14.5	0		6.3	90.4	3.2	0.2		
Total %	3	0.4	3.4	0.1	6.8	0.6	32	2.6	0.1	35.3	3.7	1	0.8	0	5.5	3.3	47.4	1.7	0.1	52.5	

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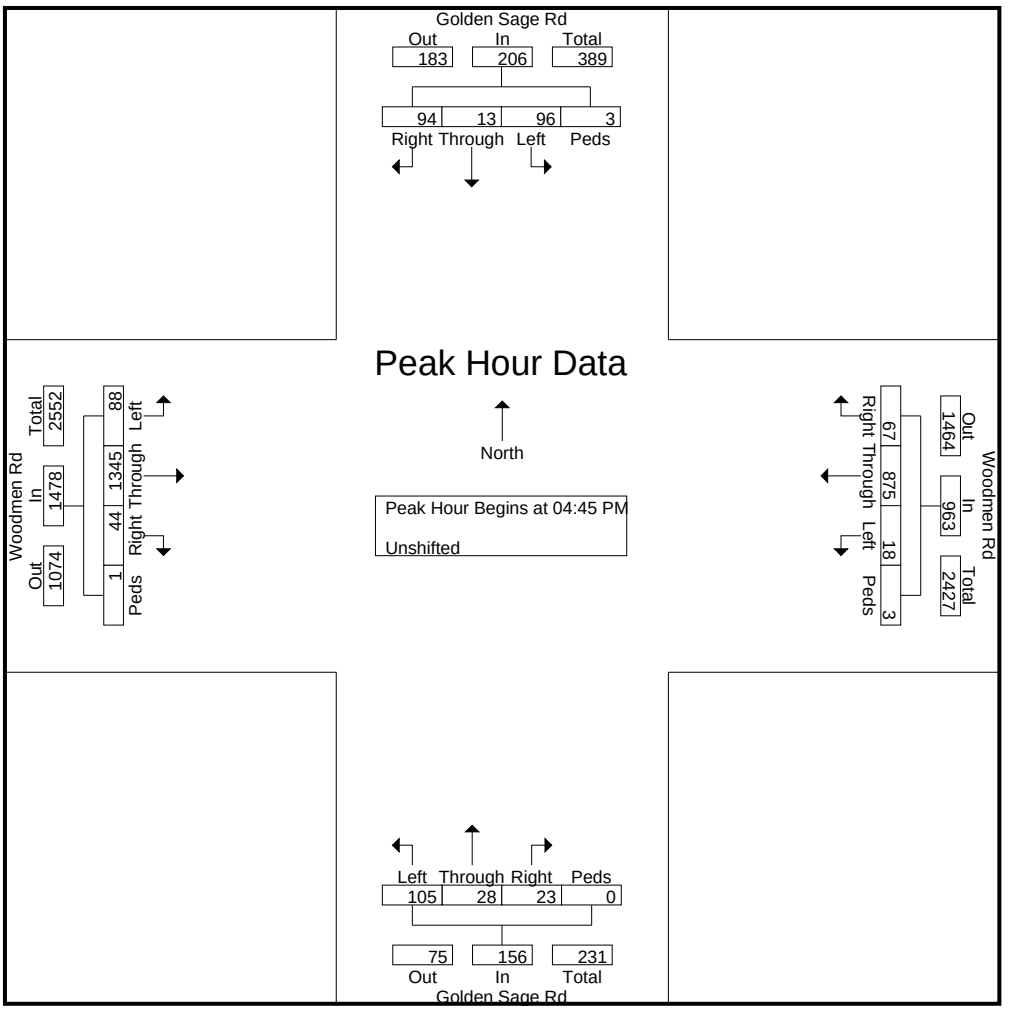
	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:45:00 PM																					
4:45:00 PM	29	3	19	**2**	53	1	202	**24**	0	227	16	4	0	0	20	18	**341**	10	**1**	370	670
5:00:00 PM	18	1	27	0	46	2	**254**	11	**2**	**269**	27	7	1	0	35	19	328	11	0	358	708
5:15:00 PM	7	2	6	0	15	**8**	192	9	1	210	**32**	**10**	**12**	0	**54**	23	340	**17**	0	**380**	659
5:30:00 PM	**42**	**7**	**42**	1	**92**	7	227	23	0	257	30	7	10	0	47	**28**	336	6	0	370	**766**
Total Volume	96	13	94	3	206	18	875	67	3	963	105	28	23	0	156	88	1345	44	1	1478	2803
% App. Total	46.6	6.3	45.6	1.5		1.9	90.9	7	0.3		67.3	17.9	14.7	0		6	91	3	0.1		
PHF	.571	.464	.560	.375	.560	.563	.861	.698	.375	.895	.820	.700	.479	.000	.722	.786	.986	.647	.250	.972	.915



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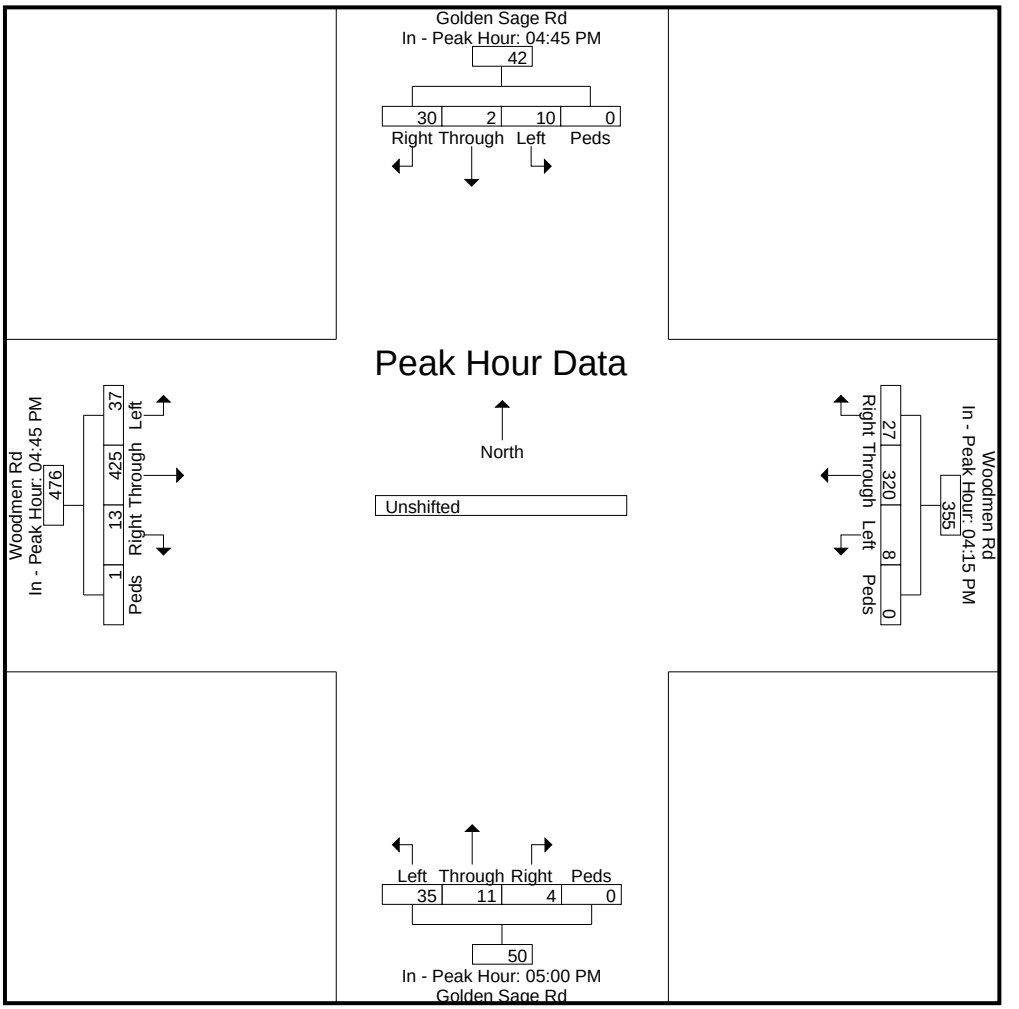
	Golden Sage Rd Southbound					Woodmen Rd Westbound					Golden Sage Rd Northbound					Woodmen Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:45:00 PM					4:15:00 PM					5:00:00 PM					4:45:00 PM					
+0 mins.	29	3	19	**2**	53	**5**	241	**26**	0	**272**	27	7	1	0	35	18	**341**	10	**1**	370	
+5 mins.	18	1	27	0	46	1	241	20	1	263	**32**	**10**	**12**	0	**54**	19	328	11	0	358	
+10 mins.	7	2	6	0	15	1	202	24	0	227	30	7	10	0	47	23	340	**17**	0	**380**	
+15 mins.	**42**	**7**	**42**	1	**92**	2	**254**	11	**2**	269	19	5	5	0	29	**28**	336	6	0	370	
Total Volume	96	13	94	3	206	9	938	81	3	1031	108	29	28	0	165	88	1345	44	1	1478	
% App. Total	46.6	6.3	45.6	1.5		0.9	91	7.9	0.3		65.5	17.6	17	0		6	91	3	0.1		
PHF	.571	.464	.560	.375	.560	.450	.923	.779	.375	.948	.844	.725	.583	.000	.764	.786	.986	.647	.250	.972	



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd AM 1-20
Site Code : 00194460
Start Date : 1/21/2020
Page No : 1

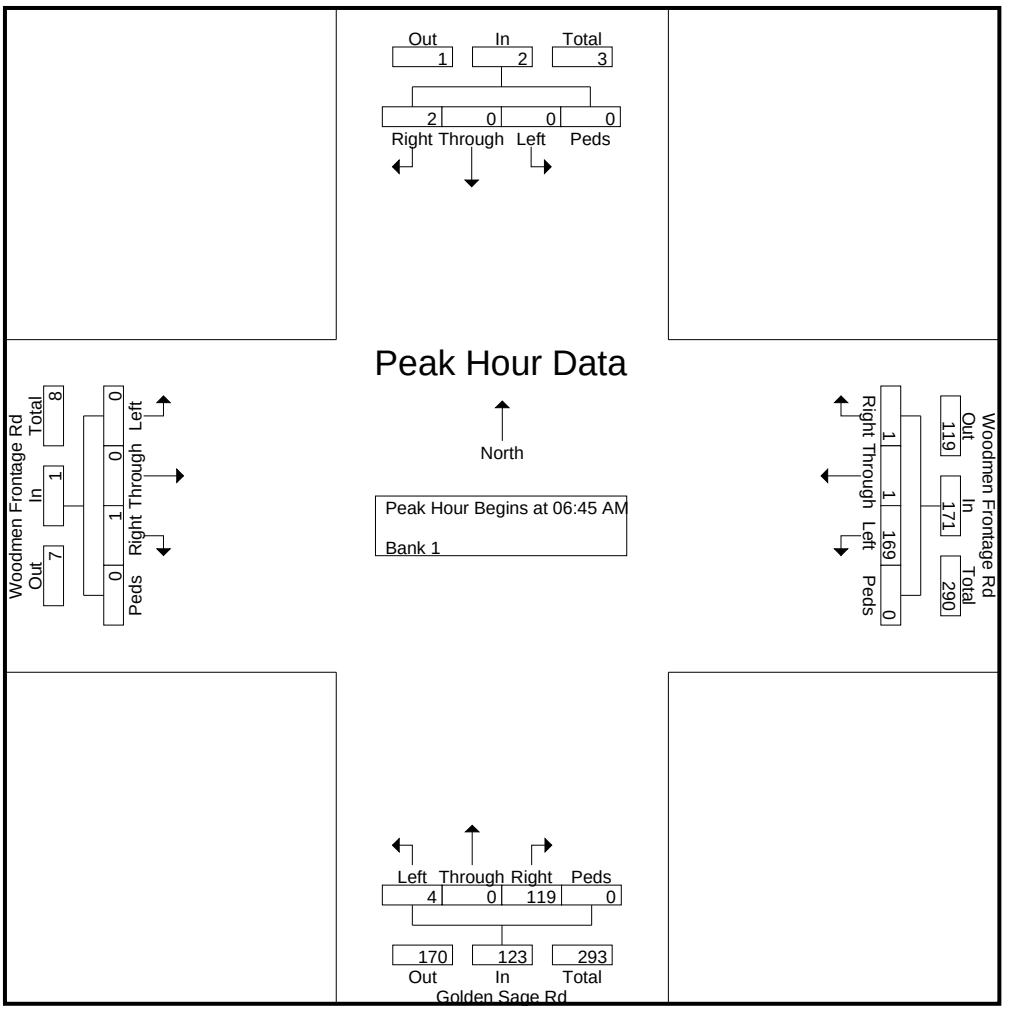
Groups Printed- Bank 1

	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	0	0	0	0	0	19	0	0	0	19	0	0	21	0	21	1	0	0	0	1	41
06:45 AM	0	0	2	0	2	41	0	1	0	42	4	0	47	0	51	0	0	0	0	0	95
Total	0	0	2	0	2	60	0	1	0	61	4	0	68	0	72	1	0	0	0	1	136
07:00 AM	0	0	0	0	0	49	1	0	0	50	0	0	19	0	19	0	0	0	0	0	69
07:15 AM	0	0	0	0	0	34	0	0	0	34	0	0	31	0	31	0	0	0	0	0	65
07:30 AM	0	0	0	0	0	45	0	0	0	45	0	0	22	0	22	0	0	1	0	1	68
07:45 AM	0	0	0	0	0	19	0	0	0	19	0	0	36	0	36	0	0	0	0	0	55
Total	0	0	0	0	0	147	1	0	0	148	0	0	108	0	108	0	0	1	0	1	257
08:00 AM	0	0	0	0	0	27	0	0	0	27	0	0	24	0	24	0	0	0	0	0	51
08:15 AM	0	0	0	0	0	26	0	0	0	26	0	0	48	1	49	0	0	1	0	1	76
Grand Total	0	0	2	0	2	260	1	1	0	262	4	0	248	1	253	1	0	2	0	3	520
Apprch %	0	0	100	0		99.2	0.4	0.4	0		1.6	0	98	0.4		33.3	0	66.7	0		
Total %	0	0	0.4	0	0.4	50	0.2	0.2	0	50.4	0.8	0	47.7	0.2	48.7	0.2	0	0.4	0	0.6	

LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd AM 1-20
Site Code : 00194460
Start Date : 1/21/2020

	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Int. Total**
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 6:45:00 AM																					
6:45:00 AM	0	0	**2**	0	**2**	41	0	**1**	0	42	**4**	0	**47**	0	**51**	0	0	0	0	0	**95**
7:00:00 AM	0	0	0	0	0	**49**	**1**	0	0	**50**	0	0	19	0	19	0	0	0	0	0	69
7:15:00 AM	0	0	0	0	0	34	0	0	0	34	0	0	31	0	31	0	0	0	0	0	65
7:30:00 AM	0	0	0	0	0	45	0	0	0	45	0	0	22	0	22	0	0	**1**	0	**1**	68
Total Volume	0	0	2	0	2	169	1	1	0	171	4	0	119	0	123	0	0	1	0	1	297
% App. Total	0	0	100	0		98.8	0.6	0.6	0		3.3	0	96.7	0		0	0	100	0		
PHF	.000	.000	.250	.000	.250	.862	.250	.250	.000	.855	.250	.000	.633	.000	.603	.000	.000	.250	.000	.250	.782

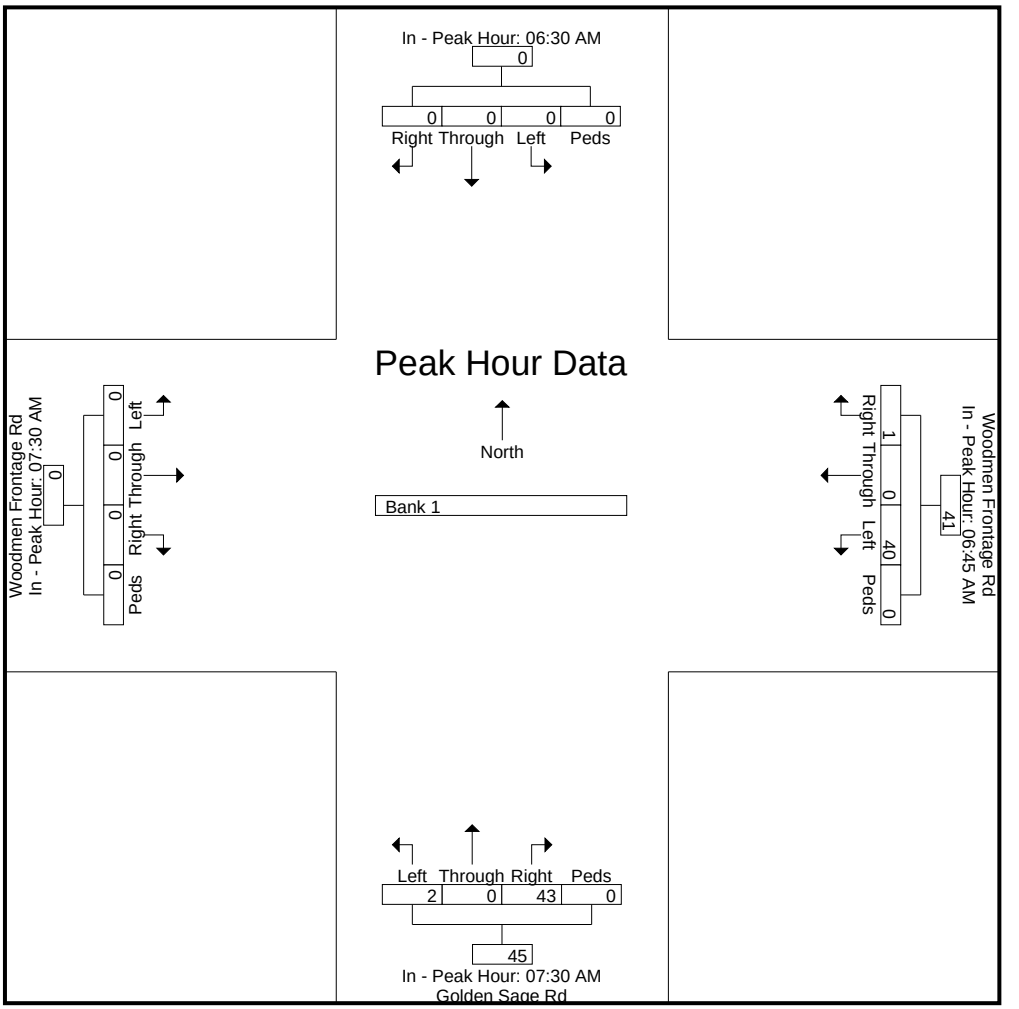


LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd AM 1-20
Site Code : 00194460
Start Date : 1/21/2020
Page No : 3

	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	6:30:00 AM					6:45:00 AM					7:30:00 AM					7:30:00 AM					
+0 mins.	0	0	0	0	0	41	0	**1**	0	42	0	0	22	0	22	0	0	**1**	0	**1**	
+5 mins.	0	0	**2**	0	**2**	**49**	**1**	0	0	**50**	0	0	36	0	36	0	0	0	0	0	
+10 mins.	0	0	0	0	0	34	0	0	0	34	0	0	24	0	24	0	0	0	0	0	
+15 mins.	0	0	0	0	0	45	0	0	0	45	0	0	**48**	**1**	**49**	0	0	1	0	1	
Total Volume	0	0	2	0	2	169	1	1	0	171	0	0	130	1	131	0	0	2	0	2	
% App. Total	0	0	100	0		98.8	0.6	0.6	0		0	0	99.2	0.8		0	0	100	0		
PHF	.000	.000	.250	.000	.250	.862	.250	.250	.000	.855	.000	.000	.677	.250	.668	.000	.000	.500	.000	.500	



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545 E Pikes Peak Ave, Suite 210
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719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20
Site Code : 00194460
Start Date : 1/21/2020
Page No : 1

Groups Printed- Bank 1

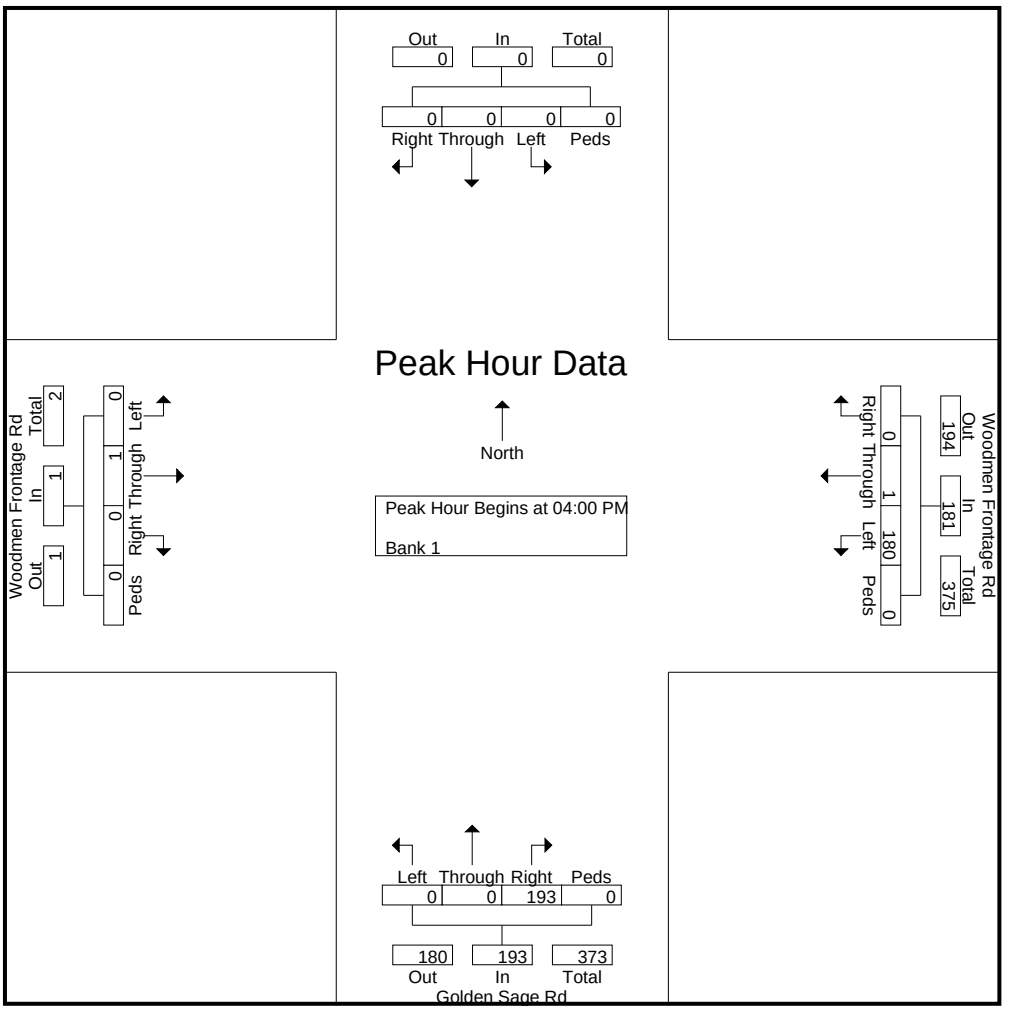
	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
04:00 PM	0	0	0	0	0	43	1	0	0	44	0	0	45	0	45	0	0	0	0	0	89
04:15 PM	0	0	0	0	0	33	0	0	0	33	0	0	52	0	52	0	1	0	0	1	86
04:30 PM	0	0	0	0	0	44	0	0	0	44	0	0	52	0	52	0	0	0	0	0	96
04:45 PM	0	0	0	0	0	60	0	0	0	60	0	0	44	0	44	0	0	0	0	0	104
Total	0	0	0	0	0	180	1	0	0	181	0	0	193	0	193	0	1	0	0	1	375
05:00 PM	0	0	0	0	0	45	0	0	0	45	0	0	33	0	33	0	0	2	0	2	80
05:15 PM	0	0	0	0	0	13	0	0	0	13	2	0	41	1	44	0	0	1	0	1	58
05:30 PM	0	0	0	0	0	89	0	1	0	90	0	0	35	0	35	0	0	0	0	0	125
05:45 PM	0	0	0	0	0	43	0	1	0	44	0	0	31	0	31	0	0	0	0	0	75
Total	0	0	0	0	0	190	0	2	0	192	2	0	140	1	143	0	0	3	0	3	338
Grand Total	0	0	0	0	0	370	1	2	0	373	2	0	333	1	336	0	1	3	0	4	713
Apprch %	0	0	0	0		99.2	0.3	0.5	0		0.6	0	99.1	0.3		0	25	75	0		
Total %	0	0	0	0	0	51.9	0.1	0.3	0	52.3	0.3	0	46.7	0.1	47.1	0	0.1	0.4	0	0.6	

LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20
Site Code : 00194460
Start Date : 1/21/2020

	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	0	0	0	0	0	43	**1**	0	0	44	0	0	45	0	45	0	0	0	0	0	89
4:15:00 PM	0	0	0	0	0	33	0	0	0	33	0	0	**52**	0	**52**	0	**1**	0	0	**1**	86
4:30:00 PM	0	0	0	0	0	44	0	0	0	44	0	0	52	0	52	0	0	0	0	0	96
4:45:00 PM	0	0	0	0	0	**60**	0	0	0	**60**	0	0	44	0	44	0	0	0	0	0	**104**
Total Volume	0	0	0	0	0	180	1	0	0	181	0	0	193	0	193	0	1	0	0	1	375
% App. Total	0	0	0	0		99.4	0.6	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.250	.000	.000	.754	.000	.000	.928	.000	.928	.000	.250	.000	.000	.250	.901

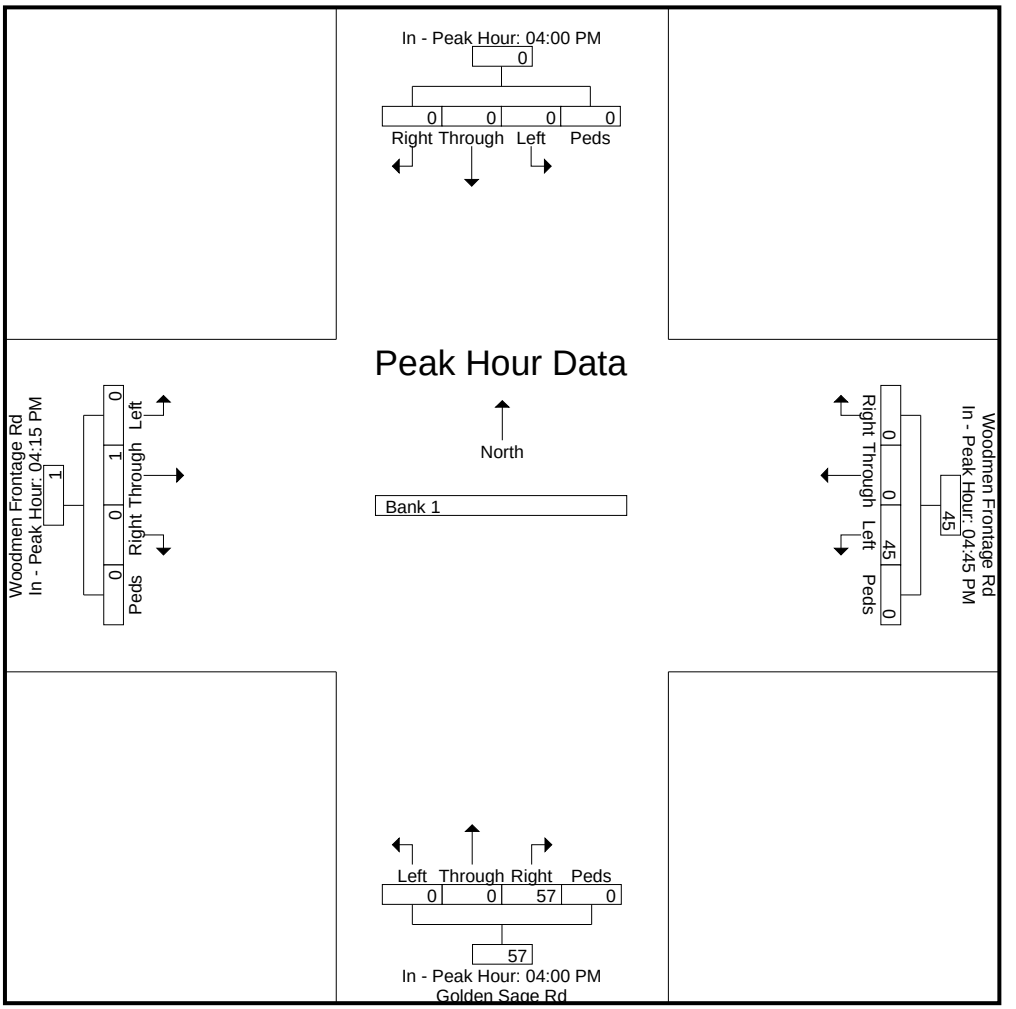


LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20
Site Code : 00194460
Start Date : 1/21/2020

	Southbound					Woodmen Frontage Rd Westbound					Golden Sage Rd Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:00:00 PM					4:45:00 PM					4:00:00 PM					4:15:00 PM					
+0 mins.	0	0	0	0	0	60	0	0	0	60	0	0	45	0	45	0	**1**	0	0	1	
+5 mins.	0	0	0	0	0	45	0	0	0	45	0	0	**52**	0	**52**	0	0	0	0	0	
+10 mins.	0	0	0	0	0	13	0	0	0	13	0	0	52	0	52	0	0	0	0	0	
+15 mins.	0	0	0	0	0	**89**	0	**1**	0	**90**	0	0	44	0	44	0	0	**2**	0	**2**	
Total Volume	0	0	0	0	0	207	0	1	0	208	0	0	193	0	193	0	1	2	0	3	
% App. Total	0	0	0	0		99.5	0	0.5	0		0	0	100	0		0	33.3	66.7	0		
PHF	.000	.000	.000	.000	.000	.581	.000	.250	.000	.578	.000	.000	.928	.000	.928	.000	.250	.250	.000	.375	



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name
Site Code
Start Date
Page #

Groups Printed- Unshifted

	Bent Grass Meadows Southbound					Woodmen Frontage Rd Westbound					Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	1	0	20	0	21	0	14	0	0	14	0	0	0	0	0	0	37	0	0	37	72
06:45 AM	0	0	6	0	6	0	15	0	0	15	0	0	0	0	0	1	49	0	0	50	71
Total	1	0	26	0	27	0	29	0	0	29	0	0	0	0	0	1	86	0	0	87	143
07:00 AM	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	14	0	0	14	38
07:15 AM	0	0	2	0	2	0	33	0	0	33	0	0	0	0	0	4	16	0	0	20	55
07:30 AM	0	0	3	0	3	0	24	0	0	24	0	0	0	0	0	2	6	0	0	8	35
07:45 AM	0	0	2	0	2	0	23	0	0	23	0	0	0	0	0	0	8	0	0	8	33
Total	0	0	7	0	7	0	104	0	0	104	0	0	0	0	0	6	44	0	0	50	161
08:00 AM	0	0	1	0	1	0	12	0	0	12	0	0	0	0	0	2	9	0	0	11	24
08:15 AM	0	0	13	0	13	0	14	0	0	14	0	0	0	0	0	0	11	0	0	11	38

LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name
Site Code
Start Date
Page #

Groups Printed- Unshifted

	Bent Grass Meadows Southbound					Woodmen Frontage Rd Westbound					Northbound					Woodmen Frontage Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
04:00 PM	0	0	2	0	2	0	13	0	0	13	0	0	0	0	0	3	14	0	0	17	32
04:15 PM	0	0	4	0	4	0	11	0	0	11	0	0	0	0	0	1	21	0	0	22	37
04:30 PM	0	0	20	0	20	0	10	0	0	10	0	0	0	0	0	3	16	0	0	19	49
04:45 PM	0	0	12	0	12	0	10	1	0	11	0	0	0	0	0	2	24	0	0	26	49
Total	0	0	38	0	38	0	44	1	0	45	0	0	0	0	0	9	75	0	0	84	167
05:00 PM	0	0	7	0	7	0	10	0	0	10	0	0	0	0	0	0	18	0	0	18	35
05:15 PM	0	0	3	0	3	0	17	0	0	17	0	0	0	0	0	3	17	0	0	20	40
05:30 PM	0	0	2	0	2	0	83	1	0	84	0	0	0	0	0	3	17	0	0	20	106
05:45 PM	0	0	3	0	3	0	25	0	0	25	0	0	0	0	0	1	16	0	0	17	45
Total	0	0	15	0	15	0	135	1	0	136	0	0	0	0	0	7	68	0	0	75	226

Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	68	151	57	657	1538	126
Future Vol, veh/h	68	151	57	657	1538	126
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	0	700	-	-	330
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	157	66	764	1748	143

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2262	874	1891	0	-	0
Stage 1	1748	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 35	293	312	-	-	-
Stage 1	125	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 28	293	312	-	-	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	99	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	68.5	1.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	312	-	82	293	-	-
HCM Lane V/C Ratio	0.212	-	0.864	0.537	-	-
HCM Control Delay (s)	19.6	-	152.4	30.7	-	-
HCM Lane LOS	C	-	F	D	-	-
HCM 95th %tile Q(veh)	0.8	-	4.5	3	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	47	661	44	15	1475	83	134	13	3	53	20
Future Volume (vph)	47	661	44	15	1475	83	134	13	3	53	20
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	63.0	63.0	63.0	63.0	63.0	63.0	27.0	27.0	27.0	27.0	27.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	None	None	None	None	None
Act Effct Green (s)	56.2	56.2	56.2	56.2	56.2	56.2	16.4	16.4	16.4	16.4	16.4
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66	0.66	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.44	0.31	0.05	0.04	0.71	0.09	0.76	0.04	0.01	0.24	0.47
Control Delay	23.6	7.1	2.2	6.6	12.2	1.8	54.1	27.1	0.0	30.7	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	7.1	2.2	6.6	12.2	1.8	54.1	27.1	0.0	30.7	28.9
LOS	C	A	A	A	B	A	D	C	A	C	C
Approach Delay		7.9			11.6			50.6			29.4
Approach LOS		A			B			D			C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 85.1	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	184	1	0	4	0	139	0	0	0
Future Vol, veh/h	0	0	1	184	1	0	4	0	139	0	0	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	78	78	78	83	83	83	65	65	65	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	222	1	0	6	0	214	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	227	1	121	120	-	1	0	0	214	0	0
Stage 1	-	1	-	119	119	-	-	-	-	-	-	-
Stage 2	-	226	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	672	1084	854	770	0	1622	-	-	1356	-	-
Stage 1	0	895	-	885	797	0	-	-	-	-	-	-
Stage 2	0	717	-	1021	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	669	1084	851	767	-	1622	-	-	1356	-	-
Mov Cap-2 Maneuver	-	669	-	851	767	-	-	-	-	-	-	-
Stage 1	-	895	-	881	794	-	-	-	-	-	-	-
Stage 2	-	714	-	1020	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.3	10.7	0.2	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1084	850	1356	-	-
HCM Lane V/C Ratio	0.004	-	-	0.001	0.262	-	-	-
HCM Control Delay (s)	7.2	0	-	8.3	10.7	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	116	86	0	1	28
Future Vol, veh/h	5	116	86	0	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	83	83	35	35
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	141	104	0	3	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	104	0	-	0	257	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	153	-
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	1488	-	-	-	732	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1488	-	-	-	729	951
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	875	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1488	-	-	-	941
HCM Lane V/C Ratio	0.004	-	-	-	0.088
HCM Control Delay (s)	7.4	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	95	83	1345	886	90
Future Vol, veh/h	56	95	83	1345	886	90
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	0	700	-	-	330
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	96	96	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	110	86	1401	886	90

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1759	443	976	0	-	0
Stage 1	886	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	76	562	703	-	-	-
Stage 1	363	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	67	562	703	-	-	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	369	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.9	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	703	-	167	562	-	-
HCM Lane V/C Ratio	0.123	-	0.39	0.197	-	-
HCM Control Delay (s)	10.8	-	39.7	13	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.4	-	1.7	0.7	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	88	1345	44	18	875	67	105	28	23	96	13
Future Volume (vph)	88	1345	44	18	875	67	105	28	23	96	13
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	65.0	65.0	65.0	65.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	72.2%	72.2%	72.2%	72.2%	72.2%	72.2%	27.8%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	6.0	4.0	4.0	4.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	None	None	None	None	None
Act Effct Green (s)	58.1	61.1	61.1	59.1	61.1	61.1	16.2	15.2	15.2	15.2	15.2
Actuated g/C Ratio	0.68	0.71	0.71	0.69	0.71	0.71	0.19	0.18	0.18	0.18	0.18
v/c Ratio	0.25	0.58	0.04	0.11	0.37	0.06	0.69	0.10	0.09	0.71	0.45
Control Delay	8.5	7.7	1.6	7.3	5.8	1.4	52.4	29.6	4.7	49.6	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
Total Delay	8.5	7.7	1.6	7.3	5.8	1.4	52.4	29.6	4.7	49.6	10.6
LOS	A	A	A	A	A	A	D	C	A	D	B
Approach Delay		7.6			5.5			41.2			29.0
Approach LOS		A			A			D			C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 85.8	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	200	1	0	2	0	181	0	0	0
Future Vol, veh/h	0	0	3	200	1	0	2	0	181	0	0	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	78	78	78	58	58	58	83	83	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	345	2	0	2	0	218	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	223	1	116	114	-	1	0	0	218	0	0
Stage 1	-	1	-	113	113	-	-	-	-	-	-	-
Stage 2	-	222	-	3	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	676	1084	861	776	0	1622	-	-	1352	-	-
Stage 1	0	895	-	892	802	0	-	-	-	-	-	-
Stage 2	0	720	-	1020	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	675	1084	858	775	-	1622	-	-	1352	-	-
Mov Cap-2 Maneuver	-	675	-	858	775	-	-	-	-	-	-	-
Stage 1	-	895	-	891	801	-	-	-	-	-	-	-
Stage 2	-	719	-	1016	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.3	12	0.1	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1084	858	1352	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.404	-	-	-
HCM Control Delay (s)	7.2	0	-	8.3	12	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	2	0	-	-

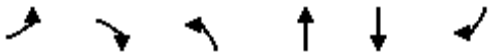
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	76	120	1	0	24
Future Vol, veh/h	8	76	120	1	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	36	36	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	97	333	3	0	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	452	335
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	117	-
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	1223	-	-	-	565	707
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1223	-	-	-	560	707
Mov Cap-2 Maneuver	-	-	-	-	560	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	707
HCM Lane V/C Ratio	0.008	-	-	-	0.044
HCM Control Delay (s)	8	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



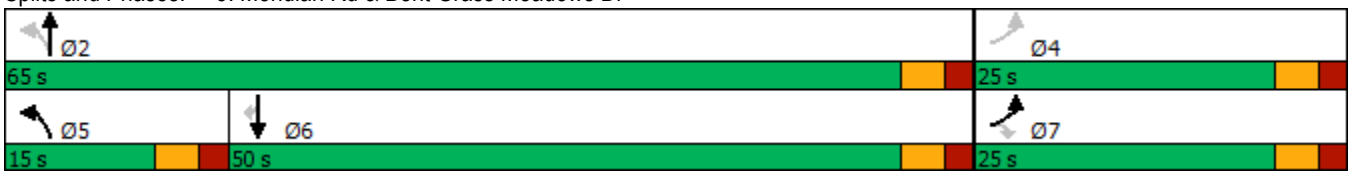
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	112	218	76	711	1671	154
Future Volume (vph)	112	218	76	711	1671	154
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	117	227	88	827	1899	175
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	227	88	827	1899	175

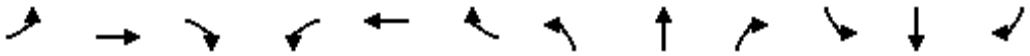
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4
Lane Configurations							
Traffic Volume (vph)	112	218	76	711	1671	154	
Future Volume (vph)	112	218	76	711	1671	154	
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm	
Protected Phases	7		5	2	6		4
Permitted Phases	4	7	2			6	
Detector Phase	7	7	5	2	6	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0	25.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%	28%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag			Lead		Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	
Recall Mode	None	None	None	Max	Max	Max	None
Act Effct Green (s)	8.9	8.9	61.1	61.1	51.5	51.5	
Actuated g/C Ratio	0.11	0.11	0.76	0.76	0.64	0.64	
v/c Ratio	0.31	0.64	0.37	0.31	0.83	0.16	
Control Delay	34.1	15.6	9.9	3.5	17.5	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.1	15.6	9.9	3.5	17.5	1.8	
LOS	C	B	A	A	B	A	
Approach Delay	21.9			4.1	16.1		
Approach LOS	C			A	B		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 80	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





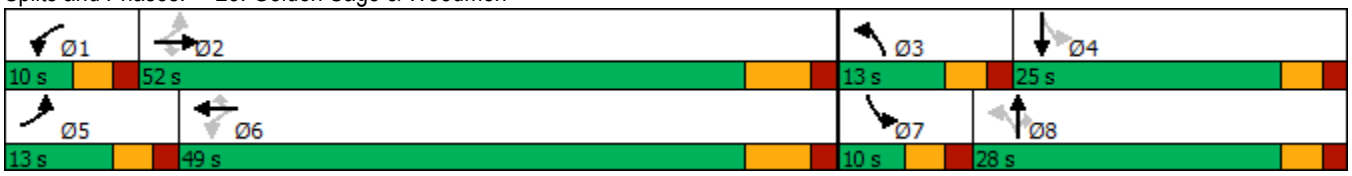
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	143	666	47	23	1416	78	144	17	15	56	23	338
Future Volume (vph)	143	666	47	23	1416	78	144	17	15	56	23	338
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.89	0.89	0.89	0.81	0.81	0.81	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	155	724	51	26	1591	88	178	21	19	64	26	389
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	724	51	26	1591	88	178	21	19	64	415	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	143	666	47	23	1416	78	144	17	15	56	23
Future Volume (vph)	143	666	47	23	1416	78	144	17	15	56	23
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Minimum Split (s)	10.0	11.0	11.0	10.0	11.0	11.0	10.0	21.0	21.0	10.0	21.0
Total Split (s)	13.0	52.0	52.0	10.0	49.0	49.0	13.0	28.0	28.0	10.0	25.0
Total Split (%)	13.0%	52.0%	52.0%	10.0%	49.0%	49.0%	13.0%	28.0%	28.0%	10.0%	25.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	56.1	53.9	53.9	51.0	45.0	45.0	28.4	21.6	21.6	26.6	20.0
Actuated g/C Ratio	0.56	0.54	0.54	0.51	0.45	0.45	0.28	0.22	0.22	0.27	0.20
v/c Ratio	0.73	0.38	0.06	0.07	1.00	0.11	0.79	0.05	0.04	0.16	0.98
Control Delay	38.7	14.8	0.1	9.7	50.5	1.3	53.1	31.4	0.2	24.9	67.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	14.8	0.1	9.7	50.5	1.3	53.1	31.4	0.2	24.9	67.3
LOS	D	B	A	A	D	A	D	C	A	C	E
Approach Delay		18.0			47.4			46.4			61.7
Approach LOS		B			D			D			E

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 99.9	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 41.2	Intersection LOS: D
Intersection Capacity Utilization 92.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen



Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	8	173	57	14	141
Future Vol, veh/h	190	8	173	57	14	141
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	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	224	9	204	67	16	166

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	699	224
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	475	-
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	-	-	1335	-	406	815
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	344	815
Mov Cap-2 Maneuver	-	-	-	-	344	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	530	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.2	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	1335	-
HCM Lane V/C Ratio	0.252	-	-	0.152	-
HCM Control Delay (s)	11.6	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.5	-

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	33	383	1	0	22	0	216	0	0	0
Future Vol, veh/h	0	0	33	383	1	0	22	0	216	0	0	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	78	78	78	87	87	87	87	87	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	440	1	0	25	0	248	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	299	1	196	175	-	1	0	0	248	0	0
Stage 1	-	1	-	174	174	-	-	-	-	-	-	-
Stage 2	-	298	-	22	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	613	1084	763	718	0	1622	-	-	1318	-	-
Stage 1	0	895	-	828	755	0	-	-	-	-	-	-
Stage 2	0	667	-	996	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	602	1084	723	705	-	1622	-	-	1318	-	-
Mov Cap-2 Maneuver	-	602	-	723	705	-	-	-	-	-	-	-
Stage 1	-	895	-	813	741	-	-	-	-	-	-	-
Stage 2	-	655	-	957	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	17.5	0.7	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1084	723	1318	-	-
HCM Lane V/C Ratio	0.016	-	-	0.039	0.61	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	17.5	0	-	-
HCM Lane LOS	A	A	-	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	4.2	0	-	-

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	143	12	0	152	29
Future Vol, veh/h	0	143	12	0	152	29
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	168	14	0	179	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	406	14	0	0	14	0
Stage 1	14	-	-	-	-	-
Stage 2	392	-	-	-	-	-
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	601	1066	-	-	1604	-
Stage 1	1009	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	532	1066	-	-	1604	-
Mov Cap-2 Maneuver	532	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	605	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	6.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1066	1604	-
HCM Lane V/C Ratio	-	-	0.158	0.111	-
HCM Control Delay (s)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.4	-

Intersection	
Int Delay, s/veh	4.6

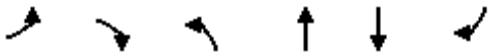
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	143	133	21	18	180
Future Vol, veh/h	55	143	133	21	18	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	174	160	25	22	217

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	185	0	-	0	481	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	308	-
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	1390	-	-	-	544	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1390	-	-	-	518	871
Mov Cap-2 Maneuver	-	-	-	-	518	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1390	-	-	-	518	871
HCM Lane V/C Ratio	0.048	-	-	-	0.042	0.249
HCM Control Delay (s)	7.7	-	-	-	12.3	10.5
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	1

3: Meridian Rd & Bent Grass Meadows Dr



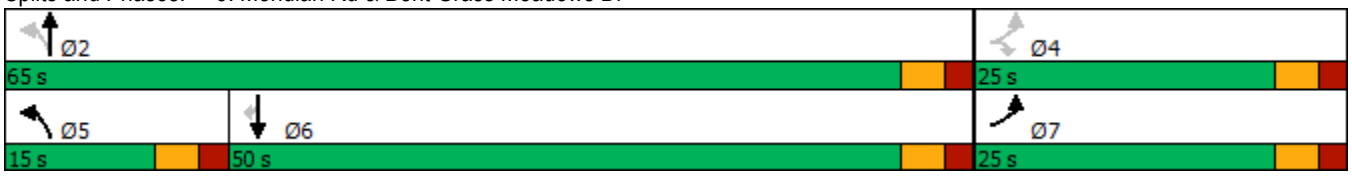
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	99	148	142	1464	957	138
Future Volume (vph)	99	148	142	1464	957	138
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.96	0.96	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	115	172	148	1525	957	138
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	172	148	1525	957	138

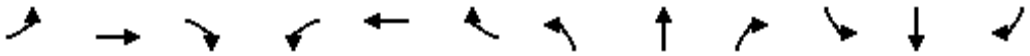
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	99	148	142	1464	957	138
Future Volume (vph)	99	148	142	1464	957	138
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm
Protected Phases	7		5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	7	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	8.2	8.2	60.0	60.0	47.8	47.8
Actuated g/C Ratio	0.10	0.10	0.77	0.77	0.61	0.61
v/c Ratio	0.32	0.54	0.33	0.56	0.44	0.14
Control Delay	34.7	12.5	4.5	4.9	9.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	12.5	4.5	4.9	9.3	1.9
LOS	C	B	A	A	A	A
Approach Delay	21.4			4.8	8.4	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 78.2	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 53.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	338	1342	53	39	918	83	113	36	41	102	20	245
Future Volume (vph)	338	1342	53	39	918	83	113	36	41	102	20	245
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.83	0.83	0.83	0.87	0.87	0.87
Growth Factor	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	331	1459	58	42	987	89	136	43	49	117	23	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	331	1459	58	42	987	89	136	43	49	117	305	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	338	1342	53	39	918	83	113	36	41	102	20
Future Volume (vph)	338	1342	53	39	918	83	113	36	41	102	20
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Minimum Split (s)	10.0	11.0	11.0	10.0	11.0	11.0	10.0	21.0	21.0	10.0	21.0
Total Split (s)	18.0	54.0	54.0	10.0	46.0	46.0	15.0	21.0	21.0	15.0	21.0
Total Split (%)	18.0%	54.0%	54.0%	10.0%	46.0%	46.0%	15.0%	21.0%	21.0%	15.0%	21.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	59.1	54.3	54.3	48.1	42.1	42.1	22.2	12.7	12.7	18.9	9.8
Actuated g/C Ratio	0.63	0.58	0.58	0.51	0.45	0.45	0.24	0.14	0.14	0.20	0.10
v/c Ratio	0.86	0.71	0.06	0.21	0.62	0.11	0.51	0.17	0.12	0.37	0.78
Control Delay	38.3	18.4	0.1	10.8	22.4	0.3	33.7	39.1	0.7	30.6	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	18.4	0.1	10.8	22.4	0.3	33.7	39.1	0.7	30.6	23.6
LOS	D	B	A	B	C	A	C	D	A	C	C
Approach Delay		21.4			20.2			27.6			25.5
Approach LOS		C			C			C			C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 93.4	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 21.9	Intersection LOS: C
Intersection Capacity Utilization 79.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	1	124	154	12	134
Future Vol, veh/h	113	1	124	154	12	134
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	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	1	146	181	14	158

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	134	0	606	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	473	-
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	-	-	1451	-	460	916
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	627	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1451	-	414	916
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	564	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	833	-	-	1451	-
HCM Lane V/C Ratio	0.206	-	-	0.101	-
HCM Control Delay (s)	10.4	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.3	-

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	53	312	1	0	60	0	396	0	0	0
Future Vol, veh/h	0	0	53	312	1	0	60	0	396	0	0	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	78	78	78	87	87	87	87	87	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	68	359	1	0	69	0	455	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	594	1	401	367	-	1	0	0	455	0	0
Stage 1	-	1	-	366	366	-	-	-	-	-	-	-
Stage 2	-	593	-	35	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	418	1084	560	562	0	1622	-	-	1106	-	-
Stage 1	0	895	-	653	623	0	-	-	-	-	-	-
Stage 2	0	493	-	981	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	393	1084	501	528	-	1622	-	-	1106	-	-
Mov Cap-2 Maneuver	-	393	-	501	528	-	-	-	-	-	-	-
Stage 1	-	895	-	613	585	-	-	-	-	-	-	-
Stage 2	-	463	-	920	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	28.4	1	0
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1084	501	1106	-	-
HCM Lane V/C Ratio	0.043	-	-	0.063	0.718	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	28.4	0	-	-
HCM Lane LOS	A	A	-	A	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	5.8	0	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	116	30	0	107	18
Future Vol, veh/h	0	116	30	0	107	18
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	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	136	35	0	126	21

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	308	35	0	0	35	0
Stage 1	35	-	-	-	-	-
Stage 2	273	-	-	-	-	-
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	684	1038	-	-	1576	-
Stage 1	987	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	629	1038	-	-	1576	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	710	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	6.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1038	1576	-
HCM Lane V/C Ratio	-	-	0.131	0.08	-
HCM Control Delay (s)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

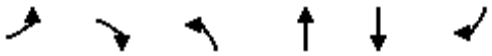
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	160	143	147	49	14	113
Future Vol, veh/h	160	143	147	49	14	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	83	83	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	184	164	177	59	18	145

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	739	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	532	-
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	1331	-	-	-	385	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	589	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	332	833
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	589	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1331	-	-	-	332	833
HCM Lane V/C Ratio	0.138	-	-	-	0.054	0.174
HCM Control Delay (s)	8.1	-	-	-	16.5	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.2	0.6



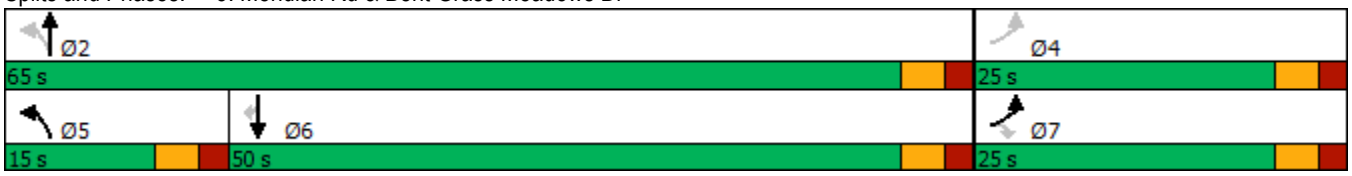
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	160	293	143	692	1627	243
Future Volume (vph)	160	293	143	692	1627	243
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	167	305	166	805	1849	276
Shared Lane Traffic (%)						
Lane Group Flow (vph)	167	305	166	805	1849	276

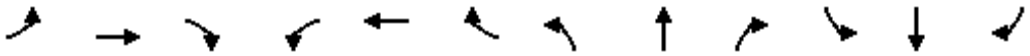
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4
Lane Configurations							
Traffic Volume (vph)	160	293	143	692	1627	243	
Future Volume (vph)	160	293	143	692	1627	243	
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm	
Protected Phases	7		5	2	6		4
Permitted Phases	4	7	2			6	
Detector Phase	7	7	5	2	6	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0	25.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%	28%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag			Lead		Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	
Recall Mode	None	None	None	Max	Max	Max	None
Act Effct Green (s)	12.0	12.0	60.2	60.2	47.0	47.0	
Actuated g/C Ratio	0.15	0.15	0.73	0.73	0.57	0.57	
v/c Ratio	0.33	0.75	0.62	0.31	0.91	0.27	
Control Delay	32.7	24.0	23.6	4.7	26.3	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.7	24.0	23.6	4.7	26.3	2.3	
LOS	C	C	C	A	C	A	
Approach Delay	27.1			8.0	23.2		
Approach LOS	C			A	C		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.2	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





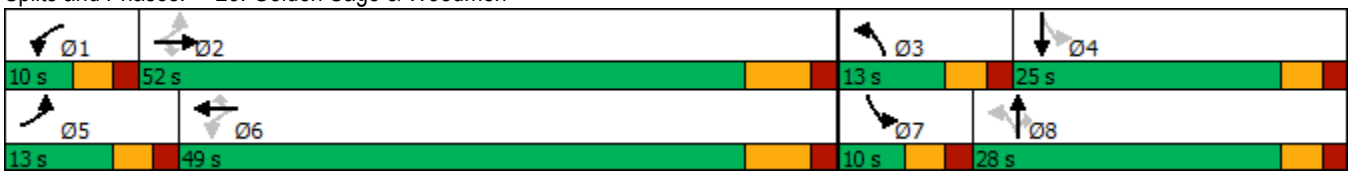
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	147	666	47	23	1419	78	144	18	15	56	24	341
Future Volume (vph)	147	666	47	23	1419	78	144	18	15	56	24	341
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.89	0.89	0.89	0.81	0.81	0.81	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	160	724	51	26	1594	88	178	22	19	64	28	392
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	724	51	26	1594	88	178	22	19	64	420	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	147	666	47	23	1419	78	144	18	15	56	24
Future Volume (vph)	147	666	47	23	1419	78	144	18	15	56	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Minimum Split (s)	10.0	11.0	11.0	10.0	11.0	11.0	10.0	21.0	21.0	10.0	21.0
Total Split (s)	13.0	52.0	52.0	10.0	49.0	49.0	13.0	28.0	28.0	10.0	25.0
Total Split (%)	13.0%	52.0%	52.0%	10.0%	49.0%	49.0%	13.0%	28.0%	28.0%	10.0%	25.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	56.2	54.0	54.0	51.0	45.0	45.0	28.4	21.6	21.6	26.6	20.0
Actuated g/C Ratio	0.56	0.54	0.54	0.51	0.45	0.45	0.28	0.22	0.22	0.27	0.20
v/c Ratio	0.75	0.38	0.06	0.07	1.00	0.11	0.79	0.05	0.04	0.16	0.99
Control Delay	41.0	14.8	0.1	9.7	51.1	1.3	53.2	31.4	0.2	24.9	69.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	14.8	0.1	9.7	51.1	1.3	53.2	31.4	0.2	24.9	69.8
LOS	D	B	A	A	D	A	D	C	A	C	E
Approach Delay		18.5			47.9			46.4			63.9
Approach LOS		B			D			D			E

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 41.9	Intersection LOS: D
Intersection Capacity Utilization 92.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen



Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	199	5	61	74	3	45
Future Vol, veh/h	199	5	61	74	3	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	234	6	72	87	4	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	240	0	468	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	231	-
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	-	-	1327	-	553	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1327	-	523	802
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	785	-	-	1327	-
HCM Lane V/C Ratio	0.072	-	-	0.054	-
HCM Control Delay (s)	9.9	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	234	10	268	118	16	219
Future Vol, veh/h	234	10	268	118	16	219
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	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	12	315	139	19	258

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	287	0	1044	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	769	-
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	-	-	1275	-	254	764
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1275	-	191	764
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	344	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	634	-	-	1275	-
HCM Lane V/C Ratio	0.436	-	-	0.247	-
HCM Control Delay (s)	15	-	-	8.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.2	-	-	1	-

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	33	387	2	0	22	0	221	0	0	0
Future Vol, veh/h	0	1	33	387	2	0	22	0	221	0	0	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	78	78	78	87	87	87	87	87	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	42	445	2	0	25	0	254	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	305	1	200	178	-	1	0	0	254	0	0
Stage 1	-	1	-	177	177	-	-	-	-	-	-	-
Stage 2	-	304	-	23	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	608	1084	759	716	0	1622	-	-	1311	-	-
Stage 1	0	895	-	825	753	0	-	-	-	-	-	-
Stage 2	0	663	-	995	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	596	1084	717	702	-	1622	-	-	1311	-	-
Mov Cap-2 Maneuver	-	596	-	717	702	-	-	-	-	-	-	-
Stage 1	-	895	-	809	739	-	-	-	-	-	-	-
Stage 2	-	650	-	955	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	18	0.7	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1059	717	1311	-	-
HCM Lane V/C Ratio	0.016	-	-	0.041	0.624	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	18	0	-	-
HCM Lane LOS	A	A	-	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	4.4	0	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	0	0	0	0	143	0	12	0	152	29	97
Future Vol, veh/h	80	0	0	0	0	143	0	12	0	152	29	97
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	0	0	0	0	168	0	14	0	179	34	114

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	547	463	91	463	520	14	148	0	0	14	0	0
Stage 1	449	449	-	14	14	-	-	-	-	-	-	-
Stage 2	98	14	-	449	506	-	-	-	-	-	-	-
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	448	496	967	509	461	1066	1434	-	-	1604	-	-
Stage 1	589	572	-	1006	884	-	-	-	-	-	-	-
Stage 2	908	884	-	589	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	342	435	967	461	404	1066	1434	-	-	1604	-	-
Mov Cap-2 Maneuver	342	435	-	461	404	-	-	-	-	-	-	-
Stage 1	589	502	-	1006	884	-	-	-	-	-	-	-
Stage 2	765	884	-	517	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	9	0	4.1
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1434	-	-	342	1066	1604	-	-
HCM Lane V/C Ratio	-	-	-	0.275	0.158	0.111	-	-
HCM Control Delay (s)	0	-	-	19.5	9	7.5	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.6	0.4	-	-

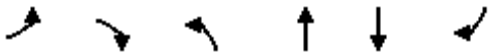
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	143	133	21	18	185
Future Vol, veh/h	61	143	133	21	18	185
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	174	160	25	22	223

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	185	0	-	0	495	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	322	-
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	1390	-	-	-	534	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1390	-	-	-	506	871
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1390	-	-	-	506	871
HCM Lane V/C Ratio	0.054	-	-	-	0.043	0.256
HCM Control Delay (s)	7.7	-	-	-	12.4	10.5
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	1



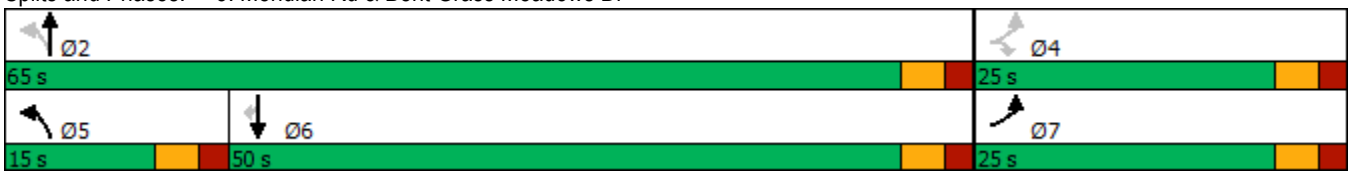
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	177	216	218	1428	934	199
Future Volume (vph)	177	216	218	1428	934	199
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.96	0.96	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	206	251	227	1488	934	199
Shared Lane Traffic (%)						
Lane Group Flow (vph)	206	251	227	1488	934	199

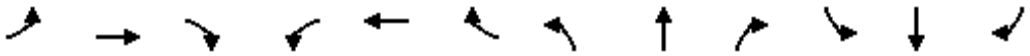
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	177	216	218	1428	934	199
Future Volume (vph)	177	216	218	1428	934	199
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm
Protected Phases	7		5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	7	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	10.1	10.1	60.1	60.1	46.7	46.7
Actuated g/C Ratio	0.13	0.13	0.75	0.75	0.58	0.58
v/c Ratio	0.48	0.60	0.49	0.56	0.45	0.20
Control Delay	36.2	11.1	6.9	5.6	10.9	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	11.1	6.9	5.6	10.9	2.0
LOS	D	B	A	A	B	A
Approach Delay	22.4			5.8	9.3	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 80.2	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 55.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	342	1346	53	39	922	83	113	36	41	102	20	250
Future Volume (vph)	342	1346	53	39	922	83	113	36	41	102	20	250
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.83	0.83	0.83	0.87	0.87	0.87
Growth Factor	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	335	1463	58	42	991	89	136	43	49	117	23	287
Shared Lane Traffic (%)												
Lane Group Flow (vph)	335	1463	58	42	991	89	136	43	49	117	310	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	342	1346	53	39	922	83	113	36	41	102	20
Future Volume (vph)	342	1346	53	39	922	83	113	36	41	102	20
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Minimum Split (s)	10.0	11.0	11.0	10.0	11.0	11.0	10.0	21.0	21.0	10.0	21.0
Total Split (s)	18.0	54.0	54.0	10.0	46.0	46.0	15.0	21.0	21.0	15.0	21.0
Total Split (%)	18.0%	54.0%	54.0%	10.0%	46.0%	46.0%	15.0%	21.0%	21.0%	15.0%	21.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	59.1	54.4	54.4	48.1	42.1	42.1	22.5	13.0	13.0	19.2	10.1
Actuated g/C Ratio	0.63	0.58	0.58	0.51	0.45	0.45	0.24	0.14	0.14	0.20	0.11
v/c Ratio	0.88	0.71	0.06	0.21	0.62	0.11	0.51	0.17	0.12	0.37	0.78
Control Delay	40.9	18.7	0.1	10.9	22.6	0.3	33.6	39.0	0.6	30.4	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	18.7	0.1	10.9	22.6	0.3	33.6	39.0	0.6	30.4	24.4
LOS	D	B	A	B	C	A	C	D	A	C	C
Approach Delay		22.1			20.4			27.5			26.0
Approach LOS		C			C			C			C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 93.7	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage & Woodmen

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	6	54	172	6	56
Future Vol, veh/h	117	6	54	172	6	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	7	64	202	7	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	472	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	330	-
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	-	-	1437	-	551	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1437	-	526	906
Mov Cap-2 Maneuver	-	-	-	-	585	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	860	-	-	1437	-
HCM Lane V/C Ratio	0.085	-	-	0.044	-
HCM Control Delay (s)	9.6	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	169	4	209	208	16	223
Future Vol, veh/h	169	4	209	208	16	223
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	120	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	199	5	246	245	19	262

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	204	0	936	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	737	-
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	-	-	1368	-	294	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	241	842
Mov Cap-2 Maneuver	-	-	-	-	241	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.1	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	722	-	-	1368	-
HCM Lane V/C Ratio	0.389	-	-	0.18	-
HCM Control Delay (s)	13.1	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.9	-	-	0.7	-

Intersection	
Int Delay, s/veh	12.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	53	319	2	0	60	0	401	0	0	0
Future Vol, veh/h	0	1	53	319	2	0	60	0	401	0	0	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	78	78	78	87	87	87	87	87	87	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	68	367	2	0	69	0	461	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	600	1	405	370	-	1	0	0	461	0	0
Stage 1	-	1	-	369	369	-	-	-	-	-	-	-
Stage 2	-	599	-	36	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	415	1084	556	560	0	1622	-	-	1100	-	-
Stage 1	0	895	-	651	621	0	-	-	-	-	-	-
Stage 2	0	490	-	980	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	390	1084	495	526	-	1622	-	-	1100	-	-
Mov Cap-2 Maneuver	-	390	-	495	526	-	-	-	-	-	-	-
Stage 1	-	895	-	611	583	-	-	-	-	-	-	-
Stage 2	-	460	-	917	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	30.6	1	0
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	1049	495	1100	-	-
HCM Lane V/C Ratio	0.043	-	-	0.066	0.745	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	30.6	0	-	-
HCM Lane LOS	A	A	-	A	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	6.3	0	-	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	93	0	0	0	0	116	0	30	0	107	18	88
Future Vol, veh/h	93	0	0	0	0	116	0	30	0	107	18	88
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	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	0	0	0	0	136	0	35	0	126	21	104

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	428	360	73	360	412	35	125	0	0	35	0	0
Stage 1	325	325	-	35	35	-	-	-	-	-	-	-
Stage 2	103	35	-	325	377	-	-	-	-	-	-	-
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	537	567	989	596	530	1038	1462	-	-	1576	-	-
Stage 1	687	649	-	981	866	-	-	-	-	-	-	-
Stage 2	903	866	-	687	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	518	989	556	484	1038	1462	-	-	1576	-	-
Mov Cap-2 Maneuver	436	518	-	556	484	-	-	-	-	-	-	-
Stage 1	687	593	-	981	866	-	-	-	-	-	-	-
Stage 2	784	866	-	627	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	9	0	3.8
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1462	-	-	436	1038	1576	-	-
HCM Lane V/C Ratio	-	-	-	0.251	0.131	0.08	-	-
HCM Control Delay (s)	0	-	-	16	9	7.5	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1	0.5	0.3	-	-

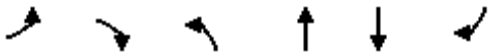
Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	166	143	147	49	14	120
Future Vol, veh/h	166	143	147	49	14	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	83	83	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	164	177	59	18	154

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	236	0	-	0	753	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	546	-
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	1331	-	-	-	377	833
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	580	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	323	833
Mov Cap-2 Maneuver	-	-	-	-	323	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	580	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1331	-	-	-	323	833
HCM Lane V/C Ratio	0.143	-	-	-	0.056	0.185
HCM Control Delay (s)	8.2	-	-	-	16.8	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.2	0.7



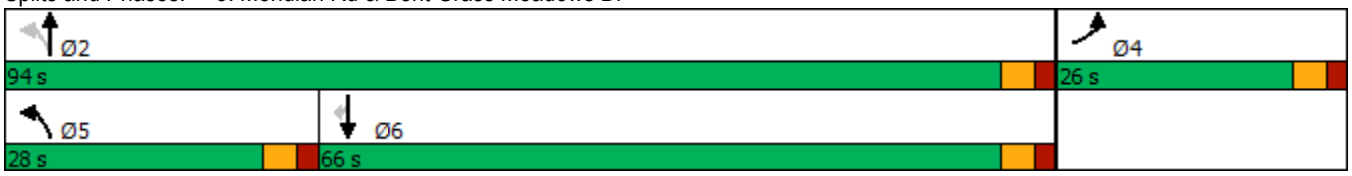
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	249	307	226	663	1755	292
Future Volume (vph)	249	307	226	663	1755	292
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	262	323	238	698	1847	307
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	323	238	698	1847	307

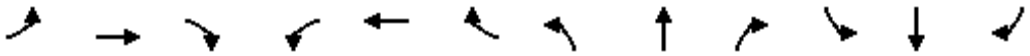
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	249	307	226	663	1755	292
Future Volume (vph)	249	307	226	663	1755	292
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6
Detector Phase	4		5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	10.0		10.0	10.0	10.0	10.0
Total Split (s)	26.0		28.0	94.0	66.0	66.0
Total Split (%)	21.7%		23.3%	78.3%	55.0%	55.0%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	13.8	112.9	89.1	89.1	68.8	68.8
Actuated g/C Ratio	0.12	1.00	0.79	0.79	0.61	0.61
v/c Ratio	0.62	0.20	0.78	0.25	0.86	0.29
Control Delay	53.9	0.3	45.8	3.6	24.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	0.3	45.8	3.6	24.9	3.1
LOS	D	A	D	A	C	A
Approach Delay	24.3			14.3	21.8	
Approach LOS	C			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.9	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 20.3	Intersection LOS: C
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	320	741	74	68	1779	110	164	19	51	98	25	391
Future Volume (vph)	320	741	74	68	1779	110	164	19	51	98	25	391
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.98	0.95	0.95	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	337	756	78	72	1815	116	173	20	54	103	26	412
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	756	78	72	1815	116	173	20	54	103	26	412

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	741	74	68	1779	110	164	19	51	98	25	391
Future Volume (vph)	320	741	74	68	1779	110	164	19	51	98	25	391
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		Free
Detector Phase	5	2	2	1	6	6	3	8	8	7	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	
Minimum Split (s)	10.0	12.0	12.0	10.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	21.0	72.0	72.0	10.0	61.0	61.0	23.0	15.0	15.0	23.0	15.0	
Total Split (%)	17.5%	60.0%	60.0%	8.3%	50.8%	50.8%	19.2%	12.5%	12.5%	19.2%	12.5%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Act Effct Green (s)	15.5	67.3	67.3	63.6	55.5	55.5	24.1	10.3	10.3	17.6	8.1	109.4
Actuated g/C Ratio	0.14	0.62	0.62	0.58	0.51	0.51	0.22	0.09	0.09	0.16	0.07	1.00
v/c Ratio	0.69	0.35	0.08	0.16	1.01	0.13	0.53	0.11	0.18	0.39	0.19	0.26
Control Delay	54.1	12.6	1.1	8.4	52.8	1.5	42.3	48.5	1.3	40.3	53.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	12.6	1.1	8.4	52.8	1.5	42.3	48.5	1.3	40.3	53.6	0.4
LOS	D	B	A	A	D	A	D	D	A	D	D	A
Approach Delay		23.8			48.3			33.8			10.5	
Approach LOS		C			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.4	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 35.0	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage Rd & Woodmen Rd

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	283	165	70	36	1
Future Vol, veh/h	2	283	165	70	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	298	174	74	38	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	513	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	302	-
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	1318	-	-	-	521	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1318	-	-	-	520	829
Mov Cap-2 Maneuver	-	-	-	-	520	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	750	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1318	-	-	-	525
HCM Lane V/C Ratio	0.002	-	-	-	0.074
HCM Control Delay (s)	7.7	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	306	12	218	218	81	17	1	223	27	1	1
Future Vol, veh/h	1	306	12	218	218	81	17	1	223	27	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	155	-	150	0	-	-	100	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	322	13	229	229	85	18	1	235	28	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	314	0	0	335	0	0	1055	1096	322	1179	1067	272
Stage 1	-	-	-	-	-	-	324	324	-	730	730	-
Stage 2	-	-	-	-	-	-	731	772	-	449	337	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1246	-	-	1224	-	-	204	213	719	167	222	767
Stage 1	-	-	-	-	-	-	688	650	-	414	428	-
Stage 2	-	-	-	-	-	-	413	409	-	589	641	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1246	-	-	1224	-	-	174	173	719	96	180	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	270	267	-	96	180	-
Stage 1	-	-	-	-	-	-	687	649	-	414	348	-
Stage 2	-	-	-	-	-	-	334	333	-	396	640	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.6	13	54.8
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	270	714	1246	-	-	1224	-	-	96	292
HCM Lane V/C Ratio	0.066	0.33	0.001	-	-	0.187	-	-	0.296	0.007
HCM Control Delay (s)	19.3	12.5	7.9	-	-	8.6	-	-	57.6	17.4
HCM Lane LOS	C	B	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.2	1.4	0	-	-	0.7	-	-	1.1	0

Intersection	
Int Delay, s/veh	18.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	114	401	5	0	78	0	371	0	0	0
Future Vol, veh/h	0	7	114	401	5	0	78	0	371	0	0	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	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	120	422	5	0	82	0	391	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	165	1	229	165	-	1	0	-	0	0	0
Stage 1	-	1	-	164	164	-	-	-	-	-	-	-
Stage 2	-	164	-	65	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	728	1084	726	728	0	1622	-	0	-	-	-
Stage 1	0	895	-	838	762	0	-	-	0	-	-	-
Stage 2	0	762	-	946	895	0	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	691	1084	616	691	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	691	-	616	691	-	-	-	-	-	-	-
Stage 1	-	895	-	795	723	-	-	-	-	-	-	-
Stage 2	-	723	-	834	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	22.9	7.3	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	1049	617	-	-	-
HCM Lane V/C Ratio	0.051	-	0.121	0.693	-	-	-
HCM Control Delay (s)	7.3	0	8.9	22.9	0	-	-
HCM Lane LOS	A	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	5.5	-	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	143	98	1	152	79
Future Vol, veh/h	1	143	98	1	152	79
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	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	151	103	1	160	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	507	104	0	0	104	0
Stage 1	104	-	-	-	-	-
Stage 2	403	-	-	-	-	-
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	525	951	-	-	1488	-
Stage 1	920	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	951	-	-	1488	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	944	1488	-
HCM Lane V/C Ratio	-	-	0.161	0.108	-
HCM Control Delay (s)	-	-	9.5	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.4	-

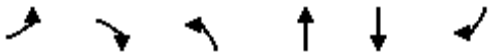
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	105	255	148	18	21	187
Future Vol, veh/h	105	255	148	18	21	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	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	114	277	161	20	23	203

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	181	0	-	0	676	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	505	-
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	1394	-	-	-	419	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	385	873
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1394	-	-	-	385	873
HCM Lane V/C Ratio	0.082	-	-	-	0.059	0.233
HCM Control Delay (s)	7.8	-	-	-	14.9	10.4
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2	0.9



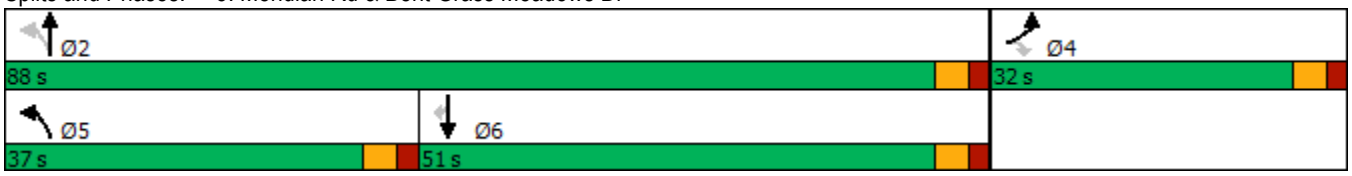
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	470	288	261	1493	1160	219
Future Volume (vph)	470	288	261	1493	1160	219
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	495	303	275	1572	1221	231
Shared Lane Traffic (%)						
Lane Group Flow (vph)	495	303	275	1572	1221	231

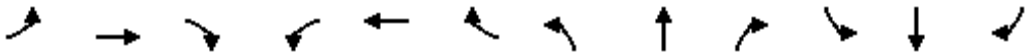
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	470	288	261	1493	1160	219
Future Volume (vph)	470	288	261	1493	1160	219
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)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	32.0	37.0	88.0	51.0	51.0
Total Split (%)	26.7%	26.7%	30.8%	73.3%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	21.8	21.8	83.1	83.1	60.8	60.8
Actuated g/C Ratio	0.19	0.19	0.72	0.72	0.53	0.53
v/c Ratio	0.76	0.55	0.69	0.61	0.65	0.24
Control Delay	52.2	8.5	23.2	9.7	23.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	8.5	23.2	9.7	23.6	3.2
LOS	D	A	C	A	C	A
Approach Delay	35.6			11.7	20.4	
Approach LOS	D			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	447	1640	78	86	1096	121	178	39	72	136	20	388
Future Volume (vph)	447	1640	78	86	1096	121	178	39	72	136	20	388
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.98	0.95	0.95	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	471	1673	82	91	1118	127	187	41	76	143	21	408
Shared Lane Traffic (%)												
Lane Group Flow (vph)	471	1673	82	91	1118	127	187	41	76	143	21	408

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	447	1640	78	86	1096	121	178	39	72	136	20	388
Future Volume (vph)	447	1640	78	86	1096	121	178	39	72	136	20	388
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		Free
Detector Phase	5	2	2	1	6	6	3	8	8	7	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	
Minimum Split (s)	10.0	12.0	12.0	10.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	23.0	64.0	64.0	10.0	51.0	51.0	31.0	15.0	15.0	31.0	15.0	
Total Split (%)	19.2%	53.3%	53.3%	8.3%	42.5%	42.5%	25.8%	12.5%	12.5%	25.8%	12.5%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Act Effct Green (s)	18.6	56.2	56.2	49.2	40.8	40.8	24.5	9.4	9.4	17.6	7.9	98.8
Actuated g/C Ratio	0.19	0.57	0.57	0.50	0.41	0.41	0.25	0.10	0.10	0.18	0.08	1.00
v/c Ratio	0.73	0.83	0.09	0.48	0.76	0.17	0.47	0.23	0.25	0.45	0.14	0.26
Control Delay	47.9	24.6	1.5	22.6	29.8	2.6	35.5	48.6	1.9	39.4	49.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	24.6	1.5	22.6	29.8	2.6	35.5	48.6	1.9	39.4	49.4	0.4
LOS	D	C	A	C	C	A	D	D	A	D	D	A
Approach Delay		28.7			26.8			28.9			11.9	
Approach LOS		C			C			C			B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 98.8		
Natural Cycle: 70		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.83		
Intersection Signal Delay: 25.9	Intersection LOS: C	
Intersection Capacity Utilization 78.3%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 25: Golden Sage Rd & Woodmen Rd

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	178	218	52	94	4
Future Vol, veh/h	1	178	218	52	94	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	187	229	55	99	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	284	0	-	0	446	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	189	-
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	1278	-	-	-	570	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1278	-	-	-	569	782
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1278	-	-	-	575
HCM Lane V/C Ratio	0.001	-	-	-	0.179
HCM Control Delay (s)	7.8	-	-	-	12.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	44.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	264	8	172	250	58	19	2	428	67	2	1
Future Vol, veh/h	1	264	8	172	250	58	19	2	428	67	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	155	-	150	0	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	278	8	181	263	61	20	2	451	71	2	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	286	0	0	937	966	278	1167	944	294
Stage 1	-	-	-	-	-	-	280	280	-	656	656	-
Stage 2	-	-	-	-	-	-	657	686	-	511	288	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1236	-	-	1276	-	-	245	255	761	171	262	745
Stage 1	-	-	-	-	-	-	727	679	-	454	462	-
Stage 2	-	-	-	-	-	-	454	448	-	545	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1236	-	-	1276	-	-	217	219	761	~ 62	225	745
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	310	-	~ 35	301	-
Stage 1	-	-	-	-	-	-	726	678	-	454	396	-
Stage 2	-	-	-	-	-	-	387	384	-	221	673	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3	16.6	$ 687.5
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	314	756	1236	-	-	1276	-	-	35	376
HCM Lane V/C Ratio	0.064	0.599	0.001	-	-	0.142	-	-	2.015	0.008
HCM Control Delay (s)	17.2	16.6	7.9	-	-	8.3	-	-	$ 717.6	14.7
HCM Lane LOS	C	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	4	0	-	-	0.5	-	-	7.8	0

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

Intersection	
Int Delay, s/veh	37.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	101	443	12	0	132	0	474	0	0	0
Future Vol, veh/h	0	11	101	443	12	0	132	0	474	0	0	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	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	106	466	13	0	139	0	499	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	279	1	338	279	-	1	0	-	0	0	0
Stage 1	-	1	-	278	278	-	-	-	-	-	-	-
Stage 2	-	278	-	60	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	629	1084	616	629	0	1622	-	0	-	-	-
Stage 1	0	895	-	728	680	0	-	-	0	-	-	-
Stage 2	0	680	-	951	895	0	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	575	1084	511	575	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	575	-	511	575	-	-	-	-	-	-	-
Stage 1	-	895	-	665	622	-	-	-	-	-	-	-
Stage 2	-	622	-	847	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	53.4	7.4	0
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	997	513	-	-	-
HCM Lane V/C Ratio	0.086	-	0.118	0.934	-	-	-
HCM Control Delay (s)	7.4	0	9.1	53.4	0	-	-
HCM Lane LOS	A	A	A	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	11.4	-	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	116	333	2	107	76
Future Vol, veh/h	2	116	333	2	107	76
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	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	122	351	2	113	80

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	658	352	0	0	353	0
Stage 1	352	-	-	-	-	-
Stage 2	306	-	-	-	-	-
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	429	692	-	-	1206	-
Stage 1	712	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	389	692	-	-	1206	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	683	1206	-
HCM Lane V/C Ratio	-	-	0.182	0.093	-
HCM Control Delay (s)	-	-	11.4	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

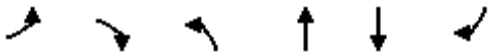
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	192	199	239	49	12	164
Future Vol, veh/h	192	199	239	49	12	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	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	209	216	260	53	13	178

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	313	0	-	0	921	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	634	-
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	1247	-	-	-	300	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1247	-	-	-	250	752
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1247	-	-	-	250	752
HCM Lane V/C Ratio	0.167	-	-	-	0.052	0.237
HCM Control Delay (s)	8.5	-	-	-	20.2	11.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.2	0.9



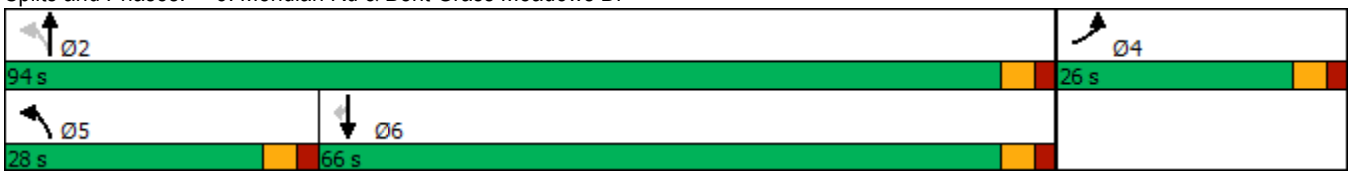
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	298	381	293	644	1711	381
Future Volume (vph)	298	381	293	644	1711	381
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	314	401	308	678	1801	401
Shared Lane Traffic (%)						
Lane Group Flow (vph)	314	401	308	678	1801	401

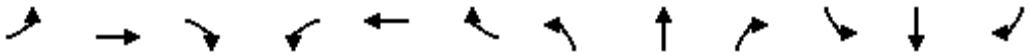
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	298	381	293	644	1711	381
Future Volume (vph)	298	381	293	644	1711	381
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6
Detector Phase	4		5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	10.0		10.0	10.0	10.0	10.0
Total Split (s)	26.0		28.0	94.0	66.0	66.0
Total Split (%)	21.7%		23.3%	78.3%	55.0%	55.0%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	15.7	114.8	89.1	89.1	65.0	65.0
Actuated g/C Ratio	0.14	1.00	0.78	0.78	0.57	0.57
v/c Ratio	0.67	0.25	0.86	0.25	0.90	0.38
Control Delay	54.4	0.4	54.7	4.0	30.8	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	0.4	54.7	4.0	30.8	3.4
LOS	D	A	D	A	C	A
Approach Delay	24.1			19.9	25.8	
Approach LOS	C			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.8	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 24.0	Intersection LOS: C
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	325	746	74	68	1782	110	164	20	51	98	26	395
Future Volume (vph)	325	746	74	68	1782	110	164	20	51	98	26	395
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.98	0.95	0.95	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	342	761	78	72	1818	116	173	21	54	103	27	416
Shared Lane Traffic (%)												
Lane Group Flow (vph)	342	761	78	72	1818	116	173	21	54	103	27	416

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	746	74	68	1782	110	164	20	51	98	26	395
Future Volume (vph)	325	746	74	68	1782	110	164	20	51	98	26	395
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		Free
Detector Phase	5	2	2	1	6	6	3	8	8	7	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	
Minimum Split (s)	10.0	12.0	12.0	10.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	21.0	72.0	72.0	10.0	61.0	61.0	23.0	15.0	15.0	23.0	15.0	
Total Split (%)	17.5%	60.0%	60.0%	8.3%	50.8%	50.8%	19.2%	12.5%	12.5%	19.2%	12.5%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Act Effct Green (s)	15.5	67.4	67.4	63.6	55.5	55.5	24.2	10.4	10.4	17.6	8.2	109.5
Actuated g/C Ratio	0.14	0.62	0.62	0.58	0.51	0.51	0.22	0.09	0.09	0.16	0.07	1.00
v/c Ratio	0.70	0.35	0.08	0.16	1.01	0.13	0.53	0.12	0.18	0.39	0.19	0.26
Control Delay	54.4	12.6	1.1	8.5	53.6	1.5	42.2	48.6	1.3	40.3	53.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	12.6	1.1	8.5	53.6	1.5	42.2	48.6	1.3	40.3	53.7	0.4
LOS	D	B	A	A	D	A	D	D	A	D	D	A
Approach Delay		24.0			49.0			33.9			10.6	
Approach LOS		C			D			C			B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 109.5		
Natural Cycle: 90		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 1.01		
Intersection Signal Delay: 35.4	Intersection LOS: D	
Intersection Capacity Utilization 86.0%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 25: Golden Sage Rd & Woodmen Rd

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	285	6	61	168	70	4	1	45	36	1	1
Future Vol, veh/h	2	285	6	61	168	70	4	1	45	36	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	155	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	300	6	64	177	74	4	1	47	38	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	306	0	0	650	686	303	673	652	214
Stage 1	-	-	-	-	-	-	307	307	-	342	342	-
Stage 2	-	-	-	-	-	-	343	379	-	331	310	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1255	-	-	382	370	737	369	387	826
Stage 1	-	-	-	-	-	-	703	661	-	673	638	-
Stage 2	-	-	-	-	-	-	672	615	-	682	659	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1255	-	-	366	350	737	331	366	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	366	350	-	331	366	-
Stage 1	-	-	-	-	-	-	702	660	-	672	605	-
Stage 2	-	-	-	-	-	-	636	584	-	636	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.6	10.9	17.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	668	1314	-	-	1255	-	-	337
HCM Lane V/C Ratio	0.079	0.002	-	-	0.051	-	-	0.119
HCM Control Delay (s)	10.9	7.7	-	-	8	-	-	17.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-	-	0.4

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	350	15	313	279	81	19	1	301	27	1	1
Future Vol, veh/h	1	350	15	313	279	81	19	1	301	27	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	150	0	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	368	16	329	294	85	20	1	317	28	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	384	0	0	1366	1407	368	1532	1381	337
Stage 1	-	-	-	-	-	-	370	370	-	995	995	-
Stage 2	-	-	-	-	-	-	996	1037	-	537	386	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1179	-	-	1174	-	-	124	139	677	95	144	705
Stage 1	-	-	-	-	-	-	650	620	-	295	323	-
Stage 2	-	-	-	-	-	-	294	308	-	528	610	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1179	-	-	1174	-	-	96	100	677	39	104	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	181	-	~ -87	163	-
Stage 1	-	-	-	-	-	-	649	619	-	295	233	-
Stage 2	-	-	-	-	-	-	210	222	-	280	609	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.3	15.9	
HCM LOS			C	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	173	671	1179	-	-	1174	-	-	+	265
HCM Lane V/C Ratio	0.116	0.474	0.001	-	-	0.281	-	-	-	0.008
HCM Control Delay (s)	28.5	15.1	8.1	-	-	9.3	-	-	-	18.7
HCM Lane LOS	D	C	A	-	-	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	2.6	0	-	-	1.2	-	-	-	0

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

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #1 7:00

Lane	EB	EB	WB	WB	NB	NB	SB	All
Movements Served	T	R	L	TR	L	TR	L	
Stop Del/Veh (s)	0.1	0.1	3.7	0.3	38.7	5.8	21.5	3.3

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #2 7:15

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.1	0.2	5.1	0.3	23.9	6.6	22.9	10.1	3.4

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #3 7:30

Lane	EB	EB	WB	WB	NB	NB	SB	All
Movements Served	T	R	L	TR	L	TR	L	
Stop Del/Veh (s)	0.1	0.0	3.7	0.3	25.5	7.5	21.3	3.5

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #4 7:45

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.1	0.2	3.6	0.4	30.7	4.6	20.8	13.8	2.7

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Entire Run

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.1	0.1	4.1	0.3	28.6	6.2	23.4	11.9	3.3

Intersection	
Int Delay, s/veh	18.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	8	114	405	6	0	78	0	377	0	0	0
Future Vol, veh/h	0	8	114	405	6	0	78	0	377	0	0	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	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	120	426	6	0	82	0	397	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	165	1	229	165	-	1	0	-	0	0	0
Stage 1	-	1	-	164	164	-	-	-	-	-	-	-
Stage 2	-	164	-	65	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	728	1084	726	728	0	1622	-	0	-	-	-
Stage 1	0	895	-	838	762	0	-	-	0	-	-	-
Stage 2	0	762	-	946	895	0	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	691	1084	615	691	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	691	-	615	691	-	-	-	-	-	-	-
Stage 1	-	895	-	795	723	-	-	-	-	-	-	-
Stage 2	-	723	-	833	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	23.4	7.3	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	1045	616	-	-	-
HCM Lane V/C Ratio	0.051	-	0.123	0.702	-	-	-
HCM Control Delay (s)	7.3	0	8.9	23.4	0	-	-
HCM Lane LOS	A	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	5.7	-	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	0	1	1	0	143	1	98	1	152	79	97
Future Vol, veh/h	80	0	1	1	0	143	1	98	1	152	79	97
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	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	0	1	1	0	151	1	103	1	160	83	102

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	635	560	134	561	611	104	185	0	0	104	0	0
Stage 1	454	454	-	106	106	-	-	-	-	-	-	-
Stage 2	181	106	-	455	505	-	-	-	-	-	-	-
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	391	437	915	438	409	951	1390	-	-	1488	-	-
Stage 1	586	569	-	900	807	-	-	-	-	-	-	-
Stage 2	821	807	-	585	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	302	389	915	401	364	951	1390	-	-	1488	-	-
Mov Cap-2 Maneuver	302	389	-	401	364	-	-	-	-	-	-	-
Stage 1	585	508	-	899	806	-	-	-	-	-	-	-
Stage 2	691	806	-	521	482	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.3	9.6	0.1	3.6
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	305	942	1488	-	-
HCM Lane V/C Ratio	0.001	-	-	0.28	0.161	0.108	-	-
HCM Control Delay (s)	7.6	-	-	21.3	9.6	7.7	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0.6	0.4	-	-

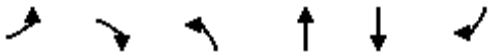
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	112	255	148	18	21	192
Future Vol, veh/h	112	255	148	18	21	192
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	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	122	277	161	20	23	209

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	181	0	-	0	692	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	521	-
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	1394	-	-	-	410	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	596	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	374	873
Mov Cap-2 Maneuver	-	-	-	-	374	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1394	-	-	-	374	873
HCM Lane V/C Ratio	0.087	-	-	-	0.061	0.239
HCM Control Delay (s)	7.8	-	-	-	15.3	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2	0.9



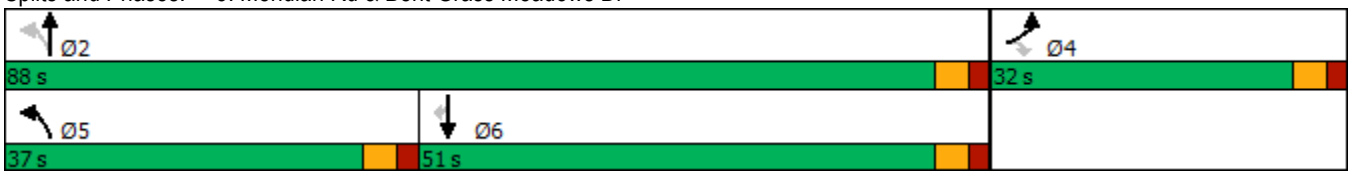
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	549	356	338	1457	1137	280
Future Volume (vph)	549	356	338	1457	1137	280
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	578	375	356	1534	1197	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	578	375	356	1534	1197	295

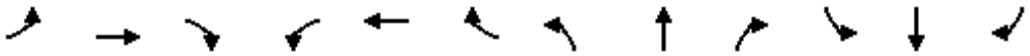
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	549	356	338	1457	1137	280
Future Volume (vph)	549	356	338	1457	1137	280
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)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	32.0	32.0	37.0	88.0	51.0	51.0
Total Split (%)	26.7%	26.7%	30.8%	73.3%	42.5%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	24.2	24.2	83.1	83.1	55.0	55.0
Actuated g/C Ratio	0.21	0.21	0.71	0.71	0.47	0.47
v/c Ratio	0.82	0.60	0.79	0.61	0.72	0.33
Control Delay	54.6	8.3	37.1	10.4	30.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	8.3	37.1	10.4	30.2	3.8
LOS	D	A	D	B	C	A
Approach Delay	36.4			15.5	25.0	
Approach LOS	D			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.3	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	451	1644	78	86	1100	121	178	40	72	136	21	393
Future Volume (vph)	451	1644	78	86	1100	121	178	40	72	136	21	393
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.98	0.95	0.95	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	475	1678	82	91	1122	127	187	42	76	143	22	414
Shared Lane Traffic (%)												
Lane Group Flow (vph)	475	1678	82	91	1122	127	187	42	76	143	22	414

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	451	1644	78	86	1100	121	178	40	72	136	21	393
Future Volume (vph)	451	1644	78	86	1100	121	178	40	72	136	21	393
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		8	4		Free
Detector Phase	5	2	2	1	6	6	3	8	8	7	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	
Minimum Split (s)	10.0	12.0	12.0	10.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	23.0	64.0	64.0	10.0	51.0	51.0	31.0	15.0	15.0	31.0	15.0	
Total Split (%)	19.2%	53.3%	53.3%	8.3%	42.5%	42.5%	25.8%	12.5%	12.5%	25.8%	12.5%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Act Effct Green (s)	18.6	56.3	56.3	49.2	40.9	40.9	24.5	9.4	9.4	17.6	8.0	98.9
Actuated g/C Ratio	0.19	0.57	0.57	0.50	0.41	0.41	0.25	0.10	0.10	0.18	0.08	1.00
v/c Ratio	0.74	0.83	0.09	0.49	0.77	0.17	0.47	0.24	0.25	0.45	0.15	0.26
Control Delay	48.2	24.7	1.5	23.0	29.9	2.6	35.5	48.8	1.9	39.4	49.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	24.7	1.5	23.0	29.9	2.6	35.5	48.8	1.9	39.4	49.5	0.4
LOS	D	C	A	C	C	A	D	D	A	D	D	A
Approach Delay		28.8			26.9			29.0			11.9	
Approach LOS		C			C			C			B	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 98.9		
Natural Cycle: 70		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.83		
Intersection Signal Delay: 26.0	Intersection LOS: C	
Intersection Capacity Utilization 78.4%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 25: Golden Sage Rd & Woodmen Rd

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	181	6	54	222	52	6	2	56	94	2	4
Future Vol, veh/h	1	181	6	54	222	52	6	2	56	94	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	155	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	191	6	57	234	55	6	2	59	99	2	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	197	0	0	575	599	194	603	575	262
Stage 1	-	-	-	-	-	-	196	196	-	376	376	-
Stage 2	-	-	-	-	-	-	379	403	-	227	199	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1273	-	-	1376	-	-	429	415	847	411	429	777
Stage 1	-	-	-	-	-	-	806	739	-	645	616	-
Stage 2	-	-	-	-	-	-	643	600	-	776	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1273	-	-	1376	-	-	411	398	847	369	411	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	398	-	369	411	-
Stage 1	-	-	-	-	-	-	805	738	-	644	591	-
Stage 2	-	-	-	-	-	-	611	575	-	719	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	10.3	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	746	1273	-	-	1376	-	-	378
HCM Lane V/C Ratio	0.09	0.001	-	-	0.041	-	-	0.278
HCM Control Delay (s)	10.3	7.8	-	-	7.7	-	-	18.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	1.1

Intersection	
Int Delay, s/veh	85.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	321	10	257	303	58	23	3	517	67	3	1
Future Vol, veh/h	1	321	10	257	303	58	23	3	517	67	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	150	0	-	-	100	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	338	11	271	319	61	24	3	544	71	3	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	349	0	0	1234	1262	338	1511	1243	350
Stage 1	-	-	-	-	-	-	340	340	-	892	892	-
Stage 2	-	-	-	-	-	-	894	922	-	619	351	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1178	-	-	1210	-	-	153	170	704	99	174	693
Stage 1	-	-	-	-	-	-	675	639	-	337	360	-
Stage 2	-	-	-	-	-	-	336	349	-	476	632	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1210	-	-	124	132	704	~ 18	135	693
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	219	-	~ 18	135	-
Stage 1	-	-	-	-	-	-	674	638	-	337	279	-
Stage 2	-	-	-	-	-	-	257	271	-	107	631	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.7	26.5	$ 1650
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	210	695	1178	-	-	1210	-	-	18	169
HCM Lane V/C Ratio	0.115	0.788	0.001	-	-	0.224	-	-	3.918	0.025
HCM Control Delay (s)	24.4	26.6	8.1	-	-	8.8	-	-	$ 1746.9	26.8
HCM Lane LOS	C	D	A	-	-	A	-	-	F	D
HCM 95th %tile Q(veh)	0.4	7.8	0	-	-	0.9	-	-	9.4	0.1

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

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #1 5:00

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.2	0.0	2.8	0.3	15.3	16.3	26.5	5.8	7.6

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #2 5:15

Lane	EB	EB	WB	WB	NB	NB	SB	All
Movements Served	T	R	L	TR	L	TR	L	
Stop Del/Veh (s)	0.3	0.0	3.6	0.3	23.3	16.4	32.0	8.1

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #3 5:30

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.3	0.0	3.7	0.3	24.2	20.4	32.2	4.0	9.7

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Interval #4 5:45

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.4	0.1	3.4	0.3	28.4	23.1	29.8	3.1	10.5

20: Meridian Park Dr & Bent Grass Meadows Dr Performance by lane Entire Run

Lane	EB	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	T	R	L	TR	L	TR	L	TR	
Stop Del/Veh (s)	0.3	0.0	3.4	0.3	22.9	19.5	30.9	5.7	9.1

Intersection	
Int Delay, s/veh	41

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	101	450	13	0	134	0	479	0	0	0
Future Vol, veh/h	0	11	101	450	13	0	134	0	479	0	0	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	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	106	474	14	0	141	0	504	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	283	1	342	283	-	1	0	-	0	0	0
Stage 1	-	1	-	282	282	-	-	-	-	-	-	-
Stage 2	-	282	-	60	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	626	1084	612	626	0	1622	-	0	-	-	-
Stage 1	0	895	-	725	678	0	-	-	0	-	-	-
Stage 2	0	678	-	951	895	0	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	572	1084	507	572	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	-	572	-	507	572	-	-	-	-	-	-	-
Stage 1	-	895	-	662	619	-	-	-	-	-	-	-
Stage 2	-	619	-	847	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	58.5	7.4	0
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	996	509	-	-	-
HCM Lane V/C Ratio	0.087	-	0.118	0.958	-	-	-
HCM Control Delay (s)	7.4	0	9.1	58.5	0	-	-
HCM Lane LOS	A	A	A	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	12.2	-	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	0	1	2	0	116	1	333	2	107	76	88
Future Vol, veh/h	93	0	1	2	0	116	1	333	2	107	76	88
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	-	-	-	-	-	-	100	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	0	1	2	0	122	1	351	2	113	80	93

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	768	708	127	707	753	352	173	0	0	353	0	0
Stage 1	353	353	-	354	354	-	-	-	-	-	-	-
Stage 2	415	355	-	353	399	-	-	-	-	-	-	-
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	319	360	923	350	339	692	1404	-	-	1206	-	-
Stage 1	664	631	-	663	630	-	-	-	-	-	-	-
Stage 2	615	630	-	664	602	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	244	326	923	324	307	692	1404	-	-	1206	-	-
Mov Cap-2 Maneuver	244	326	-	324	307	-	-	-	-	-	-	-
Stage 1	663	572	-	662	629	-	-	-	-	-	-	-
Stage 2	506	629	-	601	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.1	11.5	0	3.3
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	246	679	1206	-	-
HCM Lane V/C Ratio	0.001	-	-	0.402	0.183	0.093	-	-
HCM Control Delay (s)	7.6	-	-	29.1	11.5	8.3	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.7	0.3	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	199	239	49	12	171
Future Vol, veh/h	198	199	239	49	12	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	155	-	-	-	155	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	215	216	260	53	13	186

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	313	0	-	0	933	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	646	-
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	1247	-	-	-	295	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	522	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1247	-	-	-	244	752
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	522	-

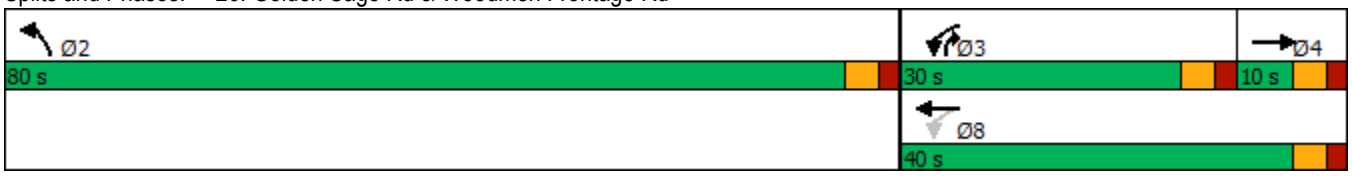
Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1247	-	-	-	244	752
HCM Lane V/C Ratio	0.173	-	-	-	0.053	0.247
HCM Control Delay (s)	8.5	-	-	-	20.6	11.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.2	1

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	8	401	6	78	370
Future Volume (vph)	8	401	6	78	370
Turn Type	NA	pm+pt	NA	Prot	Over
Protected Phases	4	3	8	2	3
Permitted Phases		8			
Detector Phase	4	3	8	2	3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	80.0	30.0
Total Split (%)	8.3%	25.0%	33.3%	66.7%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	None	None	None	Min	None
Act Effct Green (s)	20.3		36.0	9.4	13.9
Actuated g/C Ratio	0.38		0.67	0.18	0.26
v/c Ratio	0.19		0.49	0.57	0.41
Control Delay	3.9		6.4	13.5	6.3
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	3.9		6.4	13.5	6.3
LOS	A		A	B	A
Approach Delay	3.9		6.4	10.0	
Approach LOS	A		A	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 53.5	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 7.8	Intersection LOS: A
Intersection Capacity Utilization 51.9%	ICU Level of Service A
Analysis Period (min) 15	

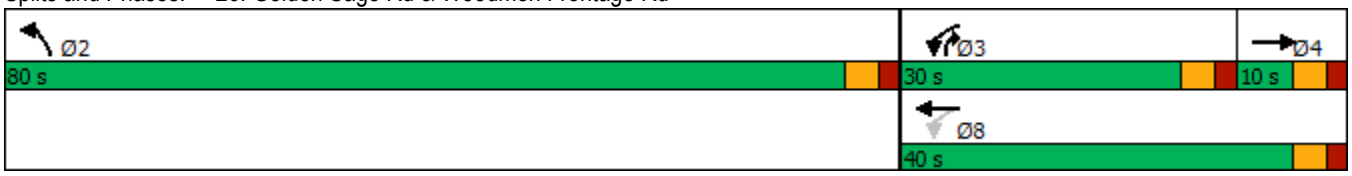
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	8	401	6	78	370
Future Volume (vph)	8	401	6	78	370
Turn Type	NA	pm+pt	NA	Prot	Over
Protected Phases	4	3	8	2	3
Permitted Phases		8			
Detector Phase	4	3	8	2	3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	80.0	30.0
Total Split (%)	8.3%	25.0%	33.3%	66.7%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	None	None	None	Min	None
Act Effct Green (s)	20.1		36.0	8.8	14.0
Actuated g/C Ratio	0.38		0.68	0.17	0.27
v/c Ratio	0.18		0.49	0.28	0.55
Control Delay	3.8		5.8	21.8	6.1
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	3.8		5.8	21.8	6.1
LOS	A		A	C	A
Approach Delay	3.8		5.8	8.9	
Approach LOS	A		A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 52.8	
Natural Cycle: 40	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 7.0	Intersection LOS: A
Intersection Capacity Utilization 44.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Intersection	
Intersection Delay, s/veh	3.5
Intersection LOS	A

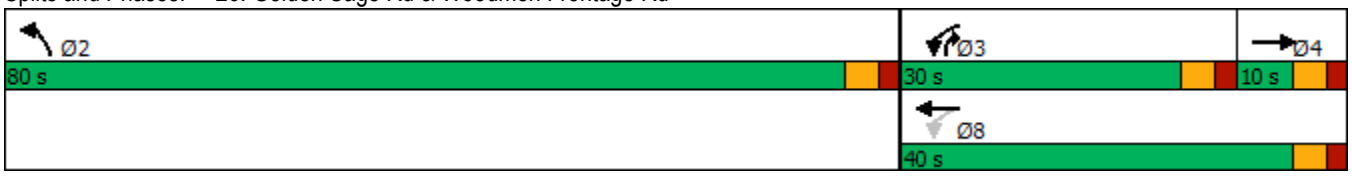
Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	128	428	471
Demand Flow Rate, veh/h	130	436	481
Vehicles Circulating, veh/h	430	84	8
Vehicles Exiting, veh/h	90	8	552
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.5	6.1	0.6
Approach LOS	A	A	A

Lane	Left	Left	Left	Bypass
Designated Moves	TR	LT	L	R
Assumed Moves	TR	LT	L	R
RT Channelized				Free
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	397
Entry Flow, veh/h	130	436	84	1938
Cap Entry Lane, veh/h	890	1267	1369	0.980
Entry HV Adj Factor	0.983	0.981	0.976	389
Flow Entry, veh/h	128	428	82	1900
Cap Entry, veh/h	875	1243	1336	0.205
V/C Ratio	0.146	0.344	0.061	0.0
Control Delay, s/veh	5.5	6.1	3.2	A
LOS	A	A	A	1
95th %tile Queue, veh	1	2	0	

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	12	446	14	134	474
Future Volume (vph)	12	446	14	134	474
Turn Type	NA	pm+pt	NA	Prot	Over
Protected Phases	4	3	8	2	3
Permitted Phases		8			
Detector Phase	4	3	8	2	3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	80.0	30.0
Total Split (%)	8.3%	25.0%	33.3%	66.7%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	None	None	None	Min	None
Act Effct Green (s)	19.8		36.1	14.2	14.5
Actuated g/C Ratio	0.34		0.62	0.24	0.25
v/c Ratio	0.19		0.60	0.67	0.52
Control Delay	5.4		10.6	20.2	6.9
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	5.4		10.6	20.2	6.9
LOS	A		B	C	A
Approach Delay	5.4		10.6	13.7	
Approach LOS	A		B	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 58.4	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 11.7	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

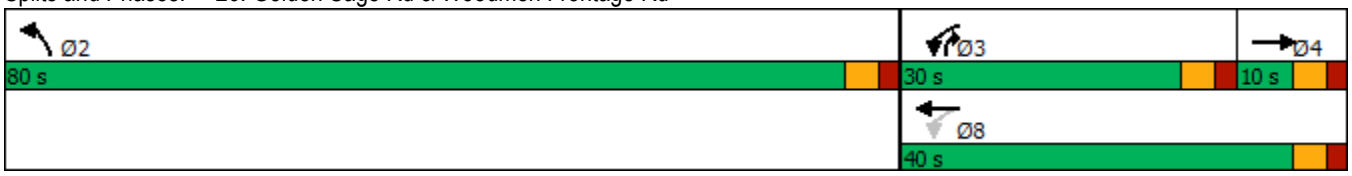
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	12	446	14	134	474
Future Volume (vph)	12	446	14	134	474
Turn Type	NA	pm+pt	NA	Prot	Over
Protected Phases	4	3	8	2	3
Permitted Phases		8			
Detector Phase	4	3	8	2	3
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	80.0	30.0
Total Split (%)	8.3%	25.0%	33.3%	66.7%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	None	None	None	Min	None
Act Effct Green (s)	19.6		36.0	10.6	14.5
Actuated g/C Ratio	0.36		0.66	0.19	0.27
v/c Ratio	0.18		0.56	0.41	0.63
Control Delay	4.7		7.6	23.1	6.7
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	4.7		7.6	23.1	6.7
LOS	A		A	C	A
Approach Delay	4.7		7.6	10.3	
Approach LOS	A		A	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 54.6	
Natural Cycle: 45	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 46.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	119	484	640
Demand Flow Rate, veh/h	121	493	653
Vehicles Circulating, veh/h	478	144	13
Vehicles Exiting, veh/h	159	13	586
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.8	7.3	0.8
Approach LOS	A	A	A

Lane	Left	Left	Left	Bypass
Designated Moves	TR	LT	L	R
Assumed Moves	TR	LT	L	R
RT Channelized				Free
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	509
Entry Flow, veh/h	121	493	144	1938
Cap Entry Lane, veh/h	847	1191	1362	0.980
Entry HV Adj Factor	0.981	0.981	0.979	499
Flow Entry, veh/h	119	484	141	1900
Cap Entry, veh/h	832	1169	1333	0.263
V/C Ratio	0.143	0.414	0.106	0.0
Control Delay, s/veh	5.8	7.3	3.5	A
LOS	A	A	A	1
95th %tile Queue, veh	0	2	0	

Queuing and Blocking Report

Intersection: 19: West Site Access/Future Access & Bent Grass Meadows Dr

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	55	50	61
Average Queue (ft)	11	26	25
95th Queue (ft)	39	47	50
Link Distance (ft)		267	287
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	110		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 20: Meridian Park Dr & Bent Grass Meadows Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	T	R	L	L	TR	L	TR
Maximum Queue (ft)	16	12	166	52	133	80	18
Average Queue (ft)	1	1	67	16	74	25	1
95th Queue (ft)	6	8	123	45	120	63	12
Link Distance (ft)	327		341	160	160	260	260
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)		150					
Storage Blk Time (%)							
Queuing Penalty (veh)							

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report

Intersection: 19: West Site Access/Future Access & Bent Grass Meadows Dr

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	30	64	90
Average Queue (ft)	6	31	40
95th Queue (ft)	25	54	69
Link Distance (ft)		267	287
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	110		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 20: Meridian Park Dr & Bent Grass Meadows Dr

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	67	12	121	15	125	195	142	35
Average Queue (ft)	4	1	54	1	39	143	50	4
95th Queue (ft)	31	6	105	11	118	213	105	22
Link Distance (ft)	480		271	271		182	259	259
Upstream Blk Time (%)						5		
Queuing Penalty (veh)						22		
Storage Bay Dist (ft)		150			100			
Storage Blk Time (%)	0				0	46		
Queuing Penalty (veh)	0				1	11		

Zone Summary

Zone wide Queuing Penalty: 33

Queuing Reports

TRANSPORTATION
CONSULTANTS, INC.

Queuing and Blocking Report

Intersection: 19: West Site Access/Future Access & Bent Grass Meadows Dr

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	55	50	61
Average Queue (ft)	11	26	25
95th Queue (ft)	39	47	50
Link Distance (ft)		267	287
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	110		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 20: Meridian Park Dr & Bent Grass Meadows Dr

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	T	R	L	L	TR	L	TR
Maximum Queue (ft)	16	12	166	52	133	80	18
Average Queue (ft)	1	1	67	16	74	25	1
95th Queue (ft)	6	8	123	45	120	63	12
Link Distance (ft)	327		341	160	160	260	260
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)		150					
Storage Blk Time (%)							
Queuing Penalty (veh)							

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report

Intersection: 29: Meridian Park Dr & Proposed Site Access/7-Eleven S Access

Movement	EB	WB	SB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	70	76	57
Average Queue (ft)	37	39	15
95th Queue (ft)	60	65	47
Link Distance (ft)	127	148	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			50
Storage Blk Time (%)			0
Queuing Penalty (veh)			1

Queuing and Blocking Report

Intersection: 19: West Site Access/Future Access & Bent Grass Meadows Dr

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	30	64	90
Average Queue (ft)	6	31	40
95th Queue (ft)	25	54	69
Link Distance (ft)		267	287
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	110		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 20: Meridian Park Dr & Bent Grass Meadows Dr

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	T	R	L	TR	L	TR	L	TR
Maximum Queue (ft)	67	12	121	15	125	195	142	35
Average Queue (ft)	4	1	54	1	39	143	50	4
95th Queue (ft)	31	6	105	11	118	213	105	22
Link Distance (ft)	480		271	271		182	259	259
Upstream Blk Time (%)						5		
Queuing Penalty (veh)						22		
Storage Bay Dist (ft)		150			100			
Storage Blk Time (%)	0				0	46		
Queuing Penalty (veh)	0				1	11		

Zone Summary

Zone wide Queuing Penalty: 33

Queuing and Blocking Report

Intersection: 29: Meridian Park Dr & Proposed Site Access/7-Eleven S Access

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	TR	L	TR
Maximum Queue (ft)	125	124	125	62	35
Average Queue (ft)	49	57	26	24	1
95th Queue (ft)	90	112	93	55	23
Link Distance (ft)	208	119	186		182
Upstream Blk Time (%)		5	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)				50	
Storage Blk Time (%)			1	1	
Queuing Penalty (veh)			0	1	