



Engineering Review

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Bent Grass Residential Filing No. 2

Traffic Impact Study

PCD File No.: SF-1914

(LSC #194460)

January 24, 2020

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.

A blue ink signature of the developer, written over a horizontal line.

JAN. 25, 2020

Date



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January 24, 2020

Jim Byers
VP of Community Development
Challenger Homes
8605 Explorer Dr, Suite 250
Colorado Springs, CO 80920

RE: Bent Grass Residential Filing No. 2
El Paso County, Colorado
Traffic Impact Analysis
LSC #194460

Dear Jim:

LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the Bent Grass Residential Filing No. 2. The site is located about one-half mile west of the intersection of Meridian Road and Bent Grass Meadows Drive in El Paso County, Colorado. Figure 1 shows the site location. LSC has completed the following studies in the vicinity of the 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 Subdivision Filing 1 Updated Traffic Impact Analysis* -- July 14, 2014
- *Bent Grass East Commercial Filing No. 2 Updated Traffic Impact Analysis* -- July 17, 2014
- *Falcon Dental East Commercial Filing No. 2A* -- March 7, 2016
- *Bent Grass Meadows Drive/Meridian Road Traffic Signal Warrant Analysis* -- October 2, 2017
- *Bent Grass East Commercial/Bent Grass Meadows Drive & Meridian Road Transportation Memorandum* March -- 21, 2019
- *Falcon Marketplace Traffic Impact Analysis* -- October 23, 2017 (September 5, 2018 Revision)

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 additional 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 Drive, Woodmen frontage road/Bent Grass Meadows Drive, and Woodmen Road/Golden Sage Drive and at the site access points to Bent Grass Meadows Drive
- A vehicle queueing analysis at the key study area intersections
- Recommendations for roadway improvements and phasing of these improvements

LAND USE

Figure 2 shows the existing, currently proposed, and future land uses in the vicinity of the site. The area south of Bent Grass Meadows Drive includes 104 existing single-family homes that are part of Bent Grass Residential Filing No 1 and the Bent Grass East Commercial development. The Bent Grass East Commercial development is partially developed with a veterinary clinic, a gas station with convenience store, and a dental clinic.

Bent Grass Residential Filing No. 2 is planned to include an additional 178 lots for single family homes just west of the existing Filing No. 1 lots. Bent Grass Meadows Drive is planned to be completed between the existing sections located north of the Woodmen frontage road and west of Meridian. Two full-movement access points are proposed to the new section of Bent Grass Meadows Drive. Figure 2 shows the location of the proposed access points.

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.

- **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. 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 with this 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 the development.

- **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.

Existing Traffic Conditions

Figure 3 shows the existing morning and afternoon peak-hour traffic volumes at the intersections of Meridian Road/Bent Grass Meadows Drive, Woodmen frontage road/Bent Grass Meadows Drive and Woodmen Road/Golden Sage Road. The traffic volumes are from traffic counts conducted September 2018, May 2019 and January 2020. 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 | Unsignalized Intersections |
| | Average Control Delay (seconds per vehicle) | 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 | | |

The intersections of Meridian Road/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 3 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.

All movements at the intersections of 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.

TEMPORARY 7-ELEVEN ACCESS

The access to 7-Eleven on Bent Grass Meadows Drive was permitted and constructed as a temporary access and will be allowed to remain open with continued use subject to reevaluation should the following occur (from the deviation report submitted):

...traffic operational problems caused by increased traffic volumes begin to occur 2) crash experience of 5 or more crashes during a one-year time period of type that could be corrected through access closure or 3) the volume "trigger points" established in this deviation are reached. Should any of these occur, traffic engineering evaluation of the access would be conducted to determine if 1) the operational and/or problems either occurring or imminently likely with additional traffic volumes are caused by motorists turning in and out of the access 2) the problems can be remedied through design and modification of the access or 3) as a last resort, the access must be closed.

Volume trigger points proposed are peak-hour volumes using Bent Grass Meadows Drive just west of Meridian Road. A trigger volume of 200 entering and 200 exiting peak-hour trips is the point at which reevaluation should occur, as per the foregoing. This 200 is comprised of 89 entering and 89 exiting trips generated by the convenience store/gas station and 110 trips entering and 110 trips exiting to be generated by other commercial lots within the Preliminary Plan area.

To develop the triggers identified above, the SimTraffic traffic simulation model used in the Preliminary Plan traffic study was modified for short-term conditions with the proposed temporary access point. Traffic volumes, in addition to the projected convenience store traffic volumes, were loaded into the model and operations were

simulated numerous times to identify the most logical volume trigger point. The trigger point has been based on 1) the point at which the eastbound left-turn queue, extending back from the Meridian/Bent Grass Meadows intersection, backed through the temporary access intersection and average of about five percent of the time during the afternoon peak hour and/or 2) the westbound left turn queue at the temporary site access exceeded one or two vehicles. Queues regularly backing through the site-access intersection have the potential to cause different operational and safety problems. Westbound queues at the site access extending back more than one or two vehicle lengths for a period of time can restrict the available distance for traffic turning from Meridian onto Bent Grass to maneuver to the right of these queued left-turning vehicles or stop safely at the back of the left-turn queue. This queue should be monitored more closely, however the simulation model indicated limited queue occurrence, as well as short queue length and duration, due to low opposing volumes arriving from the west along Bent Grass Meadows Drive. This analysis is based on several analysis parameters. These can be found in the attached Synchro analysis sheets. The results can be seen in the attached SimTraffic analysis results printouts. The analysis model used two-stage left turns from Bent Grass Meadows to northbound Meridian Road.

As shown on Figure 4, 402 vehicles were counted on Bent Grass Meadows Drive just west of Meridian Road (219 eastbound vehicles and 183 westbound vehicles) during the morning peak hour.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the roadways without the Bent Grass Residential Filing No. 2 traffic. The short-term (Year 2020) background traffic volumes are shown in Figure 4. The background traffic volumes are based on the existing traffic volumes shown in Figure 3 with a portion of the volumes assumed to be rerouted with the construction of Bent Grass Meadows Drive between the existing sections located north of the Woodmen frontage road and west of Meridian Road. The short-term background traffic volumes also include additional traffic projected to be generated by **buildout of the Bent Grass East Commercial** development 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 grow based on two percent growth per year.

Figure 5 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 and the Falcon Marketplace. 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.

TRIP GENERATION

Estimates of the vehicle-trips generated by Bent Grass Residential Filing No. 2 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.

Bent Grass Residential Filing No. 2 can be expected to generate about 1,680 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 33 vehicles would enter, and 99 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 111 vehicles would enter, and 65 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 6 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.

Trips with destination and/or origins with 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 Residential Filing No. 2 are estimated to travel to and from Bent Grass East Commercial development located on the southwest corner of Meridian Road and Bent Grass Meadows Drive. In the future, an additional portion of the trips by Bent Grass Residential Filing No. 2 are estimated to travel to and from the future elementary school located just east of the site, to and from the future retail development planned on the northwest corner of Meridian Road and Bent Grass Meadows Drive, and to and from the Falcon Marketplace to be located on the northwest corner of Woodmen Road and Meridian Road. Appendix Tables 1 and 2 show the internal trip assumptions and calculations.

When the external trip distribution percentages (from Figure 6) are applied to the trip generation estimates (from Table 2), the resulting site-generated traffic volumes can be determined. Figure 7 shows the short-term site-generated traffic volume estimates. The short-term site-generated traffic volumes assume Bent Grass Meadows Drive has been constructed between Meridian Road and the Woodmen frontage road.

Figure 8 shows the long-term site-generated traffic volumes. The long-term site-generated traffic volumes assume buildout of the areas north of Woodmen Road and west of Meridian Road.

TOTAL TRAFFIC

Figure 9 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 4 plus the short-term site-generated traffic volumes from Figure 7.

Figure 10 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 5 plus the long-term site-generated traffic volumes from Figure 8.

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* by the Transportation Research Board or using Synchro. Figures 4, 5, 9, and 10 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 required to be converted to traffic signal control with any additional development within Bent Grass East Commercial located southwest of this intersection. It is likely that this intersection would need to be converted to signal control, even without additional development, once Bent Grass Meadows Drive is constructed between the two existing sections north of the Woodmen frontage road and west of Meridian Road. 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.

Per El Paso County requirement, the following are three potential alternatives to a conventional, signalized, full-movement intersection, for which analysis results are presented in the preceding paragraph. These include modern roundabout, unsignalized channelized T-type intersection, and a channelized T-type intersection with a directional traffic signal. Table 3 shows a comparison of the level of service for each of the options.

Modern Roundabout Intersection

A modern roundabout intersection at Bent Grass Meadows Drive/Meridian Road would be a multi-lane roundabout.

Advantages

- The delay for the side-street left turn (eastbound approach) would improve from LOS F to LOS C in the short term.

- 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

- It would likely be difficult, if not impossible, to fit a multi-lane roundabout at this location given the limited ROW available on the east side of the intersection.
- The projected afternoon level of service for the northbound through movement is projected to be worse with the roundabout than with signal control.
- The travel speed through the intersection compared with a signalized intersection during the signal green phase would be slower for through traffic on Meridian Road. This may adversely affect travel times along the corridor. Also, if and when signalized intersections in the Meridian Road corridor are put into coordination, a roundabout would likely disrupt coordination.

Channelized-T Intersection

The channelized-T type intersection allows for an intersection with generally lower overall and side-street delay than with a conventional T-intersection and with fewer stops for the through traffic on the major roadway when compared to a conventional signalized T-intersection. An example of a channelized-T type intersection is at the intersection of US Highway 24 and Garrett Road near Falcon (El Paso County). That particular intersection is signalized with a “directional signal,” but a channelized-T at some locations can also operate as an unsignalized intersection with stop sign control on the minor street (Note: the analysis for this intersection indicates LOS F for the side-street left turn if not signalized). The raised median configuration would allow for “free” (no stopping) movement for the northbound through movement through the intersection. The eastbound left turn would cross the southbound lanes and into a channelized northbound left-turn acceleration lane for merging into northbound through traffic. This left-turn acceleration lane would need to be added on Meridian Road.

Advantages

- The intersection of Meridian/Bent Grass Meadows could likely operate at a satisfactory level of service as a stop sign-controlled intersection for longer as an unsignalized, channelized-T intersection than if it were to remain a conventional-T intersection.
- Signal control would be required to maintain an acceptable level of service, the channelized-T configuration would result in lower delay for through traffic, especially for the northbound traffic which would operate as a free movement. The overall intersection delay is projected to be better with a channelized-T intersection.
- There is the potential, depending on the time of day and traffic volumes, to allow for a longer side-street signal phase due to one-way signal progression and no red phase for northbound traffic.

Disadvantages

- The channelized-T configuration may only be viable until (and if) a dual eastbound left turn lane is needed and/or Meridian Road is widened to six lanes (however, either may not occur for many years).
- The channelized-T configuration may be confusing for some drivers and the merging movement into northbound traffic requires a more complex movement than with a signal. However, most motorists entering the intersection from the west would be regular users and would quickly learn to navigate the intersection.
- A channelized-T intersection would require the construction of raised channelizing medians on Meridian Road and the ongoing maintenance of those medians. This would add significant cost to the project.
- The section of Meridian Road between this intersection and the Woodmen Hills Drive/Meridian Road intersection would need to be designed to accommodate a northbound left-turn acceleration lane from Bent Grass Meadows Drive with a taper and a northbound left-turn lane approaching Woodmen Hills Drive with a taper. Based on a posted speed limit of 55 mph, the El Paso County *Engineering Criteria Manual* (ECM) requires a 960-foot-long acceleration lane plus a 222-foot taper. Based on a design speed of 60 mph, the ECM requires a 290-foot-long left-turn deceleration lane approaching Woodmen Hills Drive plus storage length. The current lane length is about 700 feet plus a standard-length taper. The total length of the acceleration lane, lane tapers, and existing northbound left-turn lane for Woodmen Hills would be between 2,100 feet (1,880 if a continuous lane with a shared 222' taper length). The total distance between the intersections is about 2,000 feet (centerline to centerline).

- A channelized-T can be more difficult for pedestrians than a conventional signalized intersection. However, there may be ways to better accommodate pedestrians – such as adding a pedestrian-only phase for southbound traffic. More research would be needed regarding pedestrian accommodation.

Woodmen/Golden Sage

All movements at the intersection of Woodmen/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 the southbound and eastbound left-turn movements are projected to operate at LOS E during the morning peak hour. These movements have projected delays in the LOS E range simply because they arrive at the traffic signal at the beginning of the red phase at an intersection with many phases and a long cycle length. These movements would not be considered “failing” since their volume-to-capacity ratios are less than one. The justification is that to progress through traffic along an arterial corridor, the traffic signal offsets and left-turn phase times have been adjusted to favor the through band, which can result in higher delay for the left-turn movements even though there is sufficient capacity for them.

Woodmen Frontage Road/Golden Sage

The intersection of the Woodmen frontage road/Golden Sage is currently stop sign-controlled. All movements at this intersection are projected to operate at LOS B 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 morning and afternoon peak hours. 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 4 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.

Site Access Points

Address Woodmen/Falcon Market Place RAB which is pending approval and would capture some WB traffic heading to this site.

Both full-movement site access points to Bent Grass Meadows Drive are projected to operate at LOS B or better for all movements as stop sign-controlled intersections based on the short-term and 2040 total traffic volumes.

VEHICLE QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for the key approach turning movements at the key area intersections to determine the projected queue lengths, based on the projected total traffic volumes. The short-term and 2040 total peak-hour traffic volumes were entered into the Synchro model. The simulation was run five times. The queuing reports are attached.

The projected maximum northbound left-turn queue on Meridian Road approaching Bent Grass Meadows Drive is about 238 feet, based on the short-term total afternoon peak-hour volume and 496 feet, based on the 2040 total afternoon peak-hour volume. This queue could be accommodated by the existing 700-foot left-turn lane.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Bent Grass Residential Filing No. 2 can be expected to generate about 1,680 vehicle-trips on the average weekday, with about half entering and half exiting in a 24-hour period. During the morning peak hour, about 33 vehicles would enter, and 99 vehicles would exit the site. During the afternoon peak hour about 111 additional vehicles would enter, and 65 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. If signalized, 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 Level of Service section above also discusses potential alternative traffic control options.
- All movements at the intersection of Woodmen/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 the southbound and eastbound left-turn movements are projected to operate at LOS E during the morning peak hour.
- All movements at the stop sign-controlled intersection of the Woodmen frontage road/Golden Sage are projected to operate at LOS B 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 Meadows and the site access points to Bent Grass Meadows are projected to operate at LOS C or better for all movements during the peak hours at stop sign-controlled intersections, based on the projected short-term and 2040 total traffic volumes.

Temporary 7-Eleven Access Evaluation

- The access to 7-Eleven on Bent Grass Meadows Drive was permitted and constructed as a temporary access and will be allowed to remain open with continued use, subject to reevaluation. A trigger volume of 200 entering and 200 exiting peak-hour trips using Bent Grass Meadows Drive just west of Meridian Road was established as the point at which reevaluation should occur, as per the foregoing. As shown on Figure 4,

402 vehicles were counted on Bent Grass Meadows Drive just west of Meridian Road (219 eastbound vehicles and 183 westbound vehicles) during the morning peak hour. The temporary access will likely need to be closed with either additional development within the Bent Grass East Commercial or the completion of Bent Grass Meadows Drive between the two existing sections.

Roadway Improvements

- Table 5 identifies the future roadway improvements that will be needed in the vicinity of the site. Table 5 also gives a recommended trigger for when each improvement will be needed.
- Table 6 shows the percentage of the projected 2040 total traffic due to Bent Grass Residential Filing No. 2. These percentages could be used to determine the pro-rata share of the cost of intersection improvements.
- There is currently a 700-foot long single northbound left-turn lane on Meridian Road approaching Bent Grass Meadows Drive. A vehicle queueing analysis indicates that this intersection could continue to operate with a single left-turn lane, based on the short-term and 2040 total traffic volumes.

* * * * *

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 2-6
Appendix Tables 1 and 2
Figures 1-10
Traffic Count Report
Level of Service Reports
Queueing Reports

Table 2
Trip Generation Estimate
Bent Grass Residential Filing No. 2

| Land Use Code | Land Use Description | Trip Generation Units | Trip Generation Rates ⁽¹⁾ | | | | | | Total Trips Generated | | | | | |
|--|--------------------------------|-----------------------|--------------------------------------|-------------------|------|---------------------|------|-------------------------|-----------------------|-----|---------------------|----|--|--|
| | | | Average Weekday Traffic | Morning Peak Hour | | Afternoon Peak Hour | | Average Weekday Traffic | Morning Peak Hour | | Afternoon Peak Hour | | | |
| | | | | In | Out | In | Out | | In | Out | | | | |
| | | | | | | | | | | | | | | |
| 210 | Single-Family Detached Housing | 178 DU ⁽²⁾ | 9.44 | 0.19 | 0.56 | 0.62 | 0.37 | 1,680 | 33 | 99 | 111 | 65 | | |
| Notes: | | | | | | | | | | | | | | |
| (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE) | | | | | | | | | | | | | | |
| (2) DU = dwelling unit | | | | | | | | | | | | | | |
| Source: LSC Transportation Consultants, Inc. | | | | | | | | | | | | | | |

Table 3
Level of Service Comparison⁽¹⁾
 Bent Grass Meadows Drive/Meridian Road

| | | Short-Term Total Traffic | | | | | | | 2040 Total Traffic | | | | | | |
|---|-------|--------------------------|-------|------------|---------|------------|-------|---------|--------------------|-------|------------|---------|------------|-------|---------|
| | | AM Peak | | | | | | | AM Peak | | | | | | |
| Scenario | | Eastbound | | Northbound | | Southbound | | Overall | Eastbound | | Northbound | | Southbound | | Overall |
| | | Left | Right | Left | Through | Through | Right | | Left | Right | Left | Through | Through | Right | |
| Stop-Sign Control With Channelized "T" Configuration | Delay | 1213.2 | 67.2 | 35.8 | Free | Free | Free | --- | >20000 | 193.9 | 214 | Free | Free | Free | --- |
| | LOS | F | F | E | | | | | F | F | F | | | | |
| Modern Roundabout | Delay | 17.2 | 37 | 5.9 | 6.4 | 15 | 20.9 | 16.6 | 35.1 | 107.9 | 7.3 | 8.1 | 31 | 56 | 40 |
| | LOS | C | E | A | A | C | C | C | E | F | A | A | D | F | E |
| Conventional Signal Control | Delay | 40.7 | 20 | 28.4 | 4.5 | 20.9 | 2.3 | 17 | --- | --- | --- | --- | --- | --- | --- |
| | LOS | D | B | C | A | C | A | B | --- | --- | --- | --- | --- | --- | --- |
| Conventional Signal Control With Free Eastbound Right | Delay | 41.6 | 0.3 | 28.5 | 4.4 | 20.4 | 2.2 | 15 | 54.1 | 0.4 | 53.7 | 3.3 | 31.2 | 3.5 | 24.5 |
| | LOS | D | A | C | A | C | A | B | D | A | D | A | C | A | C |
| Signal Control With Channelized "T" Configuration | Delay | 40.6 | 19.9 | 28.5 | Free | 20.9 | 2.3 | 16.1 | 54.1 | 0.4 | 53.7 | Free | 31.2 | 3.5 | 23.9 |
| | LOS | D | B | C | | C | A | B | D | A | D | | C | A | C |

| | | PM Peak | | | | | | | PM Peak | | | | | | |
|---|-------|-----------|-------|------------|---------|------------|-------|---------|-----------|-------|------------|---------|------------|-------|---------|
| Scenario | | Eastbound | | Northbound | | Southbound | | Overall | Eastbound | | Northbound | | Southbound | | Overall |
| | | Left | Right | Left | Through | Through | Right | | Left | Right | Left | Through | Through | Right | |
| Stop-Sign Control With Channelized "T" Configuration | Delay | 381.7 | 17.0 | 14.5 | Free | Free | Free | --- | 13886.2 | 50.9 | 55.5 | Free | Free | Free | --- |
| | LOS | F | C | B | | | | | F | F | F | | | | |
| Modern Roundabout | Delay | 8.9 | 10.1 | 11.3 | 13.8 | 7.7 | 8.7 | 10.7 | 52.4 | 25.6 | 47.8 | 85.8 | 14 | 17.5 | 45.1 |
| | LOS | A | B | B | B | A | A | B | F | D | E | F | B | C | E |
| Conventional Signal Control | Delay | 46.4 | 8.1 | 11.5 | 7.5 | 13.9 | 2.5 | 12.2 | --- | --- | --- | --- | --- | --- | --- |
| | LOS | D | A | B | A | B | A | B | --- | --- | --- | --- | --- | --- | --- |
| Conventional Signal Control With Free Eastbound Right | Delay | 46.4 | 0.3 | 11.5 | 7.5 | 13.9 | 2.5 | 11.5 | 54.2 | 9 | 51 | 9.5 | 33.9 | 4.0 | 25.8 |
| | LOS | D | A | B | A | B | A | B | D | A | D | A | C | A | C |
| Signal Control With Channelized "T" Configuration | Delay | 46.4 | 8.1 | 11.1 | Free | 14.2 | 2.5 | 9.4 | 54.2 | 9 | 51 | Free | 33.9 | 4.0 | 22.6 |
| | LOS | D | A | B | | B | A | A | D | A | D | | C | A | C |

Note:
 (1) This table has not been updated from the October 14, 2019 TIS. The small decrease in the northbound left-turn movement and eastbound right-turn movement projected in the current TIS are not anticipated to have a significant impact.
 Source: LSC Transportation Consultants, Inc.

| |
|---|
| <p align="center">Table 4 Level of Service Comparison Golden Sage Drive/Woodmen frontage road</p> |
|---|

| | | 2040 Total Traffic | | | | | | | | | |
|--|-------|--------------------|-----------|------------|-------|---------|-----------|-----------|------------|-------|---------|
| | | AM Peak | | | | | PM Peak | | | | |
| | | | | Northbound | | Overall | | | Northbound | | Overall |
| Scenario | | Eastbound | Westbound | Left | Right | | Eastbound | Westbound | Left | Right | |
| Stop-Sign Control | Delay | 10.2 | 61.8 | Free | Free | - - - | 11.2 | 708.2 | Free | Free | - - - |
| | LOS | B | F | | | | B | F | | | |
| Modern Roundabout | Delay | 7.7 | 5.7 | 3.4 | Free | 4.2 | 7.1 | 10.1 | 5 | Free | 5.5 |
| | LOS | A | A | A | | A | B | A | A | | |
| Traffic Signal Control With Single Northbound Right-Turn Lane | Delay | 5 | 8.8 | 20.3 | 8.7 | 9.5 | 5.6 | 17.7 | 26.5 | 11.3 | 16.1 |
| Traffic Signal Control With Dual Northbound Right-Turn Lane ⁽¹⁾ | LOS | A | A | C | A | A | A | B | C | B | B |
| Traffic Signal Control With Single Northbound Right-Turn Lane | Delay | 5.3 | 10.4 | 15.3 | 8.9 | 9.8 | 6.0 | 21.8 | 26.9 | 11.9 | 18.3 |
| Traffic Signal Control With Dual Northbound Right-Turn Lane ⁽¹⁾ | LOS | A | B | B | A | A | A | C | C | B | 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.

| Table 5 Roadway System Improvements Bent Grass Residential Filing No. 2 | | | | | |
|--|---|---|---|--|---|
| Description | | Trigger | | Timing | Responsibility |
| 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. | With opening of the approved expansion of the veterinary clinic or Once El Paso County determines that the remaining condition within the Crash Experience Warrant has been met (determines that alternatives have failed to reduce crash frequency) and determines that a signal should be installed. | Bent Grass Metro District |
| B | Right-turn acceleration lane on Meridian at Bent Grass Meadows | ECM criteria indicates the acceleration lane would need to be 960 feet long plus a 222-foot taper based on the design speed of 60 mph. Note that Owl Lane is located approximately 925 feet south of Bent Grass Meadows Drive. Therefore, the lane would be a continuous acceleration/deceleration lane between Bent Grass Meadows Drive and Owl Lane. | ECM criteria has been exceeded. A deviation was previously approved waiving this requirement with the development of Bent Grass Residential Filing 1 and Bent Grass East Commercial Filing 2A. Additional development will either require the submittal and approval of a new deviation or construction of this improvement. (Notes: The installation of the traffic signal will regularly stop southbound traffic allowing eastbound right turns to enter southbound Meridian Road without an acceleration lane. The LOS analysis indicates significant improvement of the LOS with the signal. The crash data does not indicate a safety issue with the current eastbound right movement without the accel lane. Several costly improvements may be needed to build the accel lane -- including burying the overhead power lines south to Owl Place, reconstructing the ditch section along the west side of Meridian Road, and reworking the radius at Meridian Road. This intersection is similar to the Meridian/Woodmen Hills, Meridian/Stapleton, and Meridian/Londonderry intersections to the north in that [or "to the extent that"] southbound right acceleration lanes have not been added. If the County ultimately wants a raised right-turn island on this southwest corner of the Bent Grass Meadows/Meridian Road intersection in conjunction with an accel lane, this would likely need to be accomplished later with the overall widening of Bent Grass Meadows just west of Meridian Road. | Accel lane construction or a deviation -- with any development beyond the approved expansion of the veterinary clinic and expansion of parking for the dental clinic. | Bent Grass Metro District |
| 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 | Construct Bent Grass Meadows Drive as a Non-Residential Collector | With any development west of Bent Grass Residential Filing No. 1 | With the currently proposed Bent Grass Residential Filing No. 2 | Bent Grass Metro District |
| D | Restrict westbound left-turn at 7-Eleven access | Remove the striping for the left-turn bay at the 7-Eleven access, restripe for two sets of dual yellow lines as shown in Figure 9. If trigger for closure of westbound left-in is reached prior to the trigger for access closure, install No Left Turn signs and reflective, plastic delineators within the painted center median across the 7-Eleven access. | When westbound left-turn queue exceeds the length of the existing lane. | "With 50% percent development of the remaining vacant parcels within Bent Grass East Commercial beyond the approved expansion of the veterinary clinic and expansion of parking for the dental clinic. or With the completion of Bent Grass Meadows Dr between the Woodmen frontage road and Meridian Road | Bent Grass Metro District |
| E | Close 7-Eleven Access | Remove the existing curb cut. | When the eastbound right-turn queue approaching Meridian Road blocks the access and/or if motorists exiting from the 7-Eleven access and turning into the eastbound left-turn lane approaching Meridian Road regularly impede/block the adjacent eastbound right-turn lane approaching Meridian Road. | With 50% percent development of the remaining vacant parcels within Bent Grass East Commercial beyond the approved expansion of the veterinary clinic and expansion of parking for the dental clinic. or With the completion of Bent Grass Meadows Dr between the Woodmen frontage road and Meridian Road | Bent Grass Metro District |
| Woodmen frontage road/Bent Grass Meadows Dr | | | | | |
| F | 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 | Bent Grass Metro District |
| Woodmen/Golden Sage | | | | | |
| G | Add protected/permitted phasing for left-turn movements | Provide new traffic signal heads for protected phasing and modify existing signal timing plan | 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. | AS NEEDED TO MAINTAIN ADEQUATE LEVEL OF SERVICE AND VEHICLE STACKING DISTANCE ." This is estimated to be occur with buildout of Falcon Marketplace | 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. |
| H | 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. | 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. |
| I | 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 |
| |  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. |
| Notes: (1) See Table 6 for pro-rata percentage calculations Source: LSC Transportation Consultants, Inc. (1-24-2020) | | | | | |

This is shown on
short term
Synchro sheets.

| Table 6 | | | | | |
|---|---|--|--------|--------|---------|
| Prorata Share Contribution Calculations | | | | | |
| Bent Grass Residential Filing No. 2 | | | | | |
| Description | | | AM | PM | AM + PM |
| G | Add protected/permitted phasing at Woodmen/Golden Sage | Site-Generated Traffic ⁽¹⁾ (vehicles per hour) | 12 | 52 | 64 |
| | | 2040 Total Traffic ⁽¹⁾ (vehicles per hour) | 374 | 442 | 816 |
| | | % | 3.21% | 11.76% | 7.84% |
| H | Lengthening of the current eastbound single left-turn deceleration lane on Woodmen approaching Golden Sage Road | Site-Generated Traffic ⁽¹⁾ (vehicles per hour) | 12 | 52 | 64 |
| | | 2040 Total Traffic ⁽¹⁾ (vehicles per hour) | 374 | 442 | 816 |
| | | % | 3.21% | 11.76% | 7.84% |
| I | Southbound exclusive right-turn lane on Golden Sage Road approaching Woodmen Road | Site-Generated Traffic ⁽²⁾ (vehicles per hour) | 39 | 30 | 69 |
| | | 2040 Total Traffic ⁽²⁾ (vehicles per hour) | 366 | 430 | 796 |
| | | % | 10.66% | 6.98% | 8.67% |
| J | 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) | 51 | 84 | 135 |
| | | 2040 Total Traffic ⁽³⁾ (vehicles per hour) | 1124 | 1401 | 2525 |
| | | % | 4.54% | 6.00% | 5.35% |
| 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. | | | | | |

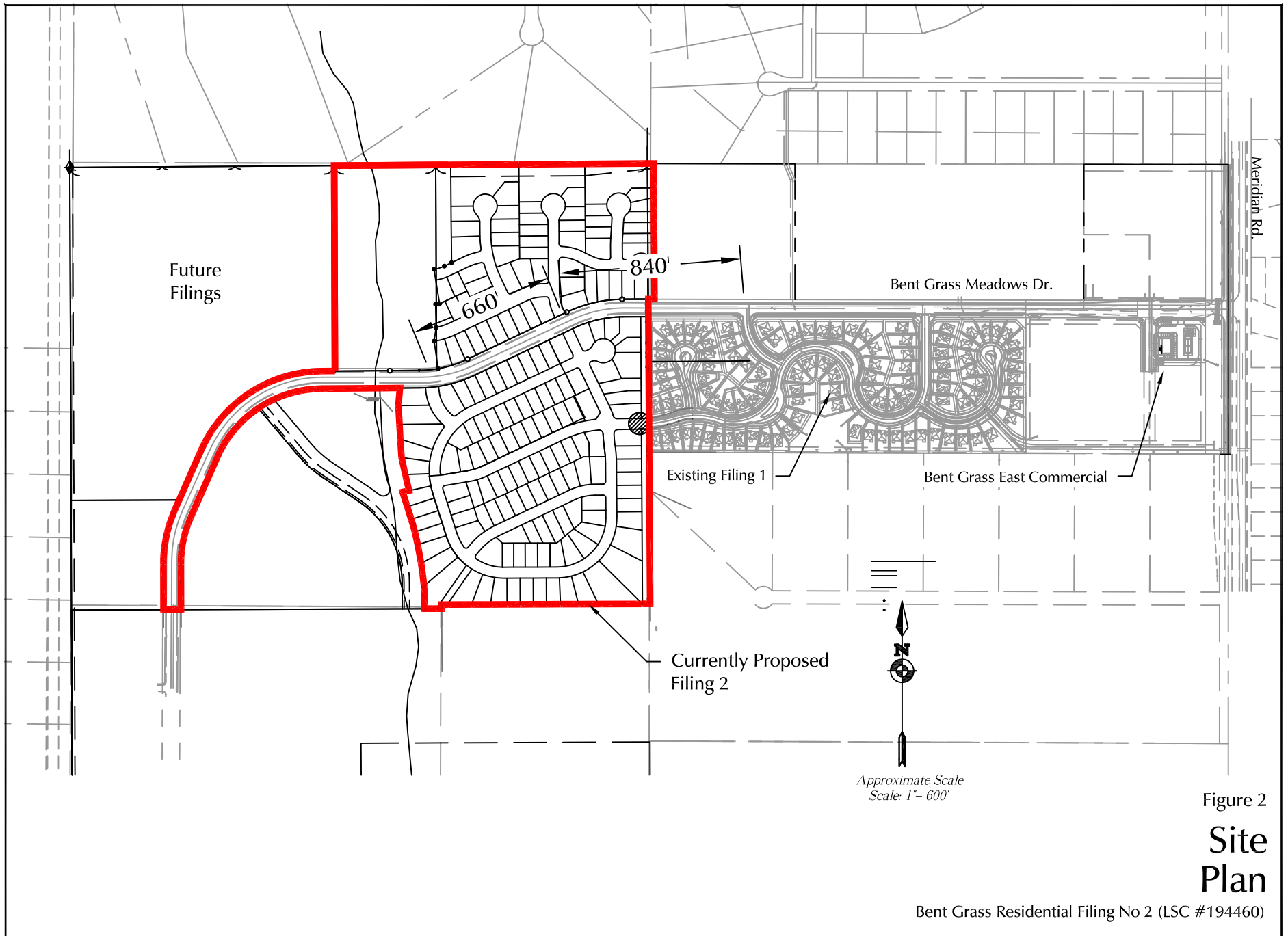


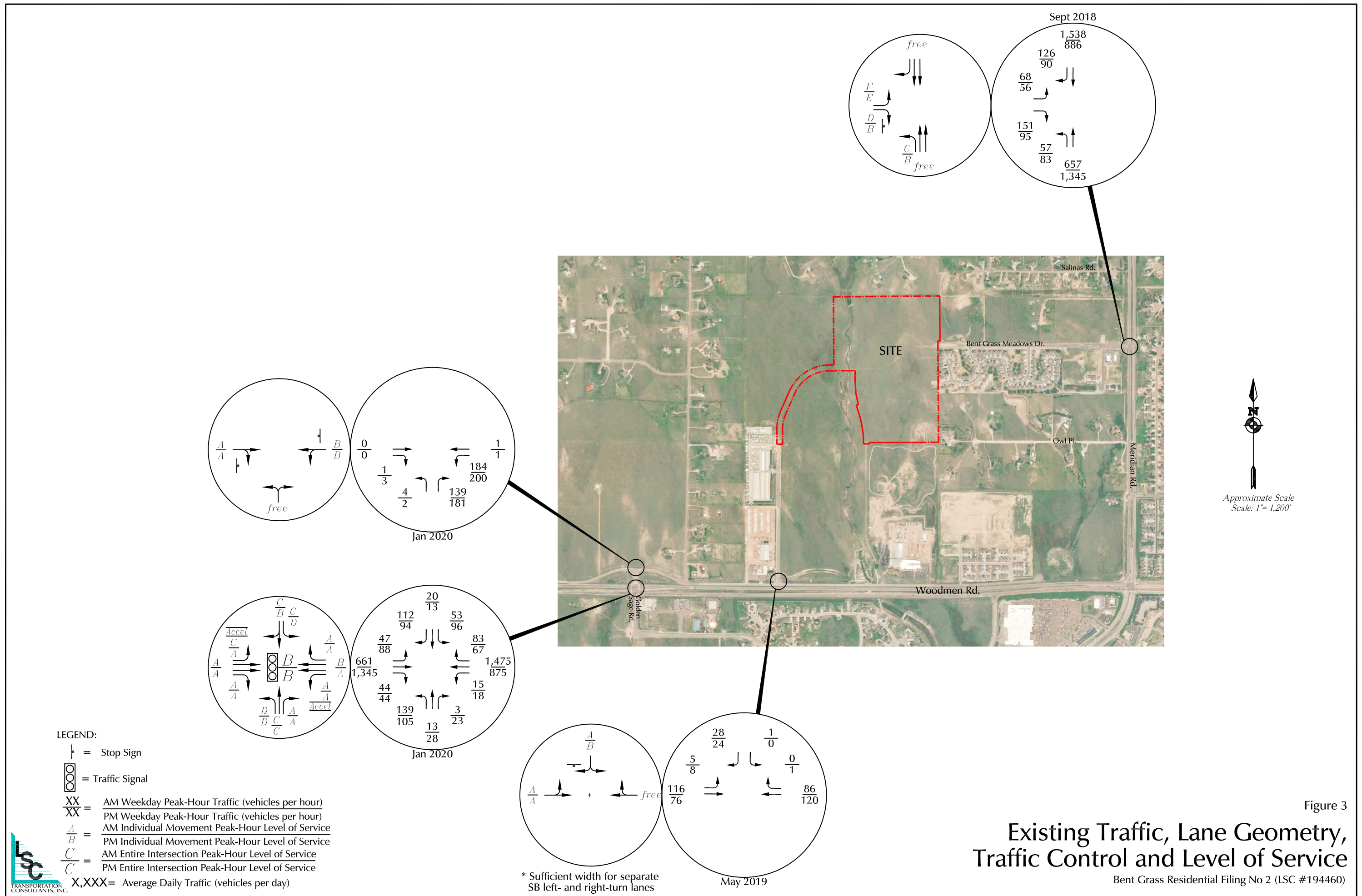
Approximate Scale
Scale: 1"= 1,200'

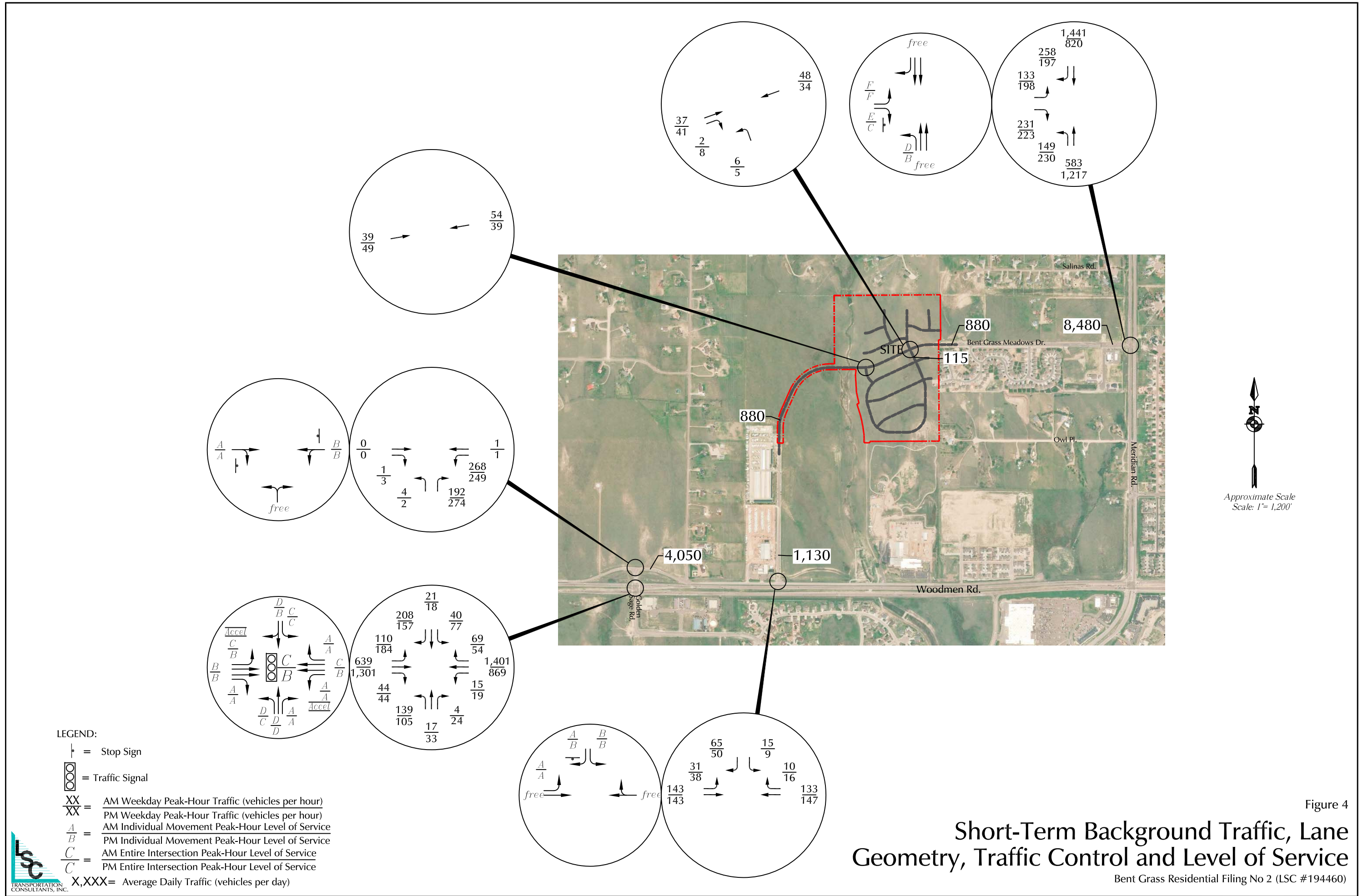
Figure 1

Vicinity Map

Bent Grass Residential Filing No 2 (LSC #194460)







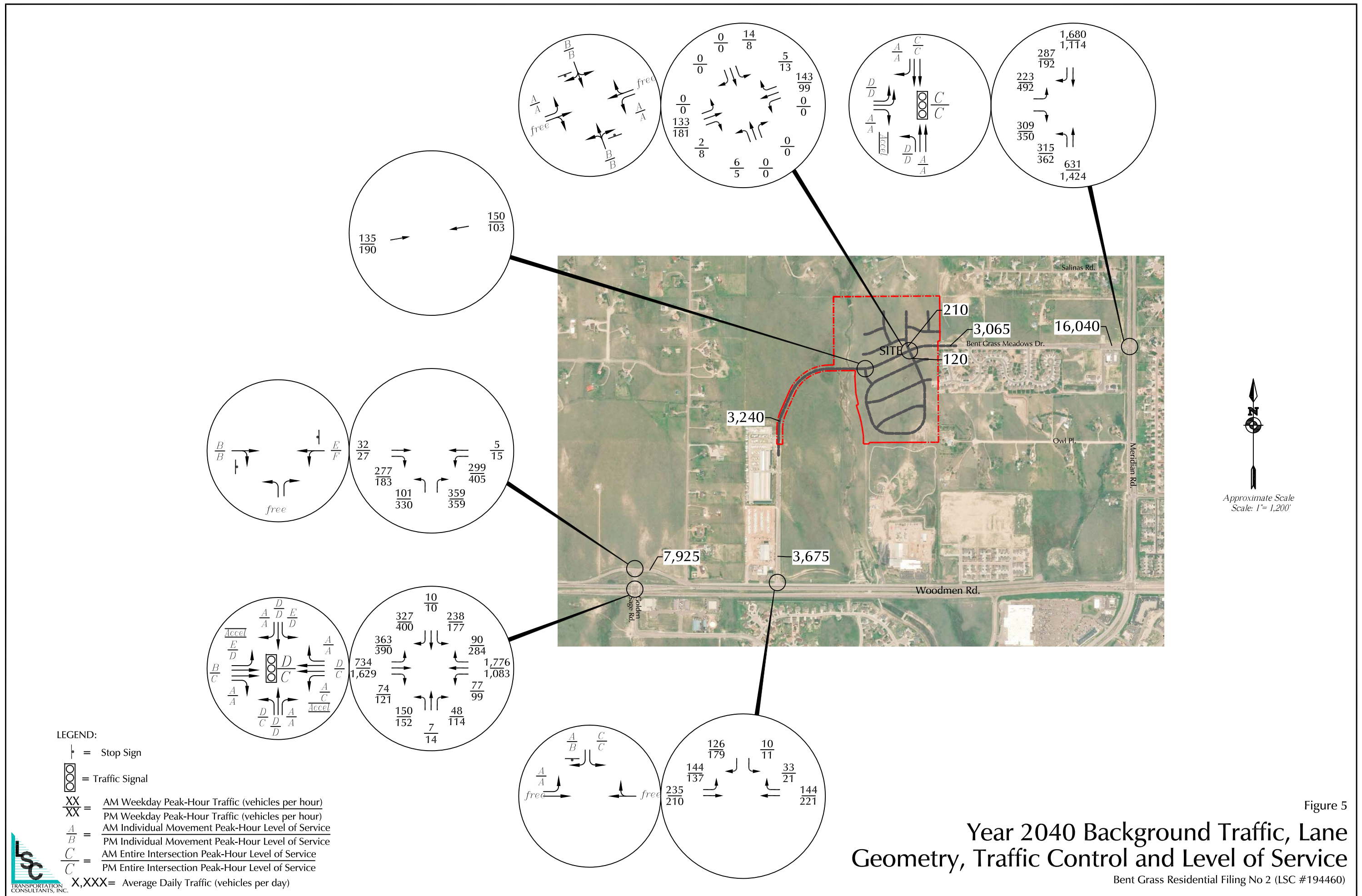


Figure 5
Year 2040 Background Traffic, Lane Geometry, Traffic Control and Level of Service
 Bent Grass Residential Filing No 2 (LSC #194460)

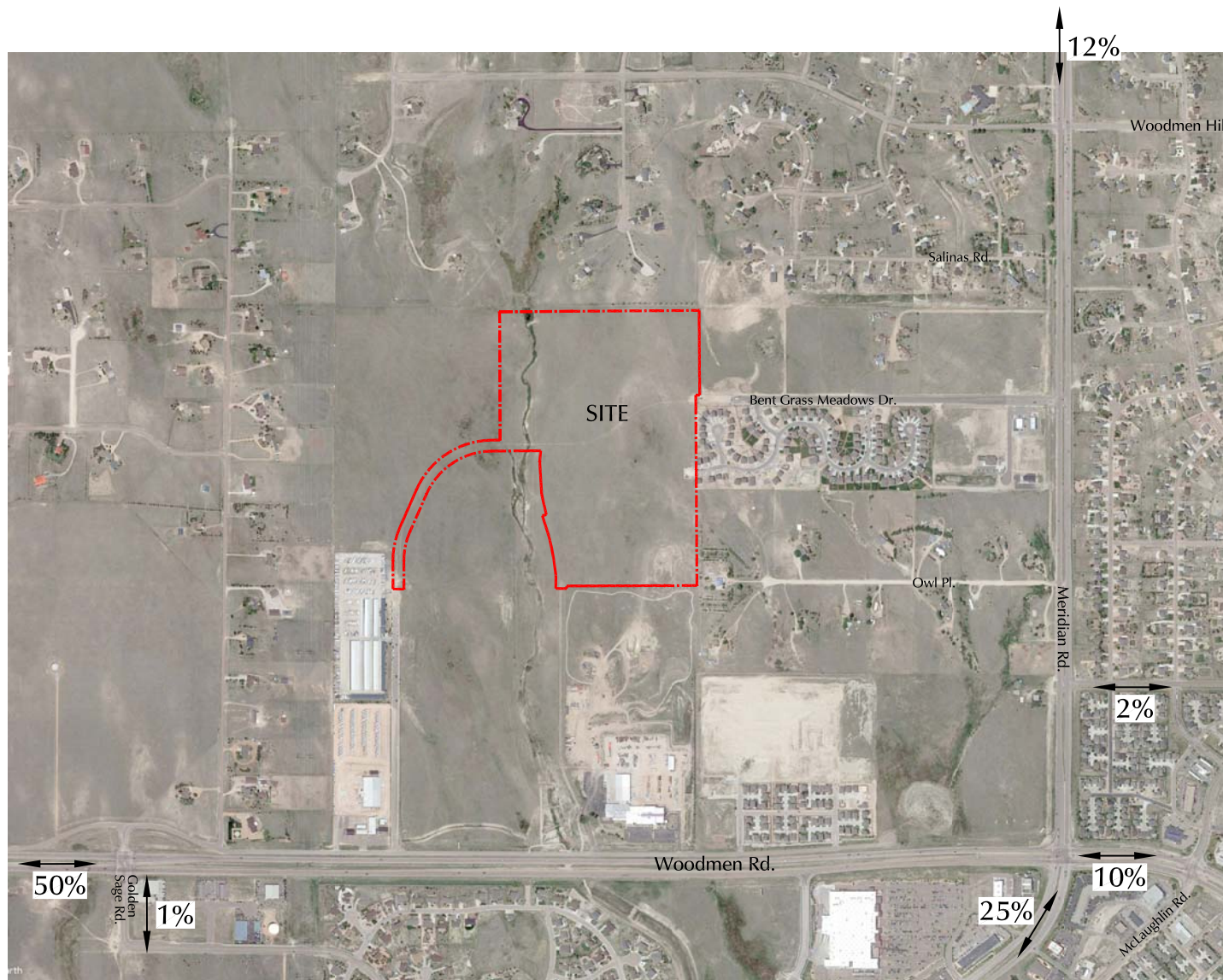


Figure 6

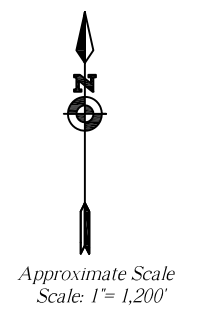
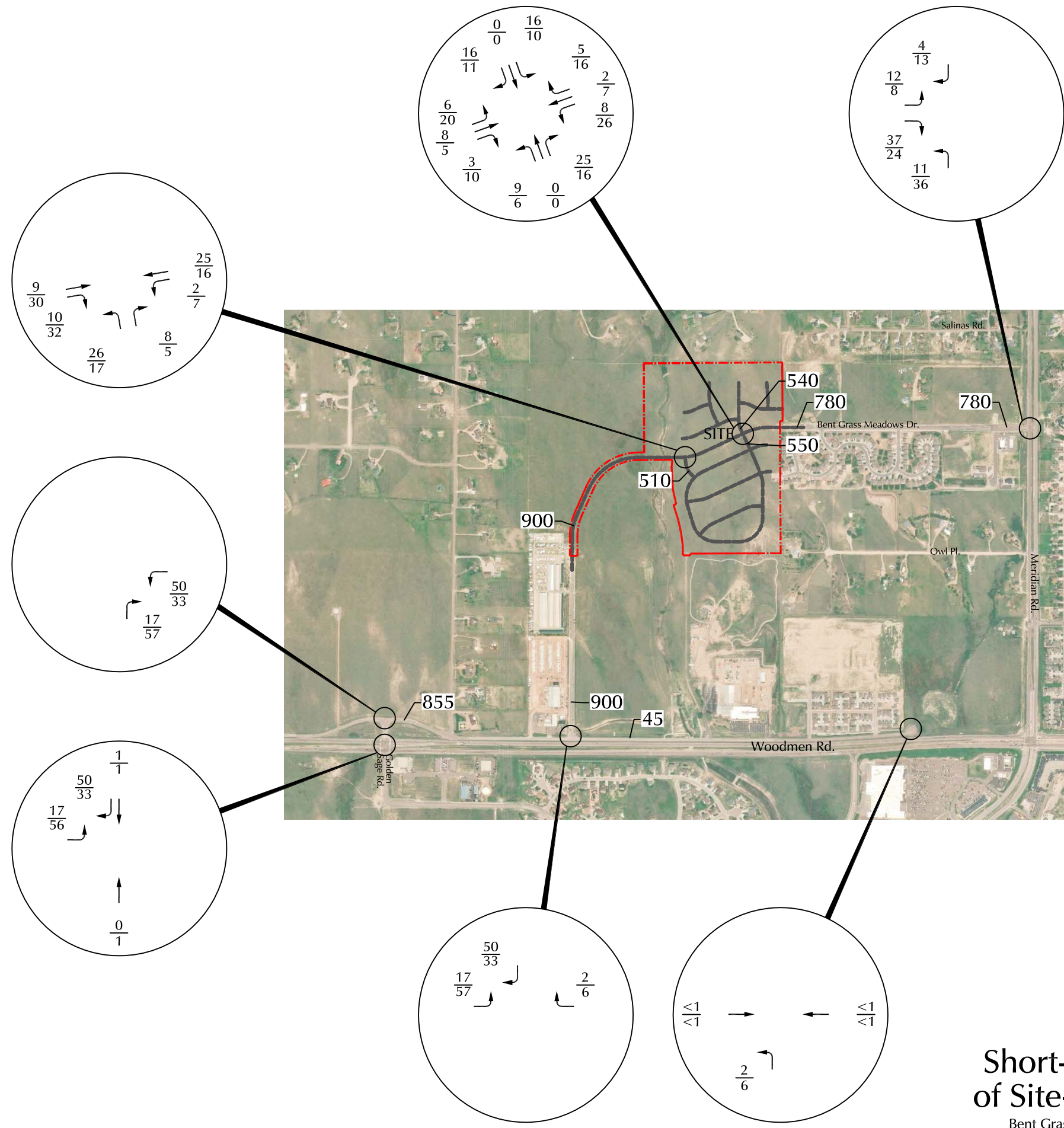
Directional Distribution of Site-Generated Traffic

Bent Grass Residential Filing No 2 (LSC #194460)



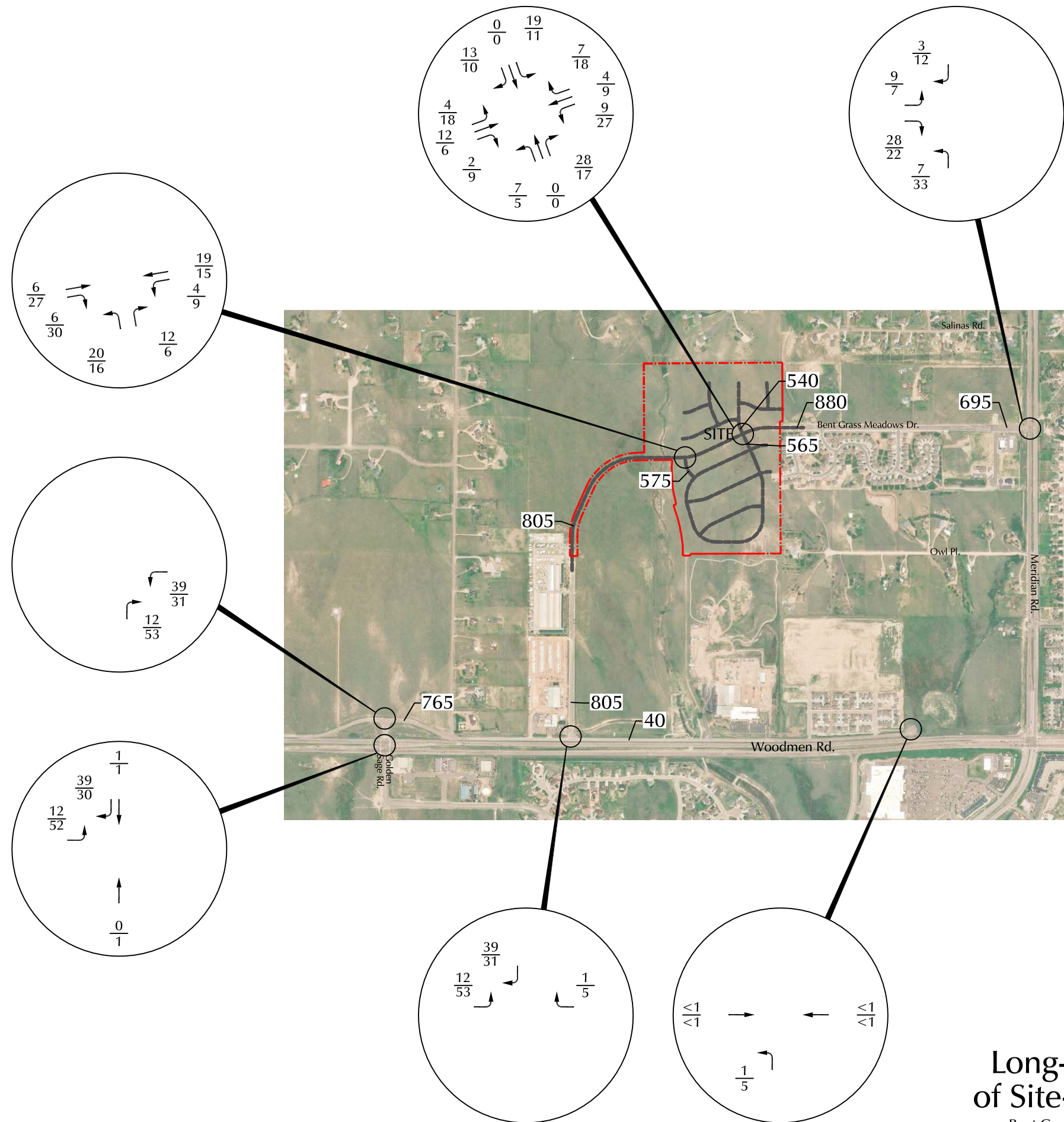
LEGEND:

XX% = Percent Directional Distribution



LEGEND:
 $\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 X,XXX= Average Daily Traffic (vehicles per day)

Figure 7
**Short-Term Assignment
 of Site-Generated Traffic**
 Bent Grass Residential Filing No 2 (LSC #194460)




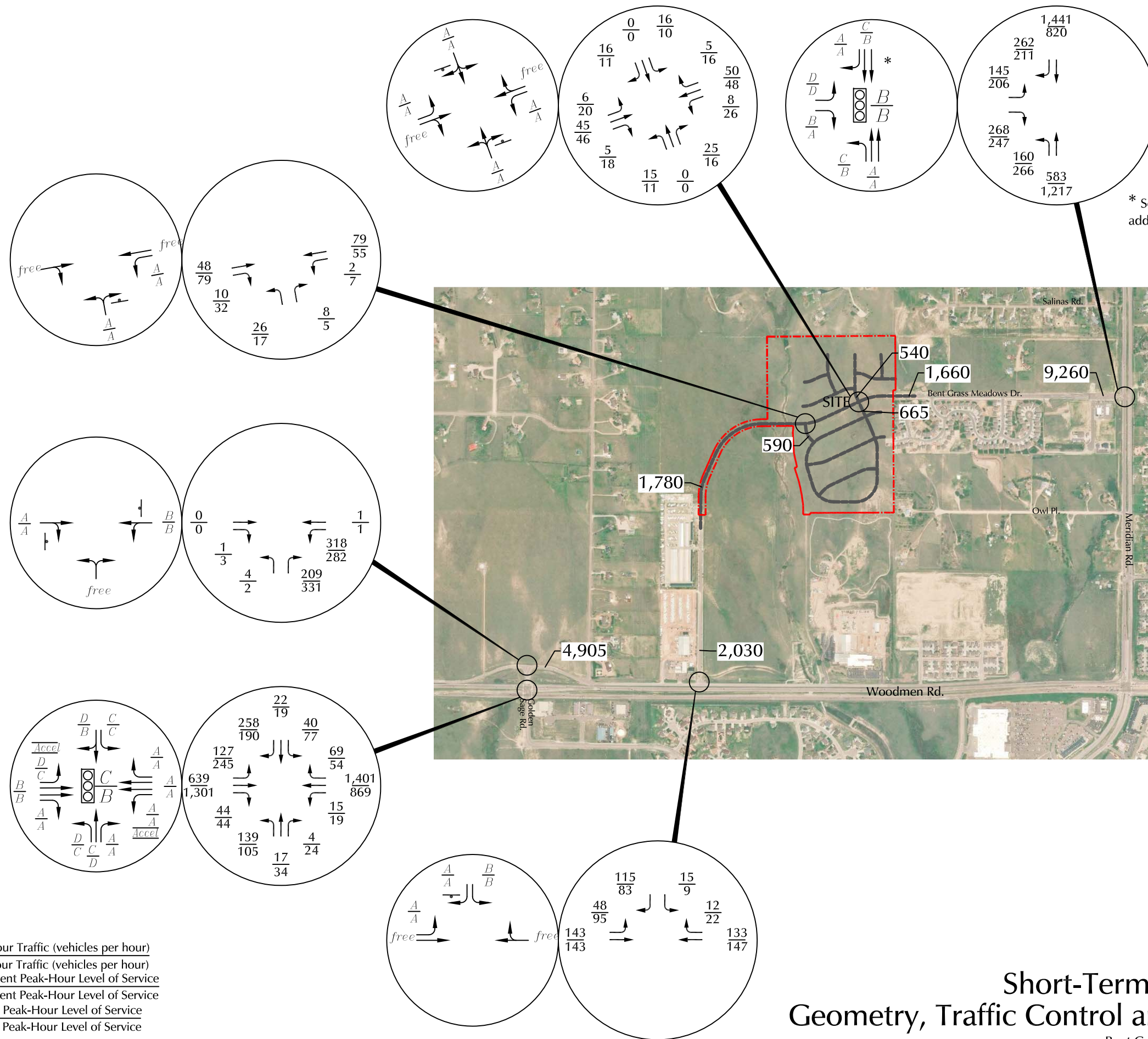

 Approximate Scale
 Scale: 1"= 1,200'

Figure 8
**Long-Term Assignment
 of Site-Generated Traffic**
 Bent Grass Residential Filing No 2 (LSC #194460)



* See Table 3 for analysis of additional traffic control options

Approximate Scale
Scale: 1"= 1,200'

LEGEND:

- = Stop Sign
- = Traffic Signal
- $\frac{XX}{XX}$ = 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)



Figure 9
Short-Term Total Traffic, Lane Geometry, Traffic Control and Level of Service
Bent Grass Residential Filing No 2 (LSC #194460)

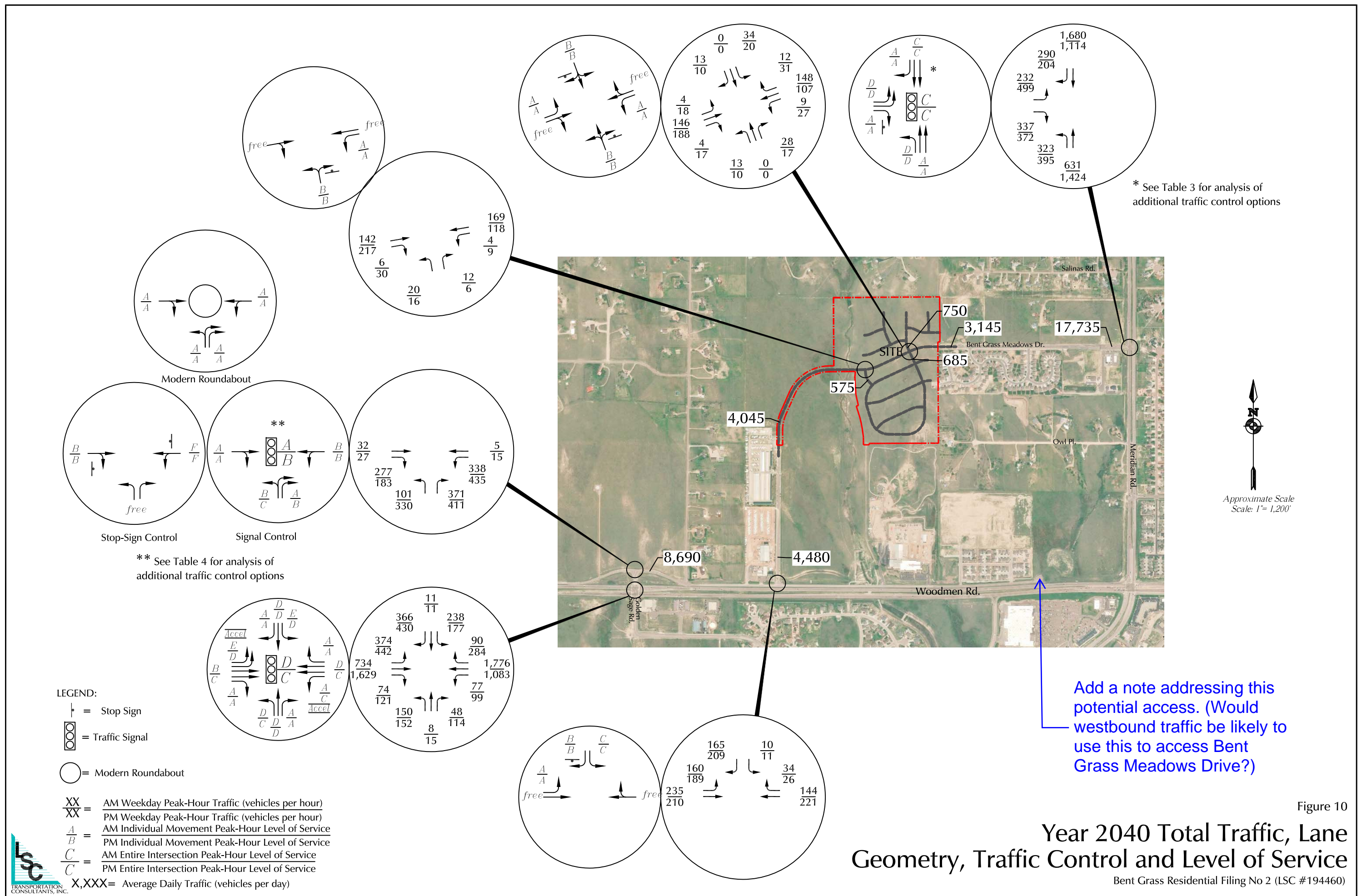
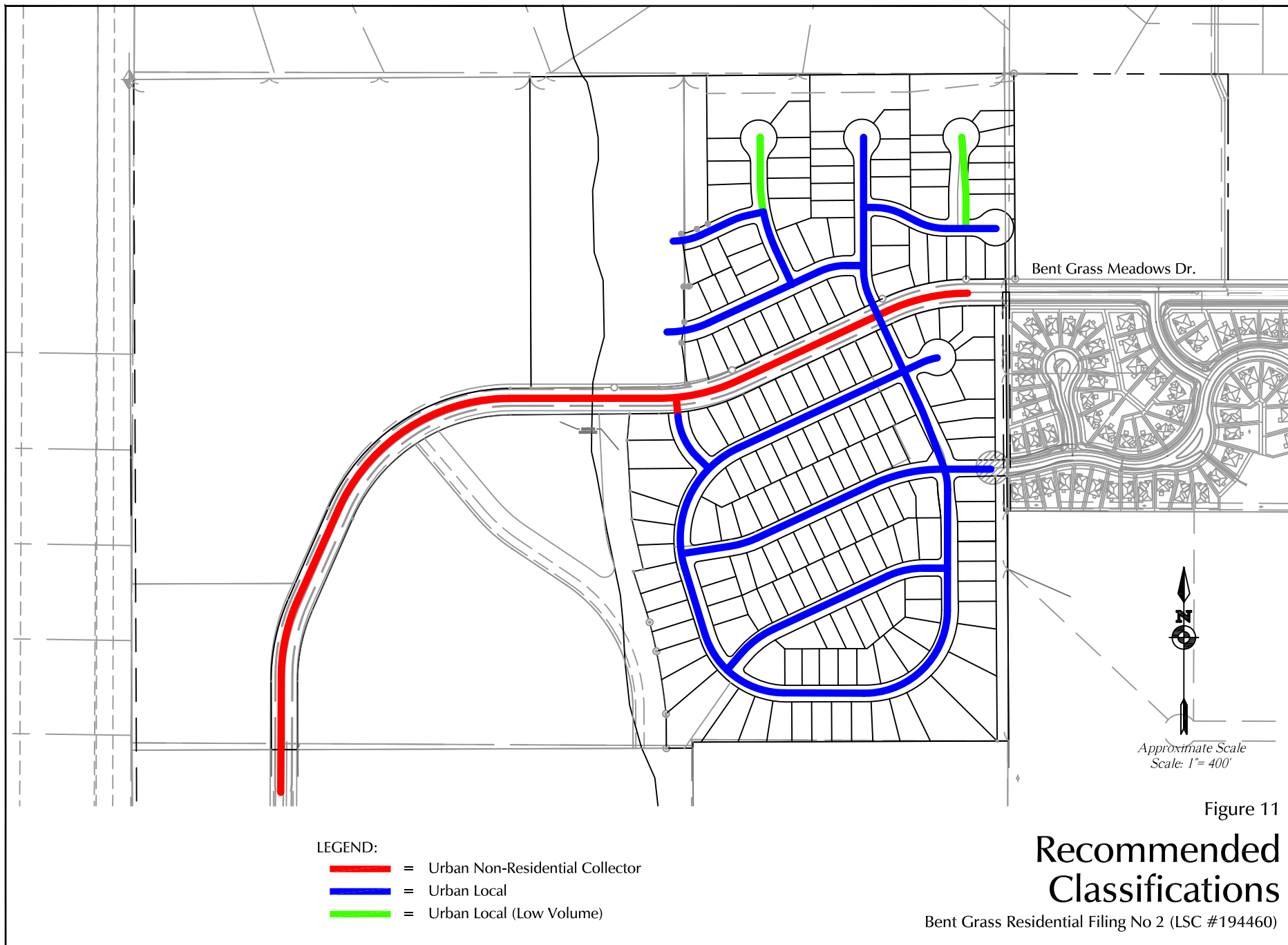


Figure 10

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

Bent Grass Residential Filing No 2 (LSC #194460)



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Meridian Rd - Bent Grass Meadows Dr AM 9-18

Site Code : 154561

Start Date : 9/12/2018

Page No : 1

Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Westbound | | | | Meridian Rd Northbound | | | | Bent Grass Meadows Dr Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|-----------|------|-------|------|---------------------------|------|-------|------|------------------------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 06:30 | 0 | 286 | 26 | 0 | 0 | 0 | 0 | 0 | 10 | 71 | 0 | 0 | 7 | 0 | 32 | 0 | 432 |
| 06:45 | 0 | 319 | 36 | 1 | 0 | 0 | 0 | 0 | 15 | 137 | 0 | 0 | 10 | 0 | 38 | 0 | 556 |
| Total | 0 | 605 | 62 | 1 | 0 | 0 | 0 | 0 | 25 | 208 | 0 | 0 | 17 | 0 | 70 | 0 | 988 |
| 07:00 | 0 | 426 | 24 | 0 | 0 | 0 | 0 | 0 | 9 | 121 | 0 | 0 | 13 | 0 | 37 | 0 | 630 |
| 07:15 | 0 | 443 | 29 | 0 | 0 | 0 | 0 | 0 | 13 | 195 | 0 | 0 | 16 | 0 | 41 | 0 | 737 |
| 07:30 | 0 | 372 | 33 | 0 | 0 | 0 | 0 | 0 | 19 | 179 | 0 | 0 | 17 | 0 | 30 | 0 | 650 |
| 07:45 | 0 | 297 | 40 | 0 | 0 | 0 | 0 | 0 | 16 | 162 | 0 | 0 | 22 | 0 | 43 | 0 | 580 |
| Total | 0 | 1538 | 126 | 0 | 0 | 0 | 0 | 0 | 57 | 657 | 0 | 0 | 68 | 0 | 151 | 0 | 2597 |
| 08:00 | 0 | 256 | 19 | 0 | 0 | 0 | 0 | 0 | 21 | 154 | 0 | 0 | 17 | 0 | 21 | 0 | 488 |
| 08:15 | 0 | 284 | 25 | 0 | 0 | 0 | 0 | 0 | 10 | 136 | 0 | 0 | 21 | 0 | 27 | 0 | 503 |
| Grand Total | 0 | 2683 | 232 | 1 | 0 | 0 | 0 | 0 | 113 | 1155 | 0 | 0 | 123 | 0 | 269 | 0 | 4576 |
| Apprch % | 0 | 92 | 8 | 0 | 0 | 0 | 0 | 0 | 8.9 | 91.1 | 0 | 0 | 31.4 | 0 | 68.6 | 0 | |
| Total % | 0 | 58.6 | 5.1 | 0 | 0 | 0 | 0 | 0 | 2.5 | 25.2 | 0 | 0 | 2.7 | 0 | 5.9 | 0 | |

LSC Transportation Consultants, Inc.

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

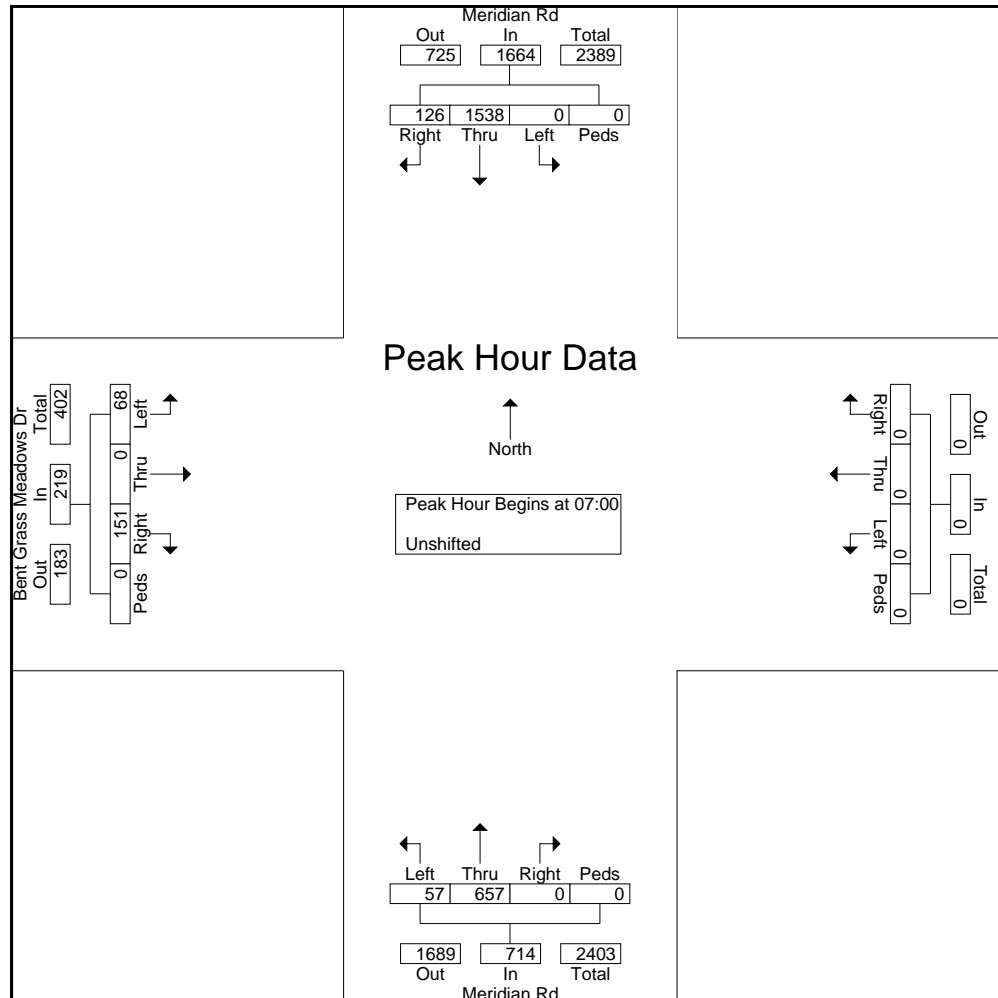
File Name : Meridian Rd - Bent Grass Meadows Dr AM 9-18

Site Code : 154561

Start Date : 9/12/2018

Page No : 2

| | Meridian Rd Southbound | | | | | Westbound | | | | | Meridian Rd Northbound | | | | | Bent Grass Meadows Dr Eastbound | | | | | |
|--|------------------------|------------|-----------|------|------------|-----------|------|-------|------|------------|------------------------|------------|-------|------|------------|---------------------------------|------|-----------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 06:30 to 08:15 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:00 | | | | | | | | | | | | | | | | | | | | | |
| 07:00 | 0 | 426 | 24 | 0 | 450 | 0 | 0 | 0 | 0 | 0 | 9 | 121 | 0 | 0 | 130 | 13 | 0 | 37 | 0 | 50 | 630 |
| 07:15 | 0 | 443 | 29 | 0 | 472 | 0 | 0 | 0 | 0 | 0 | 13 | 195 | 0 | 0 | 208 | 16 | 0 | 41 | 0 | 57 | 737 |
| 07:30 | 0 | 372 | 33 | 0 | 405 | 0 | 0 | 0 | 0 | 0 | 19 | 179 | 0 | 0 | 198 | 17 | 0 | 30 | 0 | 47 | 650 |
| 07:45 | 0 | 297 | 40 | 0 | 337 | 0 | 0 | 0 | 0 | 0 | 16 | 162 | 0 | 0 | 178 | 22 | 0 | 43 | 0 | 65 | 580 |
| Total Volume | 0 | 1538 | 126 | 0 | 1664 | 0 | 0 | 0 | 0 | 0 | 57 | 657 | 0 | 0 | 714 | 68 | 0 | 151 | 0 | 219 | 2597 |
| % App. Total | 0 | 92.4 | 7.6 | 0 | | 0 | 0 | 0 | 0 | | 8 | 92 | 0 | 0 | | 31.1 | 0 | 68.9 | 0 | | |
| PHF | .000 | .868 | .788 | .000 | .881 | .000 | .000 | .000 | .000 | .000 | .750 | .842 | .000 | .000 | .858 | .773 | .000 | .878 | .000 | .842 | .881 |



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905

719-633-2868

File Name : Meridian Rd - Bent Grass Meadows PM 9-18

Site Code : 154561

Start Date : 9/12/2018

Page No : 1

Groups Printed- Unshifted

| | Meridian Rd Southbound | | | | Westbound | | | | Meridian Rd Northbound | | | | Bent Grass Meadows Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------|-----------|------|-------|------|---------------------------|------|-------|------|---------------------------------|------|-------|------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | |
| 16:15 | 0 | 192 | 21 | 0 | 0 | 0 | 0 | 0 | 20 | 295 | 0 | 0 | 15 | 0 | 25 | 0 | 568 |
| 16:30 | 0 | 213 | 19 | 0 | 0 | 0 | 0 | 0 | 22 | 344 | 0 | 0 | 12 | 0 | 15 | 0 | 625 |
| 16:45 | 0 | 197 | 19 | 0 | 0 | 0 | 0 | 0 | 19 | 332 | 0 | 0 | 20 | 0 | 23 | 0 | 610 |
| Total | 0 | 602 | 59 | 0 | 0 | 0 | 0 | 0 | 61 | 971 | 0 | 0 | 47 | 0 | 63 | 0 | 1803 |
| 17:00 | 0 | 223 | 27 | 0 | 0 | 0 | 0 | 0 | 16 | 347 | 0 | 0 | 11 | 0 | 25 | 0 | 649 |
| 17:15 | 0 | 214 | 19 | 0 | 0 | 0 | 0 | 0 | 25 | 348 | 0 | 0 | 16 | 0 | 28 | 0 | 650 |
| 17:30 | 0 | 252 | 25 | 0 | 0 | 0 | 0 | 0 | 23 | 318 | 0 | 0 | 9 | 0 | 19 | 0 | 646 |
| 17:45 | 0 | 179 | 27 | 0 | 0 | 0 | 0 | 0 | 19 | 328 | 0 | 0 | 15 | 0 | 22 | 0 | 590 |
| Total | 0 | 868 | 98 | 0 | 0 | 0 | 0 | 0 | 83 | 1341 | 0 | 0 | 51 | 0 | 94 | 0 | 2535 |
| 18:00 | 0 | 169 | 25 | 0 | 0 | 0 | 0 | 0 | 18 | 321 | 0 | 0 | 11 | 0 | 28 | 0 | 572 |
| Grand Total | 0 | 1639 | 182 | 0 | 0 | 0 | 0 | 0 | 162 | 2633 | 0 | 0 | 109 | 0 | 185 | 0 | 4910 |
| Apprch % | 0 | 90 | 10 | 0 | 0 | 0 | 0 | 0 | 5.8 | 94.2 | 0 | 0 | 37.1 | 0 | 62.9 | 0 | |
| Total % | 0 | 33.4 | 3.7 | 0 | 0 | 0 | 0 | 0 | 3.3 | 53.6 | 0 | 0 | 2.2 | 0 | 3.8 | 0 | |

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719-633-2868

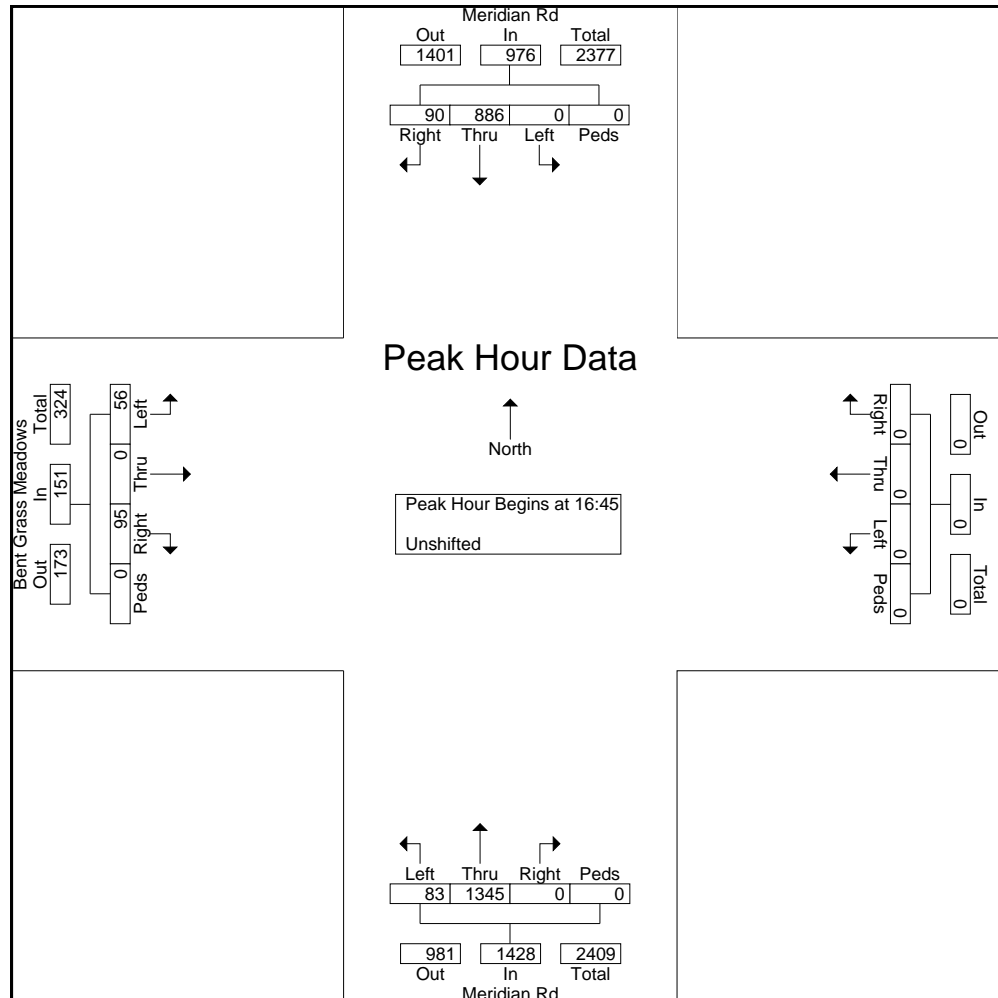
File Name : Meridian Rd - Bent Grass Meadows PM 9-18

Site Code : 154561

Start Date : 9/12/2018

Page No : 2

| | Meridian Rd Southbound | | | | | Westbound | | | | | Meridian Rd Northbound | | | | | Bent Grass Meadows Eastbound | | | | | |
|--|------------------------|------|-------|------|------------|-----------|------|-------|------|------------|------------------------|------|-------|------|------------|------------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 16:15 to 18:00 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:45 | | | | | | | | | | | | | | | | | | | | | |
| 16:45 | 0 | 197 | 19 | 0 | 216 | 0 | 0 | 0 | 0 | 0 | 19 | 332 | 0 | 0 | 351 | 20 | 0 | 23 | 0 | 43 | 610 |
| 17:00 | 0 | 223 | 27 | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 16 | 347 | 0 | 0 | 363 | 11 | 0 | 25 | 0 | 36 | 649 |
| 17:15 | 0 | 214 | 19 | 0 | 233 | 0 | 0 | 0 | 0 | 0 | 25 | 348 | 0 | 0 | 373 | 16 | 0 | 28 | 0 | 44 | 650 |
| 17:30 | 0 | 252 | 25 | 0 | 277 | 0 | 0 | 0 | 0 | 0 | 23 | 318 | 0 | 0 | 341 | 9 | 0 | 19 | 0 | 28 | 646 |
| Total Volume | 0 | 886 | 90 | 0 | 976 | 0 | 0 | 0 | 0 | 0 | 83 | 1345 | 0 | 0 | 1428 | 56 | 0 | 95 | 0 | 151 | 2555 |
| % App. Total | 0 | 90.8 | 9.2 | 0 | | 0 | 0 | 0 | 0 | | 5.8 | 94.2 | 0 | 0 | | 37.1 | 0 | 62.9 | 0 | | |
| PHF | .000 | .879 | .833 | .000 | .881 | .000 | .000 | .000 | .000 | .000 | .830 | .966 | .000 | .000 | .957 | .700 | .000 | .848 | .000 | .858 | .983 |





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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 |



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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 |

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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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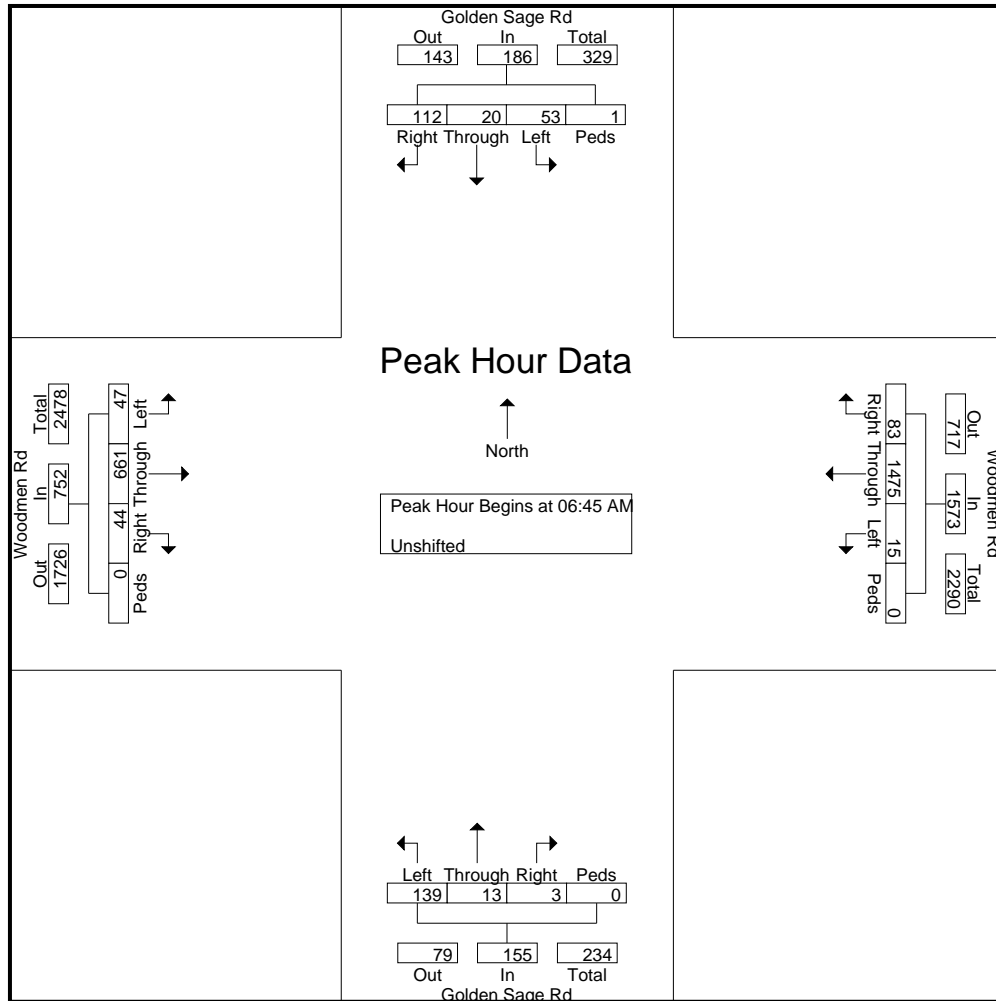
File Name : Golden Sage Rd - Woodmen Rd AM 1-20

Site Code : 00194460

Start Date : 1/21/2020

Page No : 2

| | 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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File Name : Golden Sage Rd - Woodmen Rd AM 1-20

Site Code : 00194460

Start Date : 1/21/2020

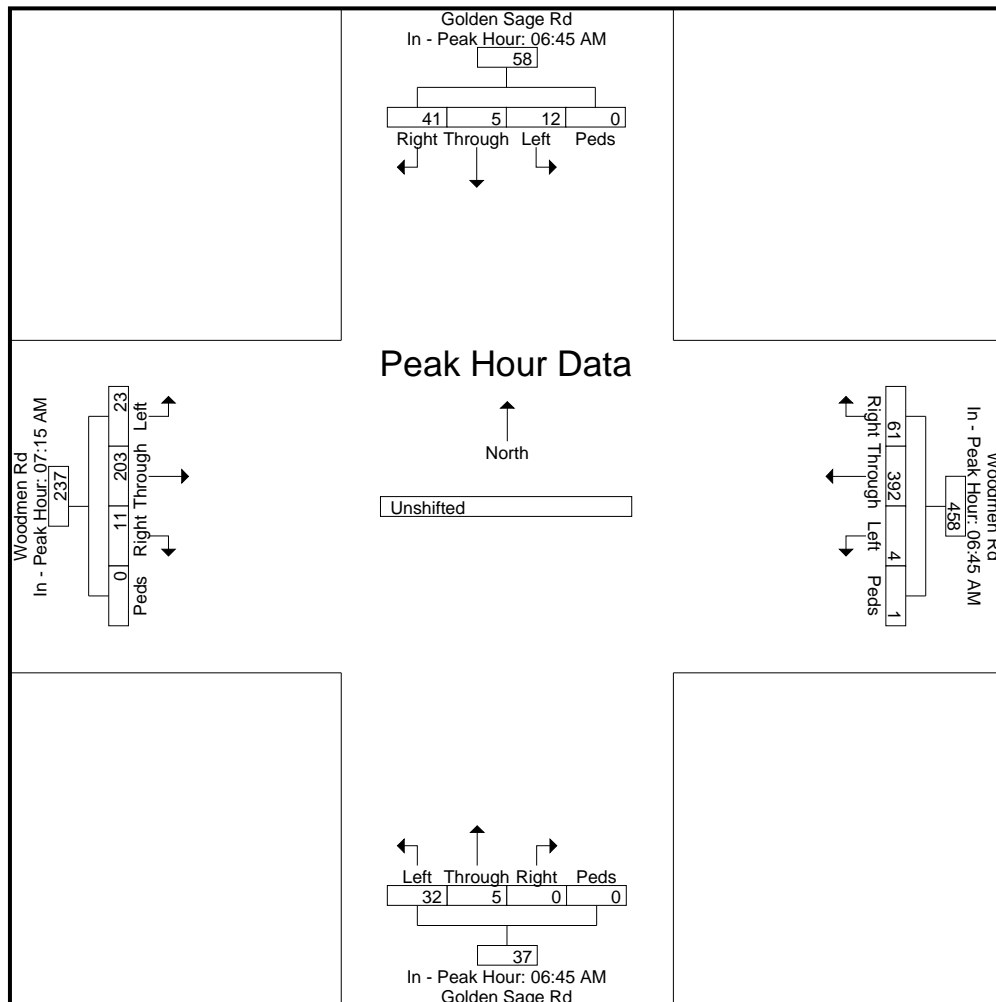
Page No : 3

| | 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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File Name : Golden Sage Rd - Woodmen Rd PM 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 |
| 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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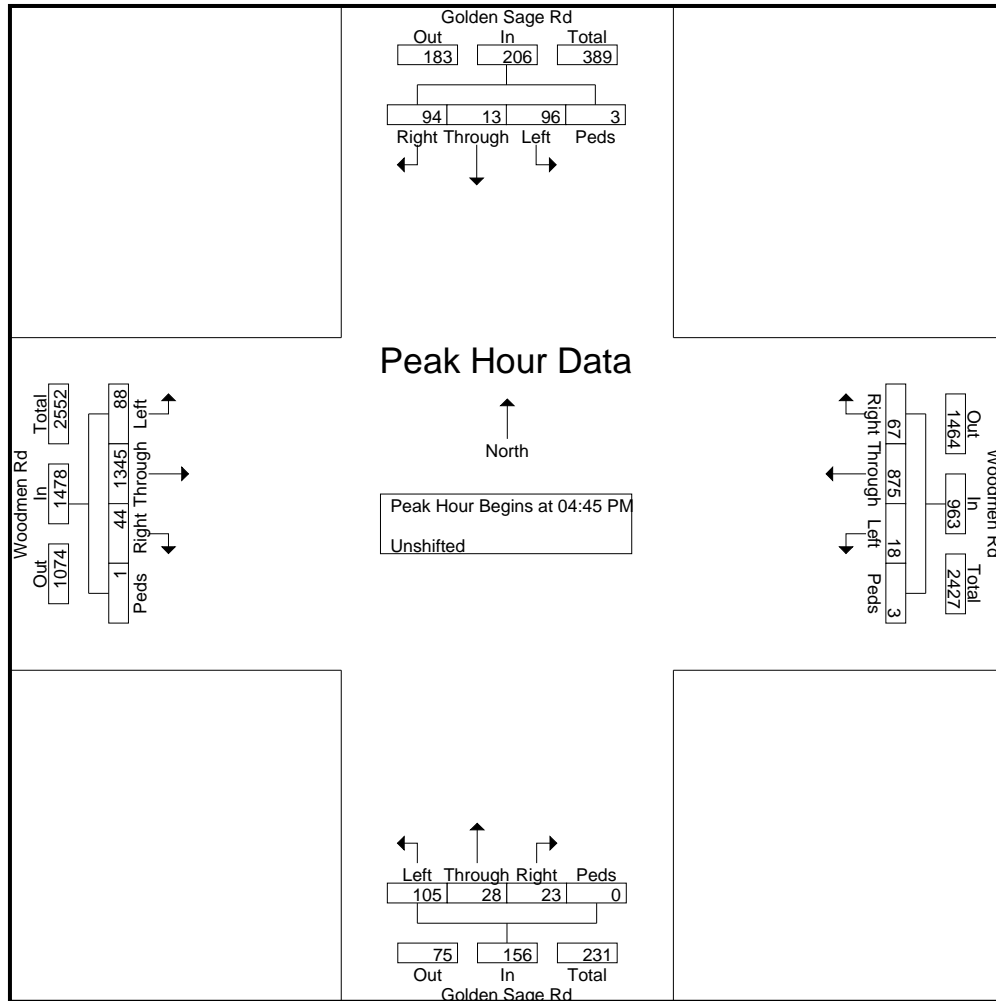
File Name : Golden Sage Rd - Woodmen Rd PM 1-20

Site Code : 00194460

Start Date : 1/21/2020

Page No : 2

| | 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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File Name : Golden Sage Rd - Woodmen Rd PM 1-20

Site Code : 00194460

Start Date : 1/21/2020

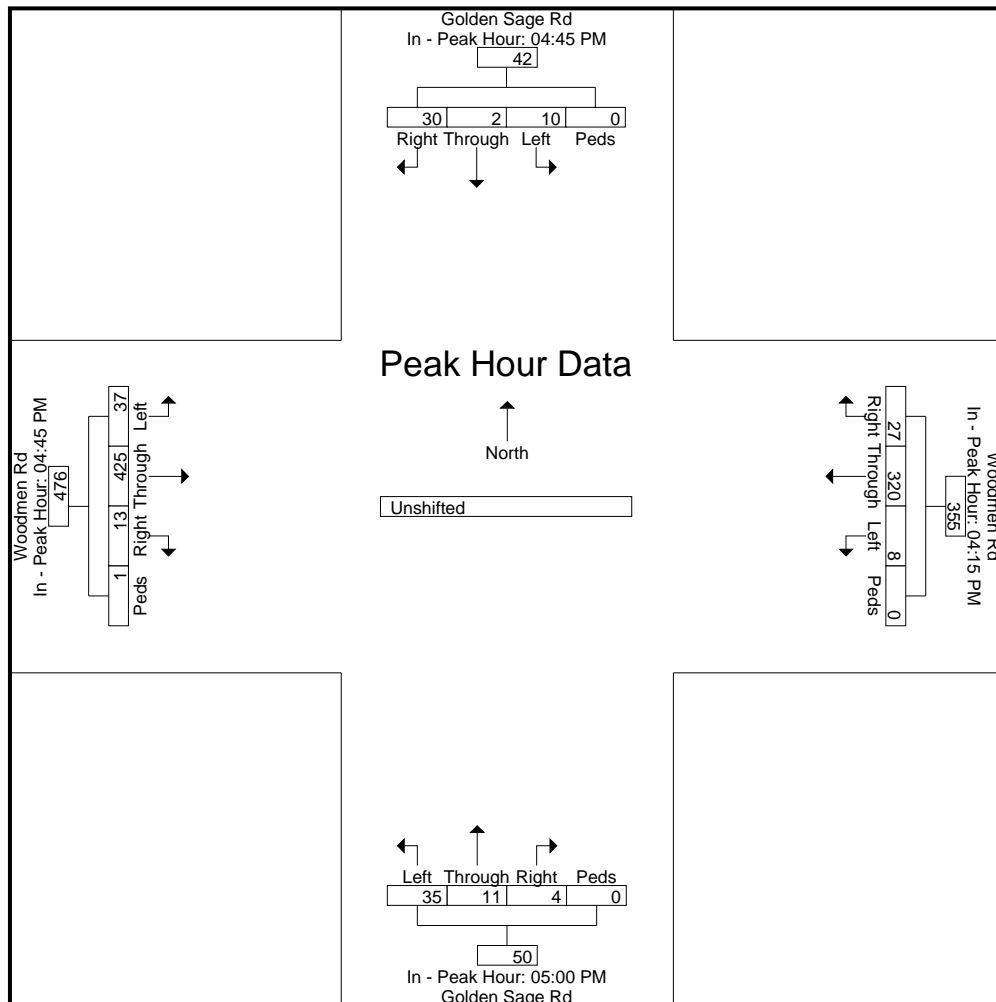
Page No : 3

| | 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.

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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 | |

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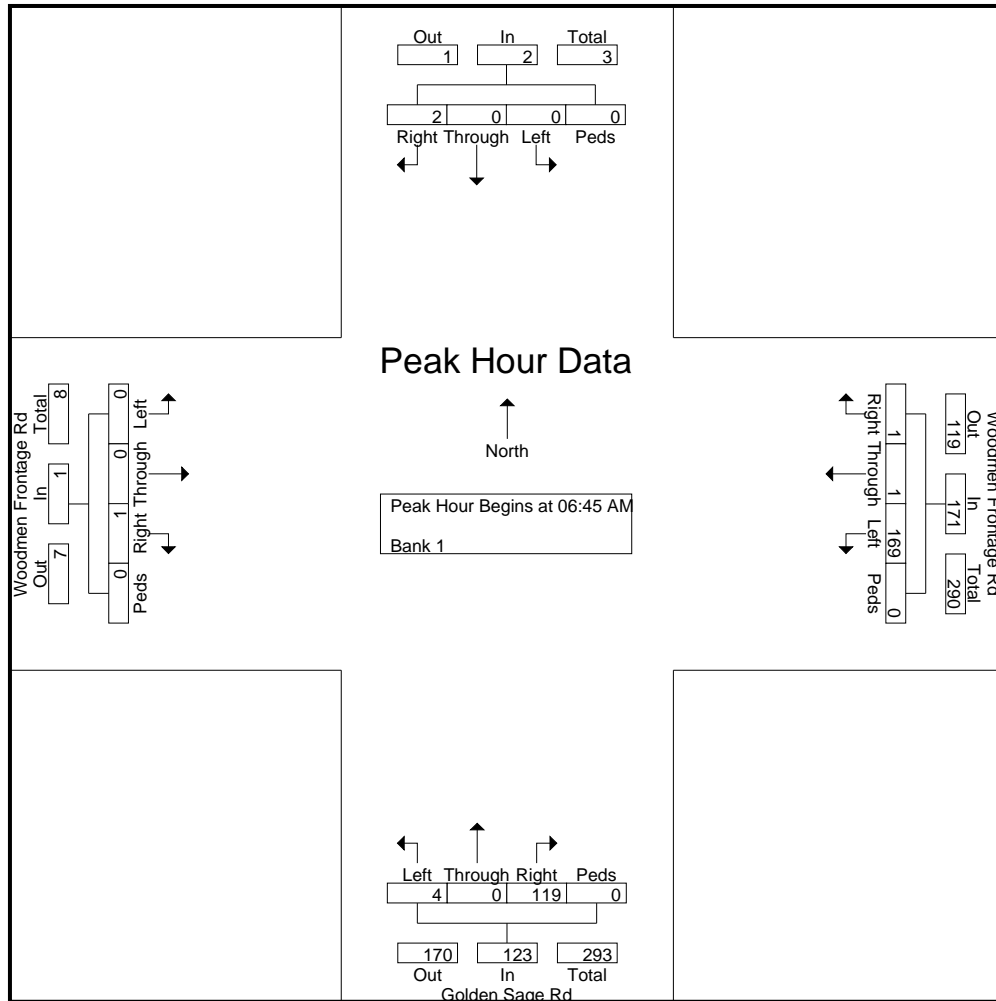
File Name : Golden Sage Rd - Woodmen Frontage Rd AM 1-20

Site Code : 00194460

Start Date : 1/21/2020

Page No : 2

| | 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 |



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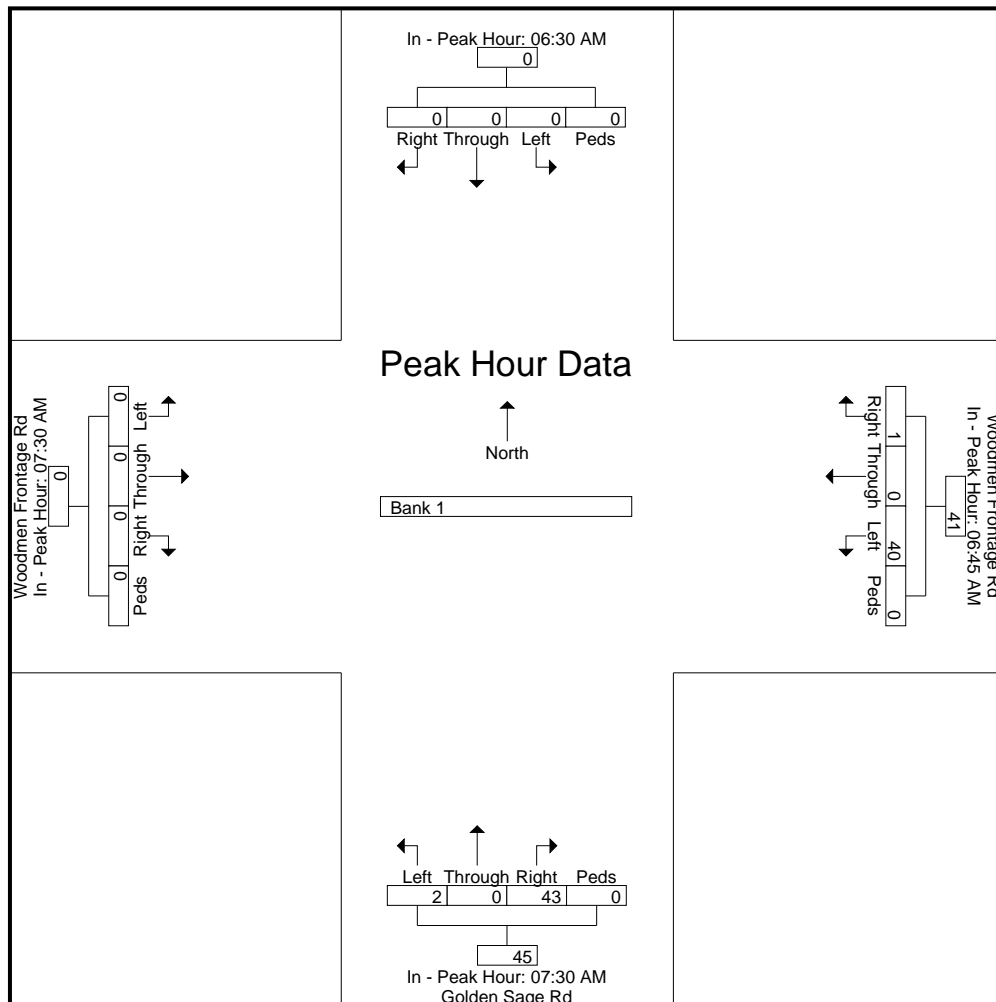
File Name : Golden Sage Rd - Woodmen Frontage Rd AM 1-20

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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File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20

Site Code : 00194460

Start Date : 1/21/2020

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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 | 0 | 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 | |

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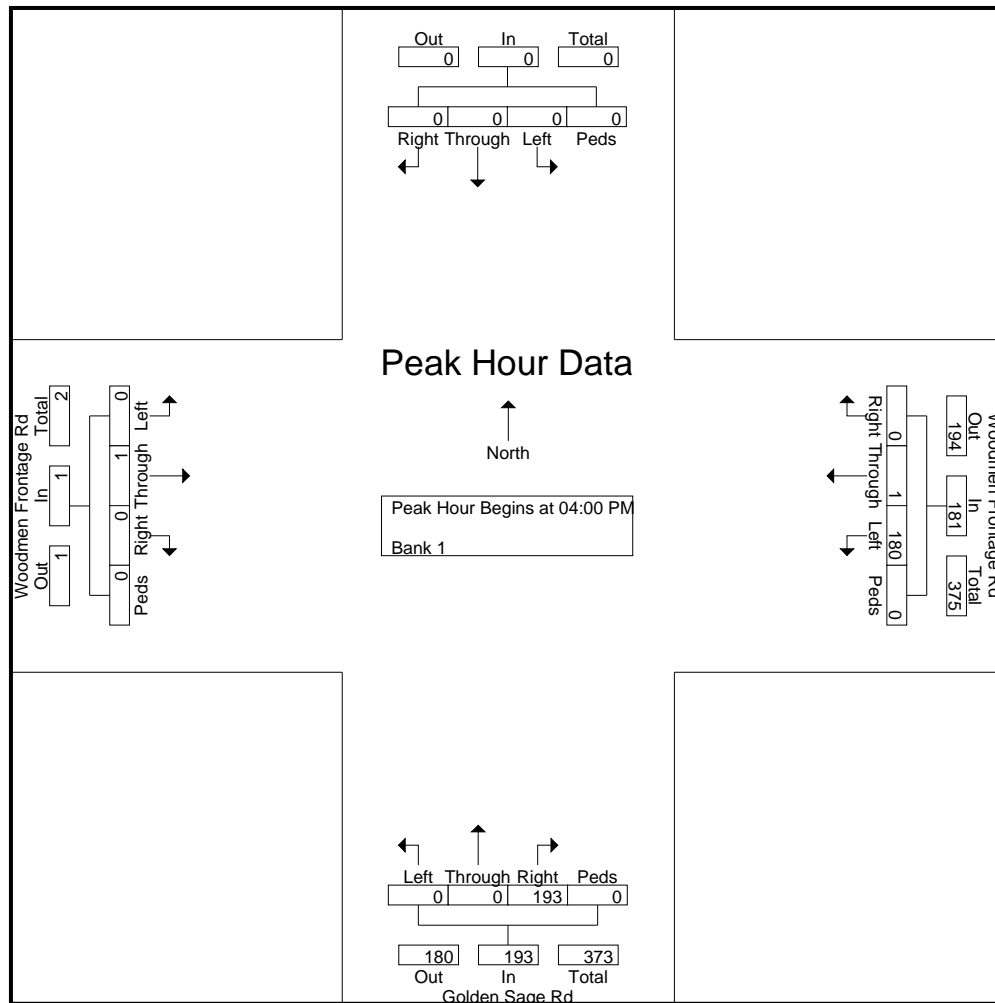
File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20

Site Code : 00194460

Start Date : 1/21/2020

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| | 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 |



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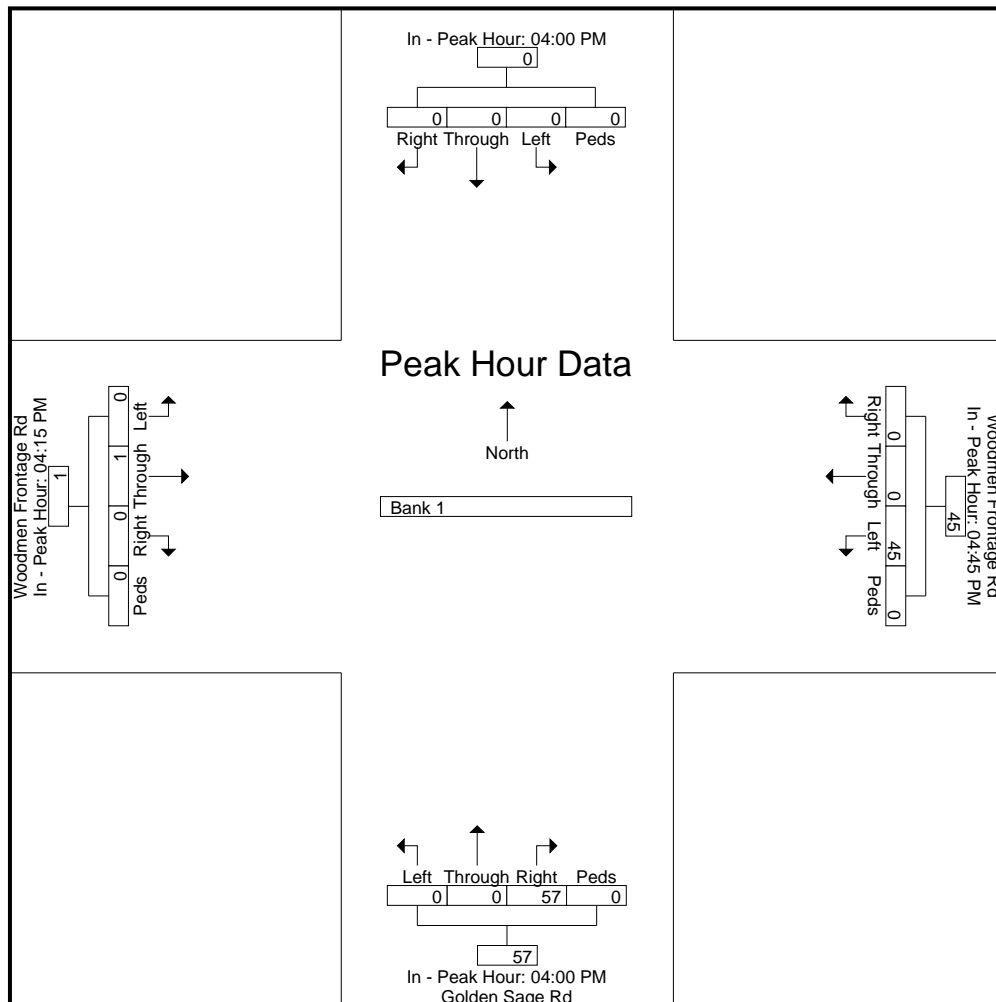
File Name : Golden Sage Rd - Woodmen Frontage Rd PM 1-20

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 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 | 0 | 1 |
| +5 mins. | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 45 | 0 | 0 | 52 | 0 | 52 | 0 | 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 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 89 | 0 | 1 | 0 | 90 | 0 | 0 | 44 | 0 | 44 | 0 | 0 | 2 | 0 | 0 | 2 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 207 | 0 | 1 | 0 | 208 | 0 | 0 | 193 | 0 | 193 | 0 | 1 | 2 | 0 | 0 | 3 |
| % App. Total | 0 | 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 |



HCM 6th TWSC
3: Meridian Rd & Bent Grass Meadows Dr

Existing Traffic
AM Peak Hour

| 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 |

Timings 25: Golden Sage & Woodmen

Existing Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|
| 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 Effect 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



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

Existing Traffic
AM Peak Hour

| 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 | - | - |

HCM 6th TWSC
40: frontage rd & Bent Grass Meadows Dr

Existing Traffic
AM Peak Hour

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 |

























HCM 6th TWSC
3: Meridian Rd & Bent Grass Meadows Dr

Existing Traffic
PM Peak Hour

| 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 | - | - |

Timings 25: Golden Sage & Woodmen

Existing Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|
| 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 Effect 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







HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

Existing Traffic
PM Peak Hour

| 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 | - | - | | | | |

HCM 6th TWSC
40: frontage rd & Bent Grass Meadows Dr

Existing Traffic
PM Peak Hour

| 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 |























HCM 6th TWSC
3: Meridian Rd & Bent Grass Meadows Dr

Short-Term Background Traffic
AM Peak Hour

| Intersection | | | | | | |
|--|---|---|---|---|---|---|
| Int Delay, s/veh | 49 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Vol, veh/h | 133 | 231 | 149 | 583 | 1441 | 258 |
| Future Vol, veh/h | 133 | 231 | 149 | 583 | 1441 | 258 |
| 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 | 139 | 241 | 173 | 678 | 1638 | 293 |
| Major/Minor | Minor2 | Major1 | | Major2 | | |
| Conflicting Flow All | 2323 | 819 | 1931 | 0 | - | 0 |
| Stage 1 | 1638 | - | - | - | - | - |
| Stage 2 | 685 | - | - | - | - | - |
| 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 | ~ 31 | 319 | 301 | - | - | - |
| Stage 1 | 144 | - | - | - | - | - |
| Stage 2 | 462 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | ~ 13 | 319 | 301 | - | - | - |
| Mov Cap-2 Maneuver | ~ 49 | - | - | - | - | - |
| Stage 1 | ~ 61 | - | - | - | - | - |
| Stage 2 | 462 | - | - | - | - | - |
| Approach | EB | NB | | SB | | |
| HCM Control Delay, s | \$ 394 | 6.5 | | 0 | | |
| HCM LOS | F | | | | | |
| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
| Capacity (veh/h) | 301 | - | 49 | 319 | - | - |
| HCM Lane V/C Ratio | 0.576 | - | 2.827 | 0.754 | - | - |
| HCM Control Delay (s) | 32 | - | \$ 1002 | 44 | - | - |
| HCM Lane LOS | D | - | F | E | - | - |
| HCM 95th %tile Q(veh) | 3.4 | - | 14.7 | 5.8 | - | - |
| Notes | | | | | | |
| ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | |

Timings 25: Golden Sage & Woodmen

Short-Term Background Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 110 | 639 | 44 | 15 | 1401 | 69 | 139 | 17 | 4 | 40 | 21 |
| Future Volume (vph) | 110 | 639 | 44 | 15 | 1401 | 69 | 139 | 17 | 4 | 40 | 21 |
| 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) | 11.0 | 54.0 | 54.0 | 10.0 | 53.0 | 53.0 | 15.0 | 21.0 | 21.0 | 15.0 | 21.0 |
| Total Split (%) | 11.0% | 54.0% | 54.0% | 10.0% | 53.0% | 53.0% | 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 Effect Green (s) | 57.6 | 56.3 | 56.3 | 55.1 | 49.1 | 49.1 | 23.0 | 17.1 | 17.1 | 20.9 | 12.0 |
| Actuated g/C Ratio | 0.60 | 0.59 | 0.59 | 0.58 | 0.51 | 0.51 | 0.24 | 0.18 | 0.18 | 0.22 | 0.13 |
| v/c Ratio | 0.65 | 0.33 | 0.05 | 0.04 | 0.87 | 0.09 | 0.68 | 0.06 | 0.01 | 0.13 | 0.81 |
| Control Delay | 32.0 | 12.2 | 0.1 | 8.2 | 27.9 | 0.7 | 44.2 | 36.5 | 0.0 | 26.1 | 38.6 |
| 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 | 32.0 | 12.2 | 0.1 | 8.2 | 27.9 | 0.7 | 44.2 | 36.5 | 0.0 | 26.1 | 38.6 |
| LOS | C | B | A | A | C | A | D | D | A | C | D |
| Approach Delay | | 14.3 | | | 26.4 | | | 42.3 | | | 36.7 |
| Approach LOS | | B | | | C | | | D | | | D |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 95.8

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 25: Golden Sage & Woodmen

| | | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| 10 s | 54 s | | 15 s | | 21 s | | |
|  |  |  |  |  |  |  |  |
| 11 s | 53 s | | 15 s | | 21 s | | |

HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd






Short-Term Background Traffic
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↱ | | | ↱ | | | ↱ | | | ↱ | |
| Traffic Vol, veh/h | 0 | 0 | 1 | 268 | 1 | 0 | 4 | 0 | 192 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 0 | 1 | 268 | 1 | 0 | 4 | 0 | 192 | 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 | 1 | 308 | 1 | 0 | 5 | 0 | 221 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|---|-------|--------|---|-------|---|---|
| Conflicting Flow All | - | 232 | 1 | 123 | 122 | - | 1 | 0 | 0 | 221 | 0 | 0 |
| Stage 1 | - | 1 | - | 121 | 121 | - | - | - | - | - | - | - |
| Stage 2 | - | 231 | - | 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 | 668 | 1084 | 852 | 768 | 0 | 1622 | - | - | 1348 | - | - |
| Stage 1 | 0 | 895 | - | 883 | 796 | 0 | - | - | - | - | - | - |
| Stage 2 | 0 | 713 | - | 1021 | 895 | 0 | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | - | 665 | 1084 | 849 | 765 | - | 1622 | - | - | 1348 | - | - |
| Mov Cap-2 Maneuver | - | 665 | - | 849 | 765 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | 879 | 793 | - | - | - | - | - | - | - |
| Stage 2 | - | 710 | - | 1020 | 895 | - | - | - | - | - | - | - |













| Approach | EB | WB | NB | SB |
|----------------------|-----|------|-----|----|
| HCM Control Delay, s | 8.3 | 11.6 | 0.1 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------------|------|-----|-----|
| Capacity (veh/h) | 1622 | - | - | 1084 849 | 1348 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.001 0.364 | - | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.3 11.6 | 0 | - | - |
| HCM Lane LOS | A | A | - | A B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 1.7 | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 2.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 31 | 143 | 133 | 10 | 15 | 65 |
| Future Vol, veh/h | 31 | 143 | 133 | 10 | 15 | 65 |
| 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 | 82 | 82 | 83 | 83 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 38 | 174 | 160 | 12 | 18 | 78 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 172 | 0 | - | 0 | 416 | 166 |
| Stage 1 | - | - | - | - | 166 | - |
| Stage 2 | - | - | - | - | 250 | - |
| 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 | 1405 | - | - | - | 593 | 878 |
| Stage 1 | - | - | - | - | 863 | - |
| Stage 2 | - | - | - | - | 792 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1405 | - | - | - | 577 | 878 |
| Mov Cap-2 Maneuver | - | - | - | - | 577 | - |
| Stage 1 | - | - | - | - | 840 | - |
| Stage 2 | - | - | - | - | 792 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 1.4 | 0 | | 9.9 | | |
| HCM LOS | | | | A | | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1405 | - | - | - | 577 | 878 |
| HCM Lane V/C Ratio | 0.027 | - | - | - | 0.031 | 0.089 |
| HCM Control Delay (s) | 7.6 | - | - | - | 11.4 | 9.5 |
| HCM Lane LOS | A | - | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 | 0.3 |

Timings 3: Meridian Rd & Bent Grass Meadows Dr

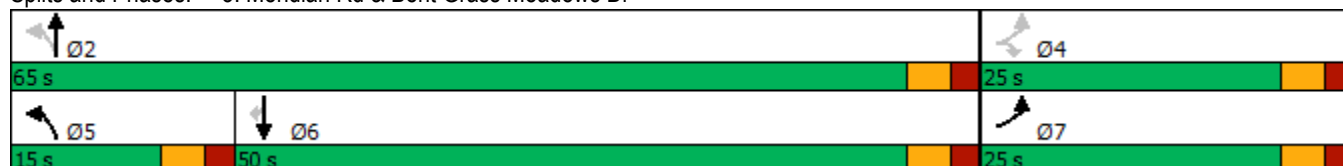
Short-Term Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Volume (vph) | 198 | 223 | 230 | 1217 | 820 | 197 |
| Future Volume (vph) | 198 | 223 | 230 | 1217 | 820 | 197 |
| 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 Effect Green (s) | 15.7 | 15.7 | 60.1 | 60.1 | 46.2 | 46.2 |
| Actuated g/C Ratio | 0.18 | 0.18 | 0.70 | 0.70 | 0.54 | 0.54 |
| v/c Ratio | 0.71 | 0.52 | 0.51 | 0.51 | 0.43 | 0.21 |
| Control Delay | 45.5 | 8.0 | 9.0 | 7.3 | 13.5 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.5 | 8.0 | 9.0 | 7.3 | 13.5 | 2.5 |
| LOS | D | A | A | A | B | A |
| Approach Delay | 25.7 | | | 7.6 | 11.4 | |
| Approach LOS | C | | | A | B | |

Intersection Summary























Cycle Length: 90
 Actuated Cycle Length: 85.8
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 11.8
 Intersection LOS: B
 Intersection Capacity Utilization 58.9%
 ICU Level of Service B
 Analysis Period (min) 15

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



Timings 25: Golden Sage & Woodmen

Short-Term Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 189 | 1301 | 44 | 19 | 869 | 54 | 105 | 33 | 24 | 77 | 18 |
| Future Volume (vph) | 189 | 1301 | 44 | 19 | 869 | 54 | 105 | 33 | 24 | 77 | 18 |
| 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) | 11.0 | 54.0 | 54.0 | 10.0 | 53.0 | 53.0 | 15.0 | 21.0 | 21.0 | 15.0 | 21.0 |
| Total Split (%) | 11.0% | 54.0% | 54.0% | 10.0% | 53.0% | 53.0% | 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 Effect Green (s) | 57.6 | 56.3 | 56.3 | 55.1 | 49.1 | 49.1 | 20.7 | 11.2 | 11.2 | 16.7 | 8.2 |
| Actuated g/C Ratio | 0.63 | 0.62 | 0.62 | 0.60 | 0.54 | 0.54 | 0.23 | 0.12 | 0.12 | 0.18 | 0.09 |
| v/c Ratio | 0.55 | 0.65 | 0.05 | 0.09 | 0.49 | 0.06 | 0.48 | 0.18 | 0.09 | 0.31 | 0.65 |
| Control Delay | 14.3 | 14.9 | 0.1 | 7.5 | 15.0 | 0.1 | 33.2 | 40.1 | 0.5 | 30.2 | 19.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 14.3 | 14.9 | 0.1 | 7.5 | 15.0 | 0.1 | 33.2 | 40.1 | 0.5 | 30.2 | 19.1 |
| LOS | B | B | A | A | B | A | C | D | A | C | B |
| Approach Delay | | 14.4 | | | 14.0 | | | 29.8 | | | 22.5 |
| Approach LOS | | B | | | B | | | C | | | C |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 91.5

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 25: Golden Sage & Woodmen



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd






Short-Term Background Traffic
PM Peak Hour

| 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 | 0 | 0 | 3 | 249 | 1 | 0 | 2 | 0 | 274 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 0 | 3 | 249 | 1 | 0 | 2 | 0 | 274 | 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 | 4 | 286 | 1 | 0 | 2 | 0 | 315 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|
| Conflicting Flow All | - | 320 | 1 | 165 | 163 | - | 1 | 0 |
| Stage 1 | - | 1 | - | 162 | 162 | - | - | - |
| Stage 2 | - | 319 | - | 3 | 1 | - | - | - |
| Critical Hdwy | - | 6.52 | 6.22 | 7.12 | 6.52 | - | 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 | - |
| Pot Cap-1 Maneuver | 0 | 597 | 1084 | 800 | 729 | 0 | 1622 | - |
| Stage 1 | 0 | 895 | - | 840 | 764 | 0 | - | - |
| Stage 2 | 0 | 653 | - | 1020 | 895 | 0 | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | 596 | 1084 | 796 | 728 | - | 1622 | - |
| Mov Cap-2 Maneuver | - | 596 | - | 796 | 728 | - | - | - |
| Stage 1 | - | 895 | - | 838 | 762 | - | - | - |
| Stage 2 | - | 652 | - | 1016 | 895 | - | - | - |













| Approach | EB | WB | NB | SB |
|----------------------|-----|------|-----|----|
| HCM Control Delay, s | 8.3 | 12.1 | 0.1 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|------|-----|
| Capacity (veh/h) | 1622 | - | - | 1084 | 796 | 1245 | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.004 | 0.361 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.3 | 12.1 | 0 | - |
| HCM Lane LOS | A | A | - | A | B | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 1.7 | 0 | - |

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 2.3 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 38 | 143 | 147 | 16 | 9 | 50 |
| Future Vol, veh/h | 38 | 143 | 147 | 16 | 9 | 50 |
| 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 | 87 | 87 | 83 | 83 | 78 | 78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 44 | 164 | 177 | 19 | 12 | 64 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 196 | 0 | - | 0 | 439 | 187 |
| Stage 1 | - | - | - | - | 187 | - |
| Stage 2 | - | - | - | - | 252 | - |
| 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 | 1377 | - | - | - | 575 | 855 |
| Stage 1 | - | - | - | - | 845 | - |
| Stage 2 | - | - | - | - | 790 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1377 | - | - | - | 557 | 855 |
| Mov Cap-2 Maneuver | - | - | - | - | 557 | - |
| Stage 1 | - | - | - | - | 818 | - |
| Stage 2 | - | - | - | - | 790 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 1.6 | 0 | | 9.9 | | |
| HCM LOS | A | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1377 | - | - | - | 557 | 855 |
| HCM Lane V/C Ratio | 0.032 | - | - | - | 0.021 | 0.075 |
| HCM Control Delay (s) | 7.7 | - | - | - | 11.6 | 9.6 |
| HCM Lane LOS | A | - | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 | 0.2 |

Timings 3: Meridian Rd & Bent Grass Meadows Dr

Short-Term Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Volume (vph) | 145 | 268 | 160 | 583 | 1441 | 262 |
| Future Volume (vph) | 145 | 268 | 160 | 583 | 1441 | 262 |
| 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 Effect Green (s) | 12.4 | 12.4 | 60.1 | 60.1 | 46.5 | 46.5 |
| Actuated g/C Ratio | 0.15 | 0.15 | 0.73 | 0.73 | 0.56 | 0.56 |
| v/c Ratio | 0.57 | 0.68 | 0.68 | 0.26 | 0.82 | 0.29 |
| Control Delay | 41.2 | 18.3 | 27.0 | 4.4 | 20.4 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 41.2 | 18.3 | 27.0 | 4.4 | 20.4 | 2.2 |
| LOS | D | B | C | A | C | A |
| Approach Delay | 26.3 | | | 9.3 | 17.6 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 82.5

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 16.6

Intersection LOS: B

Intersection Capacity Utilization 69.2%

ICU Level of Service C























Analysis Period (min) 15

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



Timings
25: Golden Sage & Woodmen

Short-Term Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 127 | 639 | 44 | 15 | 1401 | 69 | 139 | 17 | 4 | 40 | 22 |
| Future Volume (vph) | 127 | 639 | 44 | 15 | 1401 | 69 | 139 | 17 | 4 | 40 | 22 |
| 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) | 11.0 | 54.0 | 54.0 | 10.0 | 53.0 | 53.0 | 15.0 | 21.0 | 21.0 | 15.0 | 21.0 |
| Total Split (%) | 11.0% | 54.0% | 54.0% | 10.0% | 53.0% | 53.0% | 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 Effect Green (s) | 57.5 | 56.1 | 56.1 | 55.1 | 49.1 | 49.1 | 29.0 | 21.5 | 21.5 | 22.1 | 14.7 |
| Actuated g/C Ratio | 0.58 | 0.57 | 0.57 | 0.56 | 0.50 | 0.50 | 0.29 | 0.22 | 0.22 | 0.22 | 0.15 |
| v/c Ratio | 0.77 | 0.34 | 0.05 | 0.04 | 0.89 | 0.09 | 0.67 | 0.05 | 0.01 | 0.14 | 0.90 |
| Control Delay | 44.5 | 13.0 | 0.1 | 8.5 | 30.8 | 0.7 | 40.5 | 34.6 | 0.0 | 25.9 | 53.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.5 | 13.0 | 0.1 | 8.5 | 30.8 | 0.7 | 40.5 | 34.6 | 0.0 | 25.9 | 53.0 |
| LOS | D | B | A | A | C | A | D | C | A | C | D |
| Approach Delay | | 17.2 | | | 29.2 | | | 38.8 | | | 49.6 |
| Approach LOS | | B | | | C | | | D | | | D |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 100 | |
| Actuated Cycle Length: 98.5 | |
| Natural Cycle: 80 | |
| Control Type: Semi Act-Uncoord | |
| Maximum v/c Ratio: 0.90 | |
| Intersection Signal Delay: 28.8 | Intersection LOS: C |
| Intersection Capacity Utilization 85.6% | ICU Level of Service E |
| Analysis Period (min) 15 | |

Splits and Phases: 25: Golden Sage & Woodmen



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

Short-Term Total Traffic
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↱ | | | ↱ | | | ↱ | | | ↱ | |
| Traffic Vol, veh/h | 0 | 0 | 1 | 318 | 1 | 0 | 4 | 0 | 209 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 0 | 1 | 318 | 1 | 0 | 4 | 0 | 209 | 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 | 1 | 366 | 1 | 0 | 5 | 0 | 240 | 0 | 0 | 0 |






| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|---|-------|---|---|
| Conflicting Flow All | - | 251 | 1 | 132 | 131 | - | 1 | 0 | 0 | 240 | 0 | 0 |
| Stage 1 | - | 1 | - | 130 | 130 | - | - | - | - | - | - | - |
| Stage 2 | - | 250 | - | 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 | 652 | 1084 | 840 | 760 | 0 | 1622 | - | - | 1327 | - | - |
| Stage 1 | 0 | 895 | - | 874 | 789 | 0 | - | - | - | - | - | - |
| Stage 2 | 0 | 700 | - | 1021 | 895 | 0 | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | - | 649 | 1084 | 837 | 757 | - | 1622 | - | - | 1327 | - | - |
| Mov Cap-2 Maneuver | - | 649 | - | 837 | 757 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | 871 | 786 | - | - | - | - | - | - | - |
| Stage 2 | - | 697 | - | 1020 | 895 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|------|-----|----|
| HCM Control Delay, s | 8.3 | 12.6 | 0.1 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------------|------|-----|-----|
| Capacity (veh/h) | 1622 | - | - | 1084 837 | 1327 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.001 0.438 | - | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.3 12.6 | 0 | - | - |
| HCM Lane LOS | A | A | - | A B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 2.3 | 0 | - | - |






HCM 6th TWSC
40: frontage rd & Bent Grass Meadows Dr

Short-Term Total Traffic
AM Peak Hour

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 3.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 48 | 143 | 133 | 12 | 15 | 115 |
| Future Vol, veh/h | 48 | 143 | 133 | 12 | 15 | 115 |
| 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 | 82 | 82 | 83 | 83 | 83 | 83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 59 | 174 | 160 | 14 | 18 | 139 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 174 | 0 | - | 0 | 459 | 167 |
| Stage 1 | - | - | - | - | 167 | - |
| Stage 2 | - | - | - | - | 292 | - |
| 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 | 1403 | - | - | - | 560 | 877 |
| Stage 1 | - | - | - | - | 863 | - |
| Stage 2 | - | - | - | - | 758 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1403 | - | - | - | 536 | 877 |
| Mov Cap-2 Maneuver | - | - | - | - | 536 | - |
| Stage 1 | - | - | - | - | 827 | - |
| Stage 2 | - | - | - | - | 758 | - |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 1.9 | 0 | | 10.1 | | |
| HCM LOS | | | | B | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1403 | - | - | - | 536 | 877 |
| HCM Lane V/C Ratio | 0.042 | - | - | - | 0.034 | 0.158 |
| HCM Control Delay (s) | 7.7 | - | - | - | 12 | 9.9 |
| HCM Lane LOS | A | - | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | - | 0.1 | 0.6 |

Intersection







Int Delay, s/veh 1.9

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|---|------|---|---|---|---|
| Lane Configurations |  | |  |  |  |  |
| Traffic Vol, veh/h | 48 | 10 | 2 | 79 | 26 | 8 |
| Future Vol, veh/h | 48 | 10 | 2 | 79 | 26 | 8 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 52 | 11 | 2 | 86 | 28 | 9 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 63 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1540 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1540 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 0.2 | 9.4 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 854 | - | - | 1540 | - |
| HCM Lane V/C Ratio | 0.043 | - | - | 0.001 | - |
| HCM Control Delay (s) | 9.4 | - | - | 7.3 | - |
| HCM Lane LOS | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 6 | 45 | 5 | 8 | 50 | 5 | 15 | 0 | 25 | 16 | 0 | 16 |
| Future Vol, veh/h | 6 | 45 | 5 | 8 | 50 | 5 | 15 | 0 | 25 | 16 | 0 | 16 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 49 | 5 | 9 | 54 | 5 | 16 | 0 | 27 | 17 | 0 | 17 |













| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 59 | 0 | 0 | 54 | 0 | 0 | 149 | 143 | 52 | 154 | 143 | 57 |
| Stage 1 | - | - | - | - | - | - | 66 | 66 | - | 75 | 75 | - |
| Stage 2 | - | - | - | - | - | - | 83 | 77 | - | 79 | 68 | - |
| 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 | 1545 | - | - | 1551 | - | - | 819 | 748 | 1016 | 813 | 748 | 1009 |
| Stage 1 | - | - | - | - | - | - | 945 | 840 | - | 934 | 833 | - |
| Stage 2 | - | - | - | - | - | - | 925 | 831 | - | 930 | 838 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1545 | - | - | 1551 | - | - | 799 | 740 | 1016 | 785 | 740 | 1009 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 799 | 740 | - | 785 | 740 | - |
| Stage 1 | - | - | - | - | - | - | 940 | 836 | - | 929 | 828 | - |
| Stage 2 | - | - | - | - | - | - | 904 | 826 | - | 901 | 834 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 0.8 | | | 0.9 | | | 9.1 | | | 9.2 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 922 | 1545 | - | - | 1551 | - | - | 883 |
| HCM Lane V/C Ratio | 0.047 | 0.004 | - | - | 0.006 | - | - | 0.039 |
| HCM Control Delay (s) | 9.1 | 7.3 | - | - | 7.3 | - | - | 9.2 |
| HCM Lane LOS | A | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.1 |

Timings 3: Meridian Rd & Bent Grass Meadows Dr

Short-Term Total Traffic
PM Peak Hour

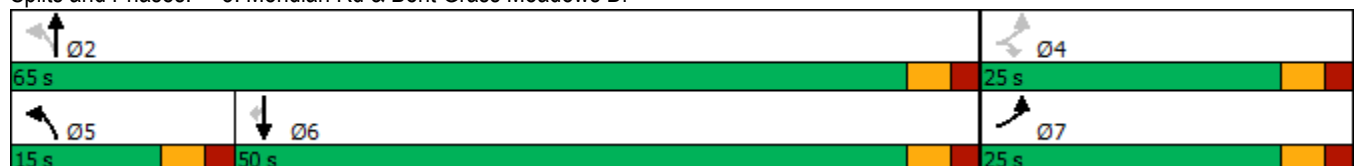
| |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Volume (vph) | 206 | 247 | 266 | 1217 | 820 | 210 |
| Future Volume (vph) | 206 | 247 | 266 | 1217 | 820 | 210 |
| Turn Type | 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 Effect Green (s) | 16.1 | 16.1 | 60.1 | 60.1 | 45.9 | 45.9 |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.70 | 0.70 | 0.53 | 0.53 |
| v/c Ratio | 0.73 | 0.54 | 0.59 | 0.51 | 0.44 | 0.22 |
| Control Delay | 46.4 | 8.0 | 10.6 | 7.5 | 13.9 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.4 | 8.0 | 10.6 | 7.5 | 13.9 | 2.5 |
| LOS | D | A | B | A | B | A |
| Approach Delay | 25.5 | | | 8.1 | 11.5 | |
| Approach LOS | C | | | A | B | |

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 86.2
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 12.2
Intersection Capacity Utilization 61.3%
Analysis Period (min) 15























Intersection LOS: B
ICU Level of Service B

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



Timings 25: Golden Sage & Woodmen

Short-Term Total Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|--|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 245 | 1301 | 44 | 19 | 869 | 54 | 105 | 34 | 24 | 77 | 19 |
| Future Volume (vph) | 245 | 1301 | 44 | 19 | 869 | 54 | 105 | 34 | 24 | 77 | 19 |
| 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) | 11.0 | 54.0 | 54.0 | 10.0 | 53.0 | 53.0 | 15.0 | 21.0 | 21.0 | 15.0 | 21.0 |
| Total Split (%) | 11.0% | 54.0% | 54.0% | 10.0% | 53.0% | 53.0% | 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 Effect Green (s) | 57.6 | 56.4 | 56.4 | 55.2 | 49.1 | 49.1 | 21.0 | 11.5 | 11.5 | 17.0 | 8.5 |
| Actuated g/C Ratio | 0.63 | 0.61 | 0.61 | 0.60 | 0.53 | 0.53 | 0.23 | 0.13 | 0.13 | 0.18 | 0.09 |
| v/c Ratio | 0.71 | 0.65 | 0.05 | 0.09 | 0.49 | 0.06 | 0.48 | 0.18 | 0.09 | 0.31 | 0.69 |
| Control Delay | 23.5 | 15.2 | 0.1 | 7.8 | 15.3 | 0.1 | 33.1 | 39.8 | 0.5 | 29.9 | 18.8 |
| 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 | 23.5 | 15.2 | 0.1 | 7.8 | 15.3 | 0.1 | 33.1 | 39.8 | 0.5 | 29.9 | 18.8 |
| LOS | C | B | A | A | B | A | C | D | A | C | B |
| Approach Delay | | 15.9 | | | 14.2 | | | 29.7 | | | 21.8 |
| Approach LOS | | B | | | B | | | C | | | C |

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 91.9

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 72.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 25: Golden Sage & Woodmen



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd






Short-Term Total Traffic
PM Peak Hour






| 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 | 0 | 0 | 3 | 282 | 1 | 0 | 2 | 0 | 331 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 0 | 3 | 282 | 1 | 0 | 2 | 0 | 331 | 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 | 4 | 324 | 1 | 0 | 2 | 0 | 380 | 0 | 0 | 0 |







| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|---|-------|--------|---|-------|---|---|
| Conflicting Flow All | - | 385 | 1 | 197 | 195 | - | 1 | 0 | 0 | 380 | 0 | 0 |
| Stage 1 | - | 1 | - | 194 | 194 | - | - | - | - | - | - | - |
| Stage 2 | - | 384 | - | 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 | 549 | 1084 | 762 | 700 | 0 | 1622 | - | - | 1178 | - | - |
| Stage 1 | 0 | 895 | - | 808 | 740 | 0 | - | - | - | - | - | - |
| Stage 2 | 0 | 611 | - | 1020 | 895 | 0 | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | - | 548 | 1084 | 758 | 699 | - | 1622 | - | - | 1178 | - | - |
| Mov Cap-2 Maneuver | - | 548 | - | 758 | 699 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | 806 | 739 | - | - | - | - | - | - | - |
| Stage 2 | - | 610 | - | 1016 | 895 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|------|----|----|
| HCM Control Delay, s | 8.3 | 13.3 | 0 | 0 |
| HCM LOS | A | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|-------------|------|-----|-----|
| Capacity (veh/h) | 1622 | - | - | 1084 758 | 1178 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | - | 0.004 0.429 | - | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.3 13.3 | 0 | - | - |
| HCM Lane LOS | A | A | - | A B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 2.2 | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 3.4 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 95 | 143 | 147 | 22 | 9 | 83 |
| Future Vol, veh/h | 95 | 143 | 147 | 22 | 9 | 83 |
| 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 | 87 | 87 | 83 | 83 | 78 | 78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 109 | 164 | 177 | 27 | 12 | 106 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 204 | 0 | - | 0 | 573 | 191 |
| Stage 1 | - | - | - | - | 191 | - |
| Stage 2 | - | - | - | - | 382 | - |
| 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 | - | - | - | 481 | 851 |
| Stage 1 | - | - | - | - | 841 | - |
| Stage 2 | - | - | - | - | 690 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1368 | - | - | - | 443 | 851 |
| Mov Cap-2 Maneuver | - | - | - | - | 443 | - |
| Stage 1 | - | - | - | - | 774 | - |
| Stage 2 | - | - | - | - | 690 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 3.1 | 0 | | 10.1 | | |
| HCM LOS | B | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1368 | - | - | - | 443 | 851 |
| HCM Lane V/C Ratio | 0.08 | - | - | - | 0.026 | 0.125 |
| HCM Control Delay (s) | 7.9 | - | - | - | 13.3 | 9.8 |
| HCM Lane LOS | A | - | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - | 0.1 | 0.4 |

| Intersection | | | | | | |
|--------------------------|---|--------|---|---|---|--|
| Int Delay, s/veh | 1.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations |  | |  |  |  |  |
| Traffic Vol, veh/h | 79 | 32 | 7 | 55 | 17 | 5 |
| Future Vol, veh/h | 79 | 32 | 7 | 55 | 17 | 5 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 86 | 35 | 8 | 60 | 18 | 5 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor1 | | |
| Conflicting Flow All | 0 | 0 | 121 | 0 | 180 | 104 |
| Stage 1 | - | - | - | - | 104 | - |
| Stage 2 | - | - | - | - | 76 | - |
| 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 | - | - | 1467 | - | 810 | 951 |
| Stage 1 | - | - | - | - | 920 | - |
| Stage 2 | - | - | - | - | 947 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1467 | - | 806 | 951 |
| Mov Cap-2 Maneuver | - | - | - | - | 791 | - |
| Stage 1 | - | - | - | - | 915 | - |
| Stage 2 | - | - | - | - | 947 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | NB | | |
| HCM Control Delay, s | 0 | 0.8 | | 9.5 | | |
| HCM LOS | A | | | | | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT | |
| Capacity (veh/h) | 822 | - | - | 1467 | - | |
| HCM Lane V/C Ratio | 0.029 | - | - | 0.005 | - | |
| HCM Control Delay (s) | 9.5 | - | - | 7.5 | - | |
| HCM Lane LOS | A | - | - | A | - | |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - | |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 3.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 20 | 46 | 18 | 26 | 41 | 16 | 11 | 0 | 16 | 10 | 0 | 11 |
| Future Vol, veh/h | 20 | 46 | 18 | 26 | 41 | 16 | 11 | 0 | 16 | 10 | 0 | 11 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 22 | 50 | 20 | 28 | 45 | 17 | 12 | 0 | 17 | 11 | 0 | 12 |








| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 62 | 0 | 0 | 70 | 0 | 0 | 220 | 222 | 60 | 223 | 224 | 54 |
| Stage 1 | - | - | - | - | - | - | 104 | 104 | - | 110 | 110 | - |
| Stage 2 | - | - | - | - | - | - | 116 | 118 | - | 113 | 114 | - |
| 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 | 1541 | - | - | 1531 | - | - | 736 | 677 | 1005 | 733 | 675 | 1013 |
| Stage 1 | - | - | - | - | - | - | 902 | 809 | - | 895 | 804 | - |
| Stage 2 | - | - | - | - | - | - | 889 | 798 | - | 892 | 801 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1541 | - | - | 1531 | - | - | 710 | 655 | 1005 | 702 | 653 | 1013 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 710 | 655 | - | 702 | 653 | - |
| Stage 1 | - | - | - | - | - | - | 889 | 798 | - | 882 | 790 | - |
| Stage 2 | - | - | - | - | - | - | 862 | 784 | - | 864 | 790 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 1.8 | | | 2.3 | | | 9.3 | | | 9.4 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 860 | 1541 | - | - | 1531 | - | - | 837 |
| HCM Lane V/C Ratio | 0.034 | 0.014 | - | - | 0.018 | - | - | 0.027 |
| HCM Control Delay (s) | 9.3 | 7.4 | - | - | 7.4 | - | - | 9.4 |
| HCM Lane LOS | A | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0.1 | - | - | 0.1 |

Timings 3: Meridian Rd & Bent Grass Meadows Dr

2040 Background Traffic
AM Peak Hour

| |  | | | | | |
|----------------------|---|---|---|---|---|---|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Volume (vph) | 223 | 309 | 315 | 631 | 1680 | 287 |
| Future Volume (vph) | 223 | 309 | 315 | 631 | 1680 | 287 |
| 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) | 25.0 | | 31.0 | 95.0 | 64.0 | 64.0 |
| Total Split (%) | 20.8% | | 25.8% | 79.2% | 53.3% | 53.3% |
| 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 Effect Green (s) | 13.2 | 113.3 | 90.1 | 90.1 | 63.8 | 63.8 |
| Actuated g/C Ratio | 0.12 | 1.00 | 0.80 | 0.80 | 0.56 | 0.56 |
| v/c Ratio | 0.60 | 0.21 | 0.86 | 0.24 | 0.92 | 0.31 |
| Control Delay | 54.1 | 0.3 | 52.4 | 3.4 | 32.5 | 3.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.1 | 0.3 | 52.4 | 3.4 | 32.5 | 3.7 |
| LOS | D | A | D | A | C | A |
| Approach Delay | 22.8 | | | 19.7 | 28.3 | |
| Approach LOS | C | | | B | C | |

Intersection Summary




























Cycle Length: 120
Actuated Cycle Length: 113.3
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 25.1
Intersection LOS: C
Intersection Capacity Utilization 82.8%
ICU Level of Service E
Analysis Period (min) 15

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



Timings
25: Golden Sage Rd & Woodmen Rd

2040 Background Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |  |   |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 363 | 734 | 74 | 77 | 1776 | 90 | 150 | 7 | 48 | 238 | 10 | 327 |
| Future Volume (vph) | 363 | 734 | 74 | 77 | 1776 | 90 | 150 | 7 | 48 | 238 | 10 | 327 |
| 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) | 18.0 | 71.0 | 71.0 | 10.0 | 63.0 | 63.0 | 24.0 | 15.0 | 15.0 | 24.0 | 15.0 | |
| Total Split (%) | 15.0% | 59.2% | 59.2% | 8.3% | 52.5% | 52.5% | 20.0% | 12.5% | 12.5% | 20.0% | 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 Effect Green (s) | 14.1 | 67.6 | 67.6 | 65.3 | 57.3 | 57.3 | 26.7 | 7.2 | 7.2 | 20.3 | 7.3 | 112.8 |
| Actuated g/C Ratio | 0.12 | 0.60 | 0.60 | 0.58 | 0.51 | 0.51 | 0.24 | 0.06 | 0.06 | 0.18 | 0.06 | 1.00 |
| v/c Ratio | 0.89 | 0.35 | 0.08 | 0.18 | 1.01 | 0.11 | 0.39 | 0.06 | 0.19 | 0.79 | 0.09 | 0.22 |
| Control Delay | 73.6 | 13.5 | 1.1 | 8.6 | 52.5 | 0.5 | 37.8 | 52.3 | 1.6 | 61.2 | 52.9 | 0.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 73.6 | 13.5 | 1.1 | 8.6 | 52.5 | 0.5 | 37.8 | 52.3 | 1.6 | 61.2 | 52.9 | 0.3 |
| LOS | E | B | A | A | D | A | D | D | A | E | D | A |
| Approach Delay | | 31.7 | | | 48.2 | | | 29.7 | | | 26.5 | |
| Approach LOS | | C | | | D | | | C | | | C | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 112.8

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 39.0


Intersection LOS: D

Intersection Capacity Utilization 91.0%

ICU Level of Service E

Analysis Period (min) 15

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

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| 10 s | 71 s | | 24 s | 15 s | | 24 s | 15 s | | 24 s | 15 s | |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 18 s | 63 s | | 24 s | 15 s | | 24 s | 15 s | | 24 s | 15 s | |

HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd






2040 Background Traffic
AM Peak Hour







| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 24.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↰ | | | ↱ | | | ↱ | ↱ | | ↰ | |
| Traffic Vol, veh/h | 0 | 32 | 277 | 299 | 5 | 0 | 101 | 0 | 359 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 32 | 277 | 299 | 5 | 0 | 101 | 0 | 359 | 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 | 34 | 292 | 315 | 5 | 0 | 106 | 0 | 378 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|---|-------|---|---|
| Conflicting Flow All | - | 213 | 1 | 376 | 213 | - | 1 | 0 | - | 0 | 0 | 0 |
| Stage 1 | - | 1 | - | 212 | 212 | - | - | - | - | - | - | - |
| Stage 2 | - | 212 | - | 164 | 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 | 684 | 1084 | 581 | 684 | 0 | 1622 | - | 0 | - | - | - |
| Stage 1 | 0 | 895 | - | 790 | 727 | 0 | - | - | 0 | - | - | - |
| Stage 2 | 0 | 727 | - | 838 | 895 | 0 | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | - | 640 | 1084 | 388 | 640 | - | 1622 | - | - | - | - | - |
| Mov Cap-2 Maneuver | - | 640 | - | 388 | 640 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | 739 | 680 | - | - | - | - | - | - | - |
| Stage 2 | - | 680 | - | 590 | 895 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|----|--|
| HCM Control Delay, s | 10.2 | | 44.5 | | 7.4 | | 0 | |
| HCM LOS | B | | E | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-------|-------|-----|-----|-----|
| Capacity (veh/h) | 1622 | - | 1011 | 391 | - | - | - |
| HCM Lane V/C Ratio | 0.066 | - | 0.322 | 0.818 | - | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 10.2 | 44.5 | 0 | - | - |
| HCM Lane LOS | A | A | B | E | A | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | 1.4 | 7.4 | - | - | - |

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 3.7 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 149 | 235 | 144 | 33 | 10 | 126 |
| Future Vol, veh/h | 149 | 235 | 144 | 33 | 10 | 126 |
| 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 | 162 | 255 | 157 | 36 | 11 | 137 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 193 | 0 | - | 0 | 754 | 175 |
| Stage 1 | - | - | - | - | 175 | - |
| Stage 2 | - | - | - | - | 579 | - |
| 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 | 1380 | - | - | - | 377 | 868 |
| Stage 1 | - | - | - | - | 855 | - |
| Stage 2 | - | - | - | - | 560 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1380 | - | - | - | 333 | 868 |
| Mov Cap-2 Maneuver | - | - | - | - | 333 | - |
| Stage 1 | - | - | - | - | 755 | - |
| Stage 2 | - | - | - | - | 560 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 3.1 | 0 | | 10.4 | | |
| HCM LOS | B | | | | | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1380 | - | - | - | 333 | 868 |
| HCM Lane V/C Ratio | 0.117 | - | - | - | 0.033 | 0.158 |
| HCM Control Delay (s) | 8 | - | - | - | 16.2 | 9.9 |
| HCM Lane LOS | A | - | - | - | C | A |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 0.1 | 0.6 |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 0.7 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 0 | 133 | 2 | 0 | 143 | 5 | 6 | 0 | 0 | 14 | 0 | 0 |
| Future Vol, veh/h | 0 | 133 | 2 | 0 | 143 | 5 | 6 | 0 | 0 | 14 | 0 | 0 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 145 | 2 | 0 | 155 | 5 | 7 | 0 | 0 | 15 | 0 | 0 |













| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 160 | 0 | 0 | 147 | 0 | 0 | 304 | 306 | 146 | 304 | 305 | 158 |
| Stage 1 | - | - | - | - | - | - | 146 | 146 | - | 158 | 158 | - |
| Stage 2 | - | - | - | - | - | - | 158 | 160 | - | 146 | 147 | - |
| 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 | 1419 | - | - | 1435 | - | - | 648 | 608 | 901 | 648 | 608 | 887 |
| Stage 1 | - | - | - | - | - | - | 857 | 776 | - | 844 | 767 | - |
| Stage 2 | - | - | - | - | - | - | 844 | 766 | - | 857 | 775 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1419 | - | - | 1435 | - | - | 648 | 608 | 901 | 648 | 608 | 887 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 648 | 608 | - | 648 | 608 | - |
| Stage 1 | - | - | - | - | - | - | 857 | 776 | - | 844 | 767 | - |
| Stage 2 | - | - | - | - | - | - | 844 | 766 | - | 857 | 775 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0 | | | 10.6 | | | 10.7 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h) | 648 | 1419 | - | - | 1435 | - | - | 648 |
| HCM Lane V/C Ratio | 0.01 | - | - | - | - | - | - | 0.023 |
| HCM Control Delay (s) | 10.6 | 0 | - | - | 0 | - | - | 10.7 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0.1 |

Timings 3: Bent Grass Meadows Dr

2040 Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |
| Traffic Volume (vph) | 492 | 350 | 362 | 1424 | 1114 | 192 |
| Future Volume (vph) | 492 | 350 | 362 | 1424 | 1114 | 192 |
| 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) | 31.0 | 31.0 | 37.0 | 89.0 | 52.0 | 52.0 |
| Total Split (%) | 25.8% | 25.8% | 30.8% | 74.2% | 43.3% | 43.3% |
| 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 Effect Green (s) | 23.0 | 23.0 | 84.0 | 84.0 | 54.0 | 54.0 |
| Actuated g/C Ratio | 0.20 | 0.20 | 0.72 | 0.72 | 0.46 | 0.46 |
| v/c Ratio | 0.79 | 0.62 | 0.84 | 0.61 | 0.74 | 0.25 |
| Control Delay | 54.3 | 8.7 | 43.1 | 9.9 | 31.2 | 3.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 8.7 | 43.1 | 9.9 | 31.2 | 3.9 |
| LOS | D | A | D | A | C | A |
| Approach Delay | 35.4 | | | 16.6 | 27.2 | |
| Approach LOS | D | | | B | C | |

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 24.1
Intersection Capacity Utilization 77.4%
Analysis Period (min) 15

























Intersection LOS: C
ICU Level of Service D

Splits and Phases: 3: Bent Grass Meadows Dr



Timings
25: Golden Sage Rd & Woodmen Rd

2040 Background Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph) | 390 | 1629 | 121 | 99 | 1083 | 284 | 152 | 14 | 114 | 177 | 10 | 400 |
| Future Volume (vph) | 390 | 1629 | 121 | 99 | 1083 | 284 | 152 | 14 | 114 | 177 | 10 | 400 |
| 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 Effect Green (s) | 17.4 | 56.2 | 56.2 | 52.9 | 44.9 | 44.9 | 27.2 | 7.4 | 7.4 | 19.0 | 7.8 | 104.7 |
| Actuated g/C Ratio | 0.17 | 0.54 | 0.54 | 0.51 | 0.43 | 0.43 | 0.26 | 0.07 | 0.07 | 0.18 | 0.07 | 1.00 |
| v/c Ratio | 0.72 | 0.87 | 0.14 | 0.59 | 0.73 | 0.35 | 0.36 | 0.11 | 0.44 | 0.58 | 0.08 | 0.27 |
| Control Delay | 50.1 | 28.3 | 2.8 | 30.9 | 29.2 | 3.8 | 33.3 | 49.9 | 7.2 | 45.7 | 48.1 | 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 | 50.1 | 28.3 | 2.8 | 30.9 | 29.2 | 3.8 | 33.3 | 49.9 | 7.2 | 45.7 | 48.1 | 0.4 |
| LOS | D | C | A | C | C | A | C | D | A | D | D | A |
| Approach Delay | | 30.9 | | | 24.3 | | | 23.6 | | | 14.9 | |
| Approach LOS | | C | | | C | | | C | | | B | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 104.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

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



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Background Traffic
PM Peak Hour






| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 283 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↱ | | | ↱ | | | ↱ | ↱ | | ↱ | |
| Traffic Vol, veh/h | 0 | 27 | 183 | 405 | 15 | 0 | 330 | 0 | 359 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 27 | 183 | 405 | 15 | 0 | 330 | 0 | 359 | 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 | 28 | 193 | 426 | 16 | 0 | 347 | 0 | 378 | 0 | 0 | 0 |







| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|---|-------|---|---|
| Conflicting Flow All | - | 695 | 1 | 806 | 695 | - | 1 | 0 | - | 0 | 0 | 0 |
| Stage 1 | - | 1 | - | 694 | 694 | - | - | - | - | - | - | - |
| Stage 2 | - | 694 | - | 112 | 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 | 366 | 1084 | ~ 300 | 366 | 0 | 1622 | - | 0 | - | - | - |
| Stage 1 | 0 | 895 | - | 433 | 444 | 0 | - | - | 0 | - | - | - |
| Stage 2 | 0 | 444 | - | 893 | 895 | 0 | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | - | 288 | 1084 | ~ 191 | 288 | - | 1622 | - | - | - | - | - |
| Mov Cap-2 Maneuver | - | 288 | - | ~ 191 | 288 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | ~ 340 | 349 | - | - | - | - | - | - | - |
| Stage 2 | - | 349 | - | 711 | 895 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|----------|-----|----|
| HCM Control Delay, s | 11.2 | \$ 635.9 | 7.8 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-------|----------|-----|-----|-----|
| Capacity (veh/h) | 1622 | - | 800 | 193 | - | - | - |
| HCM Lane V/C Ratio | 0.214 | - | 0.276 | 2.291 | - | - | - |
| HCM Control Delay (s) | 7.8 | 0 | 11.2 | \$ 635.9 | 0 | - | - |
| HCM Lane LOS | A | A | B | F | A | - | - |
| HCM 95th %tile Q(veh) | 0.8 | - | 1.1 | 35.8 | - | - | - |

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

| Intersection | | | | | | |
|--------------------------|---|---|---|--------|---|---|
| Int Delay, s/veh | 4.2 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 137 | 210 | 221 | 21 | 11 | 179 |
| Future Vol, veh/h | 137 | 210 | 221 | 21 | 11 | 179 |
| 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 | 149 | 228 | 240 | 23 | 12 | 195 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor2 | | |
| Conflicting Flow All | 263 | 0 | - | 0 | 778 | 252 |
| Stage 1 | - | - | - | - | 252 | - |
| Stage 2 | - | - | - | - | 526 | - |
| 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 | 1301 | - | - | - | 365 | 787 |
| Stage 1 | - | - | - | - | 790 | - |
| Stage 2 | - | - | - | - | 593 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1301 | - | - | - | 323 | 787 |
| Mov Cap-2 Maneuver | - | - | - | - | 323 | - |
| Stage 1 | - | - | - | - | 699 | - |
| Stage 2 | - | - | - | - | 593 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 3.2 | 0 | | 11.4 | | |
| HCM LOS | B | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1301 | - | - | - | 323 | 787 |
| HCM Lane V/C Ratio | 0.114 | - | - | - | 0.037 | 0.247 |
| HCM Control Delay (s) | 8.1 | - | - | - | 16.6 | 11.1 |
| HCM Lane LOS | A | - | - | - | C | B |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 0.1 | 1 |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|------|---|------|------|---|------|
| Int Delay, s/veh | 0.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 0 | 181 | 8 | 0 | 99 | 13 | 5 | 0 | 0 | 8 | 0 | 0 |
| Future Vol, veh/h | 0 | 181 | 8 | 0 | 99 | 13 | 5 | 0 | 0 | 8 | 0 | 0 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 197 | 9 | 0 | 108 | 14 | 5 | 0 | 0 | 9 | 0 | 0 |













| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 122 | 0 | 0 | 206 | 0 | 0 | 317 | 324 | 202 | 317 | 321 | 115 |
| Stage 1 | - | - | - | - | - | - | 202 | 202 | - | 115 | 115 | - |
| Stage 2 | - | - | - | - | - | - | 115 | 122 | - | 202 | 206 | - |
| 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 | 1465 | - | - | 1365 | - | - | 636 | 594 | 839 | 636 | 596 | 937 |
| Stage 1 | - | - | - | - | - | - | 800 | 734 | - | 890 | 800 | - |
| Stage 2 | - | - | - | - | - | - | 890 | 795 | - | 800 | 731 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1465 | - | - | 1365 | - | - | 636 | 594 | 839 | 636 | 596 | 937 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 636 | 594 | - | 636 | 596 | - |
| Stage 1 | - | - | - | - | - | - | 800 | 734 | - | 890 | 800 | - |
| Stage 2 | - | - | - | - | - | - | 890 | 795 | - | 800 | 731 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|----|--|--|----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0 | | | 0 | | | 10.7 | | | 10.7 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h) | 636 | 1465 | - | - | 1365 | - | - | 636 |
| HCM Lane V/C Ratio | 0.009 | - | - | - | - | - | - | 0.014 |
| HCM Control Delay (s) | 10.7 | 0 | - | - | 0 | - | - | 10.7 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - | - | 0 |

Timings 3: Meridian Rd & Bent Grass Meadows Dr

2040 Total Traffic
AM Peak Hour

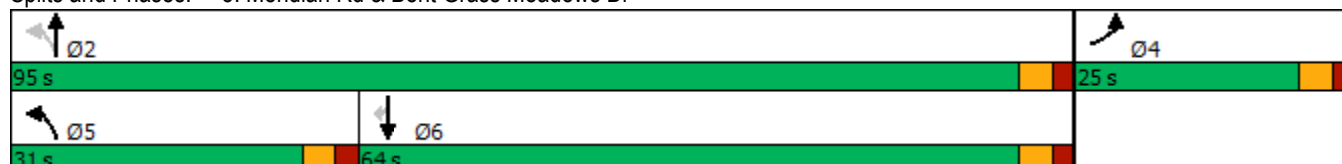
| |  | |  | |  | |  | |  | |  | |
|----------------------|---|---|---|---|---|---|---|--|---|--|---|--|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR | | | | | | |
| Lane Configurations |  |  |  |  |  |  | | | | | | |
| Traffic Volume (vph) | 232 | 337 | 323 | 631 | 1680 | 290 | | | | | | |
| Future Volume (vph) | 232 | 337 | 323 | 631 | 1680 | 290 | | | | | | |
| 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) | 25.0 | | 31.0 | 95.0 | 64.0 | 64.0 | | | | | | |
| Total Split (%) | 20.8% | | 25.8% | 79.2% | 53.3% | 53.3% | | | | | | |
| 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 Effect Green (s) | 13.6 | 113.6 | 90.0 | 90.0 | 63.3 | 63.3 | | | | | | |
| Actuated g/C Ratio | 0.12 | 1.00 | 0.79 | 0.79 | 0.56 | 0.56 | | | | | | |
| v/c Ratio | 0.61 | 0.23 | 0.87 | 0.24 | 0.93 | 0.31 | | | | | | |
| Control Delay | 54.3 | 0.3 | 53.3 | 3.5 | 34.0 | 3.8 | | | | | | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | | | |
| Total Delay | 54.3 | 0.3 | 53.3 | 3.5 | 34.0 | 3.8 | | | | | | |
| LOS | D | A | D | A | C | A | | | | | | |
| Approach Delay | 22.3 | | | 20.3 | 29.5 | | | | | | | |
| Approach LOS | C | | | C | C | | | | | | | |

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 113.6
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 25.8
Intersection Capacity Utilization 83.5%
Analysis Period (min) 15





























Intersection LOS: C
ICU Level of Service E

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



Timings
25: Golden Sage Rd & Woodmen Rd

2040 Total Traffic
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |  |   |  |  |  |  |  |   |  |
| Traffic Volume (vph) | 374 | 734 | 74 | 77 | 1776 | 90 | 150 | 8 | 48 | 238 | 11 | 366 |
| Future Volume (vph) | 374 | 734 | 74 | 77 | 1776 | 90 | 150 | 8 | 48 | 238 | 11 | 366 |
| 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) | 18.0 | 71.0 | 71.0 | 10.0 | 63.0 | 63.0 | 24.0 | 15.0 | 15.0 | 24.0 | 15.0 | |
| Total Split (%) | 15.0% | 59.2% | 59.2% | 8.3% | 52.5% | 52.5% | 20.0% | 12.5% | 12.5% | 20.0% | 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 Effect Green (s) | 14.1 | 67.5 | 67.5 | 65.3 | 57.2 | 57.2 | 26.7 | 7.2 | 7.2 | 20.3 | 7.4 | 112.8 |
| Actuated g/C Ratio | 0.12 | 0.60 | 0.60 | 0.58 | 0.51 | 0.51 | 0.24 | 0.06 | 0.06 | 0.18 | 0.07 | 1.00 |
| v/c Ratio | 0.92 | 0.35 | 0.08 | 0.18 | 1.01 | 0.11 | 0.39 | 0.07 | 0.19 | 0.79 | 0.10 | 0.24 |
| Control Delay | 78.0 | 13.6 | 1.1 | 8.6 | 52.6 | 0.6 | 37.8 | 52.4 | 1.6 | 61.1 | 53.0 | 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 | 78.0 | 13.6 | 1.1 | 8.6 | 52.6 | 0.6 | 37.8 | 52.4 | 1.6 | 61.1 | 53.0 | 0.4 |
| LOS | E | B | A | A | D | A | D | D | A | E | D | A |
| Approach Delay | | 33.5 | | | 48.3 | | | 29.8 | | | 24.9 | |
| Approach LOS | | C | | | D | | | C | | | C | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 112.8

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 39.2

Intersection LOS: D

Intersection Capacity Utilization 91.3%

ICU Level of Service F

Analysis Period (min) 15

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

| | | | |
|--|--|--|--|
|  Ø1 |  Ø2 |  Ø3 |  Ø4 |
| 10 s | 71 s | 24 s | 15 s |
|  Ø5 |  Ø6 |  Ø7 |  Ø8 |
| 18 s | 63 s | 24 s | 15 s |

HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 33.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↱ | | | ↱ | | | ↱ | ↱ | | ↱ | |
| Traffic Vol, veh/h | 0 | 32 | 277 | 338 | 5 | 0 | 101 | 0 | 371 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 32 | 277 | 338 | 5 | 0 | 101 | 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 | 34 | 292 | 356 | 5 | 0 | 106 | 0 | 391 | 0 | 0 | 0 |






| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|---|-------|---|---|
| Conflicting Flow All | - | 213 | 1 | 376 | 213 | - | 1 | 0 | - | 0 | 0 | 0 |
| Stage 1 | - | 1 | - | 212 | 212 | - | - | - | - | - | - | - |
| Stage 2 | - | 212 | - | 164 | 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 | 684 | 1084 | 581 | 684 | 0 | 1622 | - | 0 | - | - | - |
| Stage 1 | 0 | 895 | - | 790 | 727 | 0 | - | - | 0 | - | - | - |
| Stage 2 | 0 | 727 | - | 838 | 895 | 0 | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | - | 640 | 1084 | 388 | 640 | - | 1622 | - | - | - | - | - |
| Mov Cap-2 Maneuver | - | 640 | - | 388 | 640 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | 739 | 680 | - | - | - | - | - | - | - |
| Stage 2 | - | 680 | - | 590 | 895 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|------|-----|----|
| HCM Control Delay, s | 10.2 | 61.8 | 7.4 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|------------|-------|-----|-----|
| Capacity (veh/h) | 1622 | - | 1011 | 390 | - | - |
| HCM Lane V/C Ratio | 0.066 | - | 0.322 | 0.926 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | 10.2 | 61.8 | 0 | - |
| HCM Lane LOS | A | A | B | F | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | 1.4 | 10 | - | - |

HCM 6th TWSC
40: frontage rd & Bent Grass Meadows Dr

2040 Total Traffic
AM Peak Hour





| Intersection | | | | | | |
|--------------------------|---|---|---|------|---|---|
| Int Delay, s/veh | 4.2 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 160 | 235 | 144 | 34 | 10 | 165 |
| Future Vol, veh/h | 160 | 235 | 144 | 34 | 10 | 165 |
| 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 | 174 | 255 | 157 | 37 | 11 | 179 |
| Major/Minor | Major1 | Major2 | Minor2 | | | |
| Conflicting Flow All | 194 | 0 | - | 0 | 779 | 176 |
| Stage 1 | - | - | - | - | 176 | - |
| Stage 2 | - | - | - | - | 603 | - |
| 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 | 1379 | - | - | - | 364 | 867 |
| Stage 1 | - | - | - | - | 855 | - |
| Stage 2 | - | - | - | - | 546 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1379 | - | - | - | 318 | 867 |
| Mov Cap-2 Maneuver | - | - | - | - | 318 | - |
| Stage 1 | - | - | - | - | 747 | - |
| Stage 2 | - | - | - | - | 546 | - |
| Approach | EB | WB | | SB | | |
| HCM Control Delay, s | 3.2 | 0 | | 10.6 | | |
| HCM LOS | | | | B | | |
| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
| Capacity (veh/h) | 1379 | - | - | - | 318 | 867 |
| HCM Lane V/C Ratio | 0.126 | - | - | - | 0.034 | 0.207 |
| HCM Control Delay (s) | 8 | - | - | - | 16.7 | 10.2 |
| HCM Lane LOS | A | - | - | - | C | B |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 0.1 | 0.8 |

HCM 6th TWSC
203: Lynch Rd & Bent Grass Meadows Dr

2040 Total Traffic
AM Peak Hour

Intersection







Int Delay, s/veh 1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|---|------|---|---|---|------|
| Lane Configurations |  | |  |  |  | |
| Traffic Vol, veh/h | 142 | 6 | 4 | 169 | 20 | 12 |
| Future Vol, veh/h | 142 | 6 | 4 | 169 | 20 | 12 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 154 | 7 | 4 | 184 | 22 | 13 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 161 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.12 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.218 |
| Pot Cap-1 Maneuver | - | - | 1418 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1418 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 0.2 | 10.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 747 | - | - | 1418 | - |
| HCM Lane V/C Ratio | 0.047 | - | - | 0.003 | - |
| HCM Control Delay (s) | 10.1 | - | - | 7.5 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

| 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 | 4 | 146 | 4 | 9 | 148 | 12 | 13 | 0 | 28 | 34 | 0 | 13 |
| Future Vol, veh/h | 4 | 146 | 4 | 9 | 148 | 12 | 13 | 0 | 28 | 34 | 0 | 13 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 159 | 4 | 10 | 161 | 13 | 14 | 0 | 30 | 37 | 0 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 174 | 0 | 0 | 163 | 0 | 0 | 364 | 363 | 161 | 372 | 359 | 168 |
| Stage 1 | - | - | - | - | - | - | 169 | 169 | - | 188 | 188 | - |
| Stage 2 | - | - | - | - | - | - | 195 | 194 | - | 184 | 171 | - |
| 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 | 1403 | - | - | 1416 | - | - | 592 | 565 | 884 | 585 | 568 | 876 |
| Stage 1 | - | - | - | - | - | - | 833 | 759 | - | 814 | 745 | - |
| Stage 2 | - | - | - | - | - | - | 807 | 740 | - | 818 | 757 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1403 | - | - | 1416 | - | - | 578 | 559 | 884 | 560 | 562 | 876 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 578 | 559 | - | 560 | 562 | - |
| Stage 1 | - | - | - | - | - | - | 831 | 757 | - | 812 | 740 | - |
| Stage 2 | - | - | - | - | - | - | 788 | 735 | - | 788 | 755 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.2 | | | 0.4 | | | 10.1 | | | 11.3 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 757 | 1403 | - | - | 1416 | - | - | 622 |
| HCM Lane V/C Ratio | 0.059 | 0.003 | - | - | 0.007 | - | - | 0.082 |
| HCM Control Delay (s) | 10.1 | 7.6 | - | - | 7.6 | - | - | 11.3 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.3 |

Timings

3: Bent Grass Meadows Dr /Meridian Rd.

2040 Total Traffic

PM Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | ↰↱ | ↰ | ↰ | ↰↱ | ↰↱ | ↰ |
| Traffic Volume (vph) | 499 | 372 | 395 | 1424 | 1114 | 204 |
| Future Volume (vph) | 499 | 372 | 395 | 1424 | 1114 | 204 |
| 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) | 31.0 | 31.0 | 37.0 | 89.0 | 52.0 | 52.0 |
| Total Split (%) | 25.8% | 25.8% | 30.8% | 74.2% | 43.3% | 43.3% |
| 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 Effect Green (s) | 22.7 | 22.7 | 84.1 | 84.1 | 52.7 | 52.7 |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.72 | 0.72 | 0.45 | 0.45 |
| v/c Ratio | 0.79 | 0.63 | 0.85 | 0.59 | 0.73 | 0.26 |
| Control Delay | 53.8 | 8.8 | 43.0 | 9.5 | 31.6 | 4.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.8 | 8.8 | 43.0 | 9.5 | 31.6 | 4.0 |
| LOS | D | A | D | A | C | A |
| Approach Delay | 34.6 | | | 16.8 | 27.3 | |
| Approach LOS | C | | | B | C | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 116.8

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 24.1

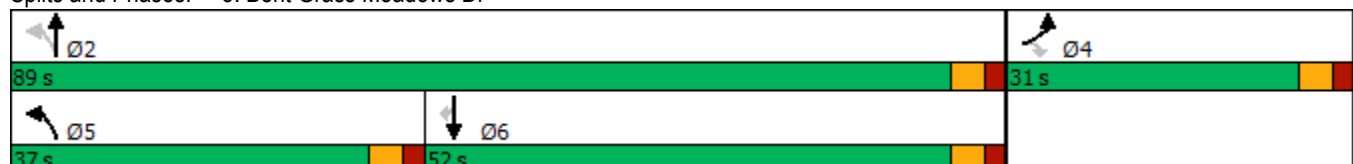
Intersection LOS: C

Intersection Capacity Utilization 79.4%

ICU Level of Service D





























Analysis Period (min) 15

Splits and Phases: 3: Bent Grass Meadows Dr



Timings
25: Golden Sage Rd & Woodmen Rd

2040 Total Traffic
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |  |   |  |  |  |  |   |  |  |
| Traffic Volume (vph) | 442 | 1629 | 121 | 99 | 1083 | 284 | 152 | 15 | 114 | 177 | 11 | 430 |
| Future Volume (vph) | 442 | 1629 | 121 | 99 | 1083 | 284 | 152 | 15 | 114 | 177 | 11 | 430 |
| 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 Effect Green (s) | 18.3 | 56.3 | 56.3 | 52.1 | 44.0 | 44.0 | 27.2 | 7.5 | 7.5 | 19.0 | 7.8 | 104.8 |
| Actuated g/C Ratio | 0.17 | 0.54 | 0.54 | 0.50 | 0.42 | 0.42 | 0.26 | 0.07 | 0.07 | 0.18 | 0.07 | 1.00 |
| v/c Ratio | 0.78 | 0.87 | 0.14 | 0.59 | 0.74 | 0.36 | 0.36 | 0.12 | 0.44 | 0.58 | 0.09 | 0.29 |
| Control Delay | 52.1 | 28.3 | 2.9 | 30.4 | 30.1 | 3.8 | 33.3 | 49.9 | 7.2 | 45.6 | 48.2 | 0.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 52.1 | 28.3 | 2.9 | 30.4 | 30.1 | 3.8 | 33.3 | 49.9 | 7.2 | 45.6 | 48.2 | 0.5 |
| LOS | D | C | A | C | C | A | C | D | A | D | D | A |
| Approach Delay | | 31.8 | | | 24.9 | | | 23.6 | | | 14.2 | |
| Approach LOS | | C | | | C | | | C | | | B | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 104.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 26.7

Intersection LOS: C

Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

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



HCM 6th TWSC
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 326.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↰ | | | ↱ | | | ↱ | ↱ | | ↰ | |
| Traffic Vol, veh/h | 0 | 27 | 183 | 435 | 15 | 0 | 330 | 0 | 411 | 0 | 0 | 0 |
| Future Vol, veh/h | 0 | 27 | 183 | 435 | 15 | 0 | 330 | 0 | 411 | 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 | 28 | 193 | 458 | 16 | 0 | 347 | 0 | 433 | 0 | 0 | 0 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|---|--------|---|---|-------|---|---|
| Conflicting Flow All | - | 695 | 1 | 806 | 695 | - | 1 | 0 | - | 0 | 0 | 0 |
| Stage 1 | - | 1 | - | 694 | 694 | - | - | - | - | - | - | - |
| Stage 2 | - | 694 | - | 112 | 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 | 366 | 1084 | ~ 300 | 366 | 0 | 1622 | - | 0 | - | - | - |
| Stage 1 | 0 | 895 | - | ~ 433 | 444 | 0 | - | - | 0 | - | - | - |
| Stage 2 | 0 | 444 | - | 893 | 895 | 0 | - | - | 0 | - | - | - |
| Platoon blocked, % | | | | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | - | 288 | 1084 | ~ 191 | 288 | - | 1622 | - | - | - | - | - |
| Mov Cap-2 Maneuver | - | 288 | - | ~ 191 | 288 | - | - | - | - | - | - | - |
| Stage 1 | - | 895 | - | ~ 340 | 349 | - | - | - | - | - | - | - |
| Stage 2 | - | 349 | - | 711 | 895 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|----------|-----|----|
| HCM Control Delay, s | 11.2 | \$ 708.2 | 7.8 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-------|----------|-----|-----|-----|
| Capacity (veh/h) | 1622 | - | 800 | 193 | - | - | - |
| HCM Lane V/C Ratio | 0.214 | - | 0.276 | 2.454 | - | - | - |
| HCM Control Delay (s) | 7.8 | 0 | 11.2 | \$ 708.2 | 0 | - | - |
| HCM Lane LOS | A | A | B | F | A | - | - |
| HCM 95th %tile Q(veh) | 0.8 | - | 1.1 | 39.6 | - | - | - |






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

HCM 6th TWSC
40: frontage rd & Bent Grass Meadows Dr

2040 Total Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 4.8

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|--------------------------|---|---|---|------|---|---|
| Lane Configurations |  |  |  | |  |  |
| Traffic Vol, veh/h | 189 | 210 | 221 | 26 | 11 | 209 |
| Future Vol, veh/h | 189 | 210 | 221 | 26 | 11 | 209 |
| 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 | 205 | 228 | 240 | 28 | 12 | 227 |






| Major/Minor | Major1 | Major2 | Minor2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 268 | 0 | 0 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.12 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.218 | - | - |
| Pot Cap-1 Maneuver | 1296 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | 1296 | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |







| Approach | EB | WB | SB |
|----------------------|-----|----|------|
| HCM Control Delay, s | 3.9 | 0 | 11.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 | SBLn2 |
|-----------------------|-------|-----|-----|-----|-------|-------|
| Capacity (veh/h) | 1296 | - | - | - | 263 | 785 |
| HCM Lane V/C Ratio | 0.159 | - | - | - | 0.045 | 0.289 |
| HCM Control Delay (s) | 8.3 | - | - | - | 19.3 | 11.4 |
| HCM Lane LOS | A | - | - | - | C | B |
| HCM 95th %tile Q(veh) | 0.6 | - | - | - | 0.1 | 1.2 |

HCM 6th TWSC
203: Lynch Rd & Bent Grass Meadows Dr






2040 Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|--------------------------|---|--------|---|---|---|--|
| Int Delay, s/veh | 0.8 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations |  | |  |  |  |  |
| Traffic Vol, veh/h | 217 | 30 | 9 | 118 | 16 | 6 |
| Future Vol, veh/h | 217 | 30 | 9 | 118 | 16 | 6 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 236 | 33 | 10 | 128 | 17 | 7 |
| | | | | | | |
| Major/Minor | Major1 | Major2 | | Minor1 | | |
| Conflicting Flow All | 0 | 0 | 269 | 0 | 401 | 253 |
| Stage 1 | - | - | - | - | 253 | - |
| Stage 2 | - | - | - | - | 148 | - |
| 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 | - | - | 1295 | - | 605 | 786 |
| Stage 1 | - | - | - | - | 789 | - |
| Stage 2 | - | - | - | - | 880 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1295 | - | 600 | 786 |
| Mov Cap-2 Maneuver | - | - | - | - | 647 | - |
| Stage 1 | - | - | - | - | 783 | - |
| Stage 2 | - | - | - | - | 880 | - |
| | | | | | | |
| | | | | | | |
| Approach | EB | WB | | NB | | |
| HCM Control Delay, s | 0 | 0.6 | | 10.5 | | |
| HCM LOS | B | | | | | |
| | | | | | | |
| | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT | |
| Capacity (veh/h) | 680 | - | - | 1295 | - | |
| HCM Lane V/C Ratio | 0.035 | - | - | 0.008 | - | |
| HCM Control Delay (s) | 10.5 | - | - | 7.8 | - | |
| HCM Lane LOS | B | - | - | A | - | |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - | |

| Intersection | | | | | | | | | | | | |
|--------------------------|---|---|------|---|---|------|--------|---|-------|--------|---|-------|
| Int Delay, s/veh | 2.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | | |  | |
| Traffic Vol, veh/h | 18 | 188 | 17 | 27 | 107 | 31 | 10 | 0 | 17 | 20 | 0 | 10 |
| Future Vol, veh/h | 18 | 188 | 17 | 27 | 107 | 31 | 10 | 0 | 17 | 20 | 0 | 10 |
| 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 | - | - | 155 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 20 | 204 | 18 | 29 | 116 | 34 | 11 | 0 | 18 | 22 | 0 | 11 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 150 | 0 | 0 | 222 | 0 | 0 | 450 | 461 | 213 | 453 | 453 | 133 |
| Stage 1 | - | - | - | - | - | - | 253 | 253 | - | 191 | 191 | - |
| Stage 2 | - | - | - | - | - | - | 197 | 208 | - | 262 | 262 | - |
| 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 | 1431 | - | - | 1347 | - | - | 519 | 497 | 827 | 517 | 503 | 916 |
| Stage 1 | - | - | - | - | - | - | 751 | 698 | - | 811 | 742 | - |
| Stage 2 | - | - | - | - | - | - | 805 | 730 | - | 743 | 691 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1431 | - | - | 1347 | - | - | 499 | 479 | 827 | 492 | 485 | 916 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 499 | 479 | - | 492 | 485 | - |
| Stage 1 | - | - | - | - | - | - | 740 | 688 | - | 800 | 726 | - |
| Stage 2 | - | - | - | - | - | - | 778 | 714 | - | 716 | 681 | - |
| | | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 0.6 | | | 1.3 | | | 10.7 | | | 11.6 | | |
| HCM LOS | | | | | | | B | | | B | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | | | | |
| Capacity (veh/h) | 665 | 1431 | - | - | 1347 | - | - | 582 | | | | |
| HCM Lane V/C Ratio | 0.044 | 0.014 | - | - | 0.022 | - | - | 0.056 | | | | |
| HCM Control Delay (s) | 10.7 | 7.6 | - | - | 7.7 | - | - | 11.6 | | | | |
| HCM Lane LOS | B | A | - | - | A | - | - | B | | | | |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0.1 | - | - | 0.2 | | | | |

HCM 6th TWSC
3: Meridian Rd & Bent Grass Meadows Dr

2040 Total Traffic (With Channelized "T")
PM Peak Hour

| Intersection | | | | | | |
|--|---|---|-------|---|---|---|
| Int Delay, s/veh | 25 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |
| Traffic Vol, veh/h | 232 | 357 | 339 | 0 | 1680 | 290 |
| Future Vol, veh/h | 232 | 357 | 339 | 0 | 1680 | 290 |
| 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 | - | - | - | 330 |
| Veh in Median Storage, # | 1 | - | - | 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 | 244 | 376 | 357 | 0 | 1768 | 305 |
| Major/Minor | Minor2 | Major1 | | Major2 | | |
| Conflicting Flow All | 2482 | 884 | 2073 | 0 | - | 0 |
| Stage 1 | 1768 | - | - | - | - | - |
| Stage 2 | 714 | - | - | - | - | - |
| Critical Hdwy | 6.63 | 6.93 | 4.13 | - | - | - |
| Critical Hdwy Stg 1 | 5.83 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.43 | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 3.319 | 2.219 | - | - | - |
| Pot Cap-1 Maneuver | ~ 28 | ~ 289 | ~ 266 | - | - | - |
| Stage 1 | ~ 123 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 0 | ~ 289 | ~ 266 | - | - | - |
| Mov Cap-2 Maneuver | 0 | - | - | - | - | - |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |
| Approach | EB | NB | | SB | | |
| HCM Control Delay, s | | 214 | | 0 | | |
| HCM LOS | - | | | | | |
| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
| Capacity (veh/h) | ~ 266 | - | - | 289 | - | - |
| HCM Lane V/C Ratio | 1.342 | - | - | 1.3 | - | - |
| HCM Control Delay (s) | 214 | 0 | - | 193.9 | - | - |
| HCM Lane LOS | F | A | - | F | - | - |
| HCM 95th %tile Q(veh) | 18.6 | - | - | 18.5 | - | - |
| Notes | | | | | | |
| ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | |

HCM 6th Roundabout
3: Meridian Rd & Bent Grass Meadows Dr

Short-Term Total Traffic
AM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 40.0 | | | | | |
| Intersection LOS | E | | | | | |
| Approach | EB | | NB | | SB | |
| Entry Lanes | 2 | | 2 | | 2 | |
| Conflicting Circle Lanes | 2 | | 2 | | 2 | |
| Adj Approach Flow, veh/h | 620 | | 1021 | | 2073 | |
| Demand Flow Rate, veh/h | 633 | | 1041 | | 2114 | |
| Vehicles Circulating, veh/h | 1803 | | 249 | | 364 | |
| Vehicles Exiting, veh/h | 675 | | 2187 | | 926 | |
| Ped Vol Crossing Leg, #/h | 0 | | 0 | | 0 | |
| Ped Cap Adj | 1.000 | | 1.000 | | 1.000 | |
| Approach Delay, s/veh | 79.2 | | 7.7 | | 44.2 | |
| Approach LOS | F | | A | | E | |
| Lane | Left | Right | Left | Right | Left | Right |
| Designated Moves | L | TR | LT | TR | LT | TR |
| Assumed Moves | L | TR | LT | TR | LT | TR |
| RT Channelized | | | | | | |
| Lane Util | 0.393 | 0.607 | 0.470 | 0.530 | 0.470 | 0.530 |
| Follow-Up Headway, s | 2.500 | 2.500 | 2.500 | 2.500 | 2.500 | 2.500 |
| Critical Headway, s | 4.050 | 4.050 | 4.050 | 4.050 | 4.050 | 4.050 |
| Entry Flow, veh/h | 249 | 384 | 489 | 552 | 994 | 1120 |
| Cap Entry Lane, veh/h | 354 | 354 | 1186 | 1186 | 1085 | 1085 |
| Entry HV Adj Factor | 0.980 | 0.979 | 0.981 | 0.980 | 0.980 | 0.981 |
| Flow Entry, veh/h | 244 | 376 | 480 | 541 | 974 | 1099 |
| Cap Entry, veh/h | 347 | 347 | 1164 | 1163 | 1063 | 1064 |
| V/C Ratio | 0.703 | 1.084 | 0.412 | 0.465 | 0.916 | 1.032 |
| Control Delay, s/veh | 35.1 | 107.9 | 7.3 | 8.1 | 31.0 | 56.0 |
| LOS | E | F | A | A | D | F |
| 95th %tile Queue, veh | 5 | 14 | 2 | 3 | 14 | 23 |

Timings

2040 Total Traffic (With Signalized Channelized T)

3: Meridian Rd & Bent Grass Meadows Dr

AM Peak Hour



| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR | Ø2 |
|----------------------|-------|-------|--------|-------|-------|-------|------|
| Lane Configurations | ↔↔ | ↔ | ↔ | ↕↕ | ↕↕ | ↔ | |
| Traffic Volume (vph) | 232 | 357 | 339 | 631 | 1680 | 290 | |
| Future Volume (vph) | 232 | 357 | 339 | 631 | 1680 | 290 | |
| Turn Type | Prot | Free | custom | NA | NA | Perm | |
| Protected Phases | 4! | | 5 | Free! | 6 | | 2 |
| Permitted Phases | | Free | 2 | | | 6 | |
| Detector Phase | 4 | | 5 | | 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) | 25.0 | | 31.0 | | 64.0 | 64.0 | 95.0 |
| Total Split (%) | 20.8% | | 25.8% | | 53.3% | 53.3% | 79% |
| 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 | |
| Total Lost Time (s) | 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 Effect Green (s) | 13.3 | 113.4 | 90.1 | 113.4 | 63.1 | 63.1 | |
| Actuated g/C Ratio | 0.12 | 1.00 | 0.79 | 1.00 | 0.56 | 0.56 | |
| v/c Ratio | 0.61 | 0.24 | 0.87 | 0.19 | 0.90 | 0.30 | |
| Control Delay | 54.1 | 0.4 | 53.7 | 0.1 | 31.2 | 3.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 54.1 | 0.4 | 53.7 | 0.1 | 31.2 | 3.5 | |
| LOS | D | A | D | A | C | A | |
| Approach Delay | 21.5 | | | 18.9 | 27.2 | | |
| Approach LOS | C | | | B | C | | |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 113.4

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15






! Phase conflict between lane groups.

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



HCM 6th TWSC
3: Meridian Rd & Bent Grass Meadows Dr

2040 Total Traffic (With Channelized "T")
PM Peak Hour

| Intersection | | | | | | |
|--|---|---|--------|---|---|---|
| Int Delay, s/veh | 2640.3 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  |  | |  |  |  |
| Traffic Vol, veh/h | 499 | 387 | 437 | 0 | 1114 | 204 |
| Future Vol, veh/h | 499 | 387 | 437 | 0 | 1114 | 204 |
| 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 | - | - | - | 330 |
| Veh in Median Storage, # | 1 | - | - | 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 | 525 | 407 | 460 | 0 | 1173 | 215 |
| Major/Minor | Minor2 | Major1 | | Major2 | | |
| Conflicting Flow All | 2093 | 587 | 1388 | 0 | - | 0 |
| Stage 1 | 1173 | - | - | - | - | - |
| Stage 2 | 920 | - | - | - | - | - |
| Critical Hdwy | 6.63 | 6.93 | 4.13 | - | - | - |
| Critical Hdwy Stg 1 | 5.83 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.43 | - | - | - | - | - |
| Follow-up Hdwy | 3.519 | 3.319 | 2.219 | - | - | - |
| Pot Cap-1 Maneuver | ~ 51 | 454 | 491 | - | - | - |
| Stage 1 | ~ 257 | - | - | - | - | - |
| Stage 2 | ~ 387 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | ~ 3 | 454 | 491 | - | - | - |
| Mov Cap-2 Maneuver | ~ 17 | - | - | - | - | - |
| Stage 1 | ~ 16 | - | - | - | - | - |
| Stage 2 | ~ 387 | - | - | - | - | - |
| Approach | EB | NB | | SB | | |
| HCM Control Delay, s | \$ 7843 | 55.5 | | 0 | | |
| HCM LOS | F | | | | | |
| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
| Capacity (veh/h) | 491 | - | 17 | 454 | - | - |
| HCM Lane V/C Ratio | 0.937 | - | 30.898 | 0.897 | - | - |
| HCM Control Delay (s) | 55.5 | \$ 13886.2 | 50.9 | - | - | - |
| HCM Lane LOS | F | A | F | F | - | - |
| HCM 95th %tile Q(veh) | 11.3 | - | 66.5 | 9.8 | - | - |
| Notes | | | | | | |
| ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | |













HCM 6th Roundabout
3: Meridian Rd & Bent Grass Meadows Dr

Short-Term Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 45.1 | | | | | |
| Intersection LOS | E | | | | | |
| Approach | EB | | NB | | SB | |
| Entry Lanes | 2 | | 2 | | 2 | |
| Conflicting Circle Lanes | 2 | | 2 | | 2 | |
| Adj Approach Flow, veh/h | 932 | | 1959 | | 1388 | |
| Demand Flow Rate, veh/h | 951 | | 1998 | | 1415 | |
| Vehicles Circulating, veh/h | 1196 | | 535 | | 469 | |
| Vehicles Exiting, veh/h | 688 | | 1611 | | 2064 | |
| Ped Vol Crossing Leg, #/h | 0 | | 0 | | 0 | |
| Ped Cap Adj | 1.000 | | 1.000 | | 1.000 | |
| Approach Delay, s/veh | 40.7 | | 67.9 | | 15.9 | |
| Approach LOS | E | | F | | C | |
| Lane | Left | Right | Left | Right | Left | Right |
| Designated Moves | L | TR | LT | TR | LT | TR |
| Assumed Moves | L | TR | LT | TR | LT | TR |
| RT Channelized | | | | | | |
| Lane Util | 0.564 | 0.436 | 0.470 | 0.530 | 0.470 | 0.530 |
| Follow-Up Headway, s | 2.500 | 2.500 | 2.500 | 2.500 | 2.500 | 2.500 |
| Critical Headway, s | 4.050 | 4.050 | 4.050 | 4.050 | 4.050 | 4.050 |
| Entry Flow, veh/h | 536 | 415 | 939 | 1059 | 665 | 750 |
| Cap Entry Lane, veh/h | 568 | 568 | 950 | 950 | 1000 | 1000 |
| Entry HV Adj Factor | 0.979 | 0.981 | 0.981 | 0.980 | 0.981 | 0.981 |
| Flow Entry, veh/h | 525 | 407 | 921 | 1038 | 652 | 735 |
| Cap Entry, veh/h | 556 | 557 | 931 | 931 | 981 | 980 |
| V/C Ratio | 0.944 | 0.731 | 0.989 | 1.115 | 0.665 | 0.750 |
| Control Delay, s/veh | 52.4 | 25.6 | 47.8 | 85.8 | 14.0 | 17.5 |
| LOS | F | D | E | F | B | C |
| 95th %tile Queue, veh | 12 | 6 | 18 | 28 | 5 | 7 |

Timings
3: Meridian Rd & Bent Grass Meadows Dr

2040 Total Traffic (With Signalized T)
PM Peak Hour

| |  |  |  |  |  |  | |
|----------------------|---|---|---|---|---|---|------|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR | Ø2 |
| Lane Configurations |  |  |  |  |  |  | |
| Traffic Volume (vph) | 499 | 387 | 437 | 1424 | 1114 | 204 | |
| Future Volume (vph) | 499 | 387 | 437 | 1424 | 1114 | 204 | |
| Turn Type | Prot | Perm | custom | NA | NA | Perm | |
| Protected Phases | 4! | | 5 | Free! | 6 | | 2 |
| Permitted Phases | | 4 | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 5 | | 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) | 31.0 | 31.0 | 37.0 | | 52.0 | 52.0 | 89.0 |
| Total Split (%) | 25.8% | 25.8% | 30.8% | | 43.3% | 43.3% | 74% |
| 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 | |
| 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 | None | | Max | Max | Max |
| Act Effct Green (s) | 22.7 | 22.7 | 84.1 | 116.8 | 50.4 | 50.4 | |
| Actuated g/C Ratio | 0.19 | 0.19 | 0.72 | 1.00 | 0.43 | 0.43 | |
| v/c Ratio | 0.79 | 0.64 | 0.90 | 0.42 | 0.77 | 0.27 | |
| Control Delay | 53.8 | 8.9 | 51.0 | 0.4 | 33.9 | 4.0 | |
| Queue Delay | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 54.2 | 9.0 | 51.0 | 0.4 | 33.9 | 4.0 | |
| LOS | D | A | D | A | C | A | |
| Approach Delay | 34.4 | | | 12.3 | 29.2 | | |
| Approach LOS | C | | | B | C | | |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 116.8
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 22.6
 Intersection LOS: C
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

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



Timings
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
AM Peak Hour

| | → | ↖ | ← | ↙ | ↗ |
|----------------------|------|-------|-------|-------|-------|
| Lane Group | EBT | WBL | WBT | NBL | NBR |
| Lane Configurations | ↰ | | ↱ | ↘ | ↗ |
| Traffic Volume (vph) | 32 | 338 | 5 | 101 | 371 |
| Future Volume (vph) | 32 | 338 | 5 | 101 | 371 |
| 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 Effect Green (s) | 16.9 | | 28.9 | 11.1 | 7.8 |
| Actuated g/C Ratio | 0.35 | | 0.60 | 0.23 | 0.16 |
| v/c Ratio | 0.44 | | 0.63 | 0.54 | 0.54 |
| Control Delay | 5.3 | | 10.4 | 15.3 | 8.9 |
| Queue Delay | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.3 | | 10.4 | 15.3 | 8.9 |
| LOS | A | | B | B | A |
| Approach Delay | 5.3 | | 10.4 | 12.2 | |
| Approach LOS | A | | B | B | |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 48.4
 Natural Cycle: 45
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 61.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

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

| | | |
|------|------|------|
| ↙ Ø2 | ↖ Ø3 | → Ø4 |
| 80 s | 30 s | 10 s |
| | ↙ Ø8 | |
| | 40 s | |

Timings
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
AM Peak Hour

| | → | ↖ | ← | ↗ | ↘ |
|----------------------|------|-------|-------|-------|-------|
| Lane Group | EBT | WBL | WBT | NBL | NBR |
| Lane Configurations | ↰ | | ↱ | ↱ | ↱ |
| Traffic Volume (vph) | 32 | 338 | 5 | 101 | 371 |
| Future Volume (vph) | 32 | 338 | 5 | 101 | 371 |
| 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 Effect Green (s) | 16.2 | | 28.4 | 9.4 | 8.0 |
| Actuated g/C Ratio | 0.35 | | 0.61 | 0.20 | 0.17 |
| v/c Ratio | 0.43 | | 0.60 | 0.29 | 0.65 |
| Control Delay | 5.0 | | 8.8 | 20.3 | 8.7 |
| Queue Delay | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.0 | | 8.8 | 20.3 | 8.7 |
| LOS | A | | A | C | A |
| Approach Delay | 5.0 | | 8.8 | 11.1 | |
| Approach LOS | A | | A | B | |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 46.2
 Natural Cycle: 40
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 8.7
 Intersection LOS: A
 Intersection Capacity Utilization 53.4%
 ICU Level of Service A
 Analysis Period (min) 15

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

| | | |
|------|------|------|
| ↰ Ø2 | ↱ Ø3 | → Ø4 |
| 80 s | 30 s | 10 s |
| | ↰ Ø8 | |
| | 40 s | |

HCM 6th Roundabout
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
AM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|--------|
| Intersection Delay, s/veh | 4.2 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | |
| Entry Lanes | 1 | 1 | 1 | |
| Conflicting Circle Lanes | 1 | 1 | 1 | |
| Adj Approach Flow, veh/h | 326 | 361 | 497 | |
| Demand Flow Rate, veh/h | 333 | 368 | 507 | |
| Vehicles Circulating, veh/h | 363 | 108 | 35 | |
| Vehicles Exiting, veh/h | 113 | 35 | 661 | |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | |
| Approach Delay, s/veh | 7.7 | 5.7 | 0.7 | |
| 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 | 399 |
| Entry Flow, veh/h | 333 | 368 | 108 | 1938 |
| Cap Entry Lane, veh/h | 953 | 1236 | 1331 | 0.980 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.981 | 391 |
| Flow Entry, veh/h | 326 | 361 | 106 | 1900 |
| Cap Entry, veh/h | 934 | 1212 | 1307 | 0.206 |
| V/C Ratio | 0.349 | 0.298 | 0.081 | 0.0 |
| Control Delay, s/veh | 7.7 | 5.7 | 3.4 | A |
| LOS | A | A | A | 1 |
| 95th %tile Queue, veh | 2 | 1 | 0 | |

Timings
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
PM Peak Hour

| | → | ↖ | ← | ↗ | ↘ |
|----------------------|------|-------|-------|-------|-------|
| Lane Group | EBT | WBL | WBT | NBL | NBR |
| Lane Configurations | ↰ | | ↱ | ↰ | ↱ |
| Traffic Volume (vph) | 27 | 435 | 15 | 330 | 411 |
| Future Volume (vph) | 27 | 435 | 15 | 330 | 411 |
| 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 Effect Green (s) | 23.7 | | 36.2 | 20.5 | 8.5 |
| Actuated g/C Ratio | 0.37 | | 0.56 | 0.32 | 0.13 |
| v/c Ratio | 0.31 | | 0.79 | 0.72 | 0.72 |
| Control Delay | 6.0 | | 21.8 | 26.8 | 11.9 |
| Queue Delay | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.0 | | 21.8 | 26.9 | 11.9 |
| LOS | A | | C | C | B |
| Approach Delay | 6.0 | | 21.8 | 19.7 | |
| Approach LOS | A | | C | B | |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 64.7
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 18.3
 Intersection LOS: B
 Intersection Capacity Utilization 74.3%
 ICU Level of Service D
 Analysis Period (min) 15

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

| | | |
|------|------|------|
| ↰ Ø2 | ↰ Ø3 | → Ø4 |
| 80 s | 30 s | 10 s |
| | ↰ Ø8 | |
| | 40 s | |

Timings
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
PM Peak Hour

| | → | ↖ | ← | ↙ | ↗ |
|----------------------|------|-------|-------|-------|-------|
| Lane Group | EBT | WBL | WBT | NBL | NBR |
| Lane Configurations | ↗ | | ↖ | ↙ | ↗ |
| Traffic Volume (vph) | 27 | 435 | 15 | 330 | 411 |
| Future Volume (vph) | 27 | 435 | 15 | 330 | 411 |
| 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 Effect Green (s) | 23.7 | | 36.1 | 18.1 | 8.5 |
| Actuated g/C Ratio | 0.38 | | 0.58 | 0.29 | 0.14 |
| v/c Ratio | 0.30 | | 0.75 | 0.68 | 0.74 |
| Control Delay | 5.6 | | 17.7 | 26.5 | 11.3 |
| Queue Delay | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 5.6 | | 17.7 | 26.5 | 11.3 |
| LOS | A | | B | C | B |
| Approach Delay | 5.6 | | 17.7 | 18.1 | |
| Approach LOS | A | | B | B | |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 62.3
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 16.1
 Intersection LOS: B
 Intersection Capacity Utilization 65.9%
 ICU Level of Service C
 Analysis Period (min) 15

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

| | | |
|------|------|------|
| ↙ Ø2 | ↖ Ø3 | → Ø4 |
| 80 s | 30 s | 10 s |
| | ↙ Ø8 | |
| | 40 s | |

HCM 6th Roundabout
26: Golden Sage Rd & Woodmen Frontage Rd

2040 Total Traffic
PM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|--------|
| Intersection Delay, s/veh | 5.5 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | |
| Entry Lanes | 1 | 1 | 1 | |
| Conflicting Circle Lanes | 1 | 1 | 1 | |
| Adj Approach Flow, veh/h | 221 | 474 | 780 | |
| Demand Flow Rate, veh/h | 226 | 483 | 796 | |
| Vehicles Circulating, veh/h | 467 | 354 | 29 | |
| Vehicles Exiting, veh/h | 370 | 29 | 664 | |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | |
| Approach Delay, s/veh | 7.1 | 10.1 | 2.2 | |
| Approach LOS | A | B | 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 | 442 |
| Entry Flow, veh/h | 226 | 483 | 354 | 1938 |
| Cap Entry Lane, veh/h | 857 | 962 | 1340 | 0.980 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.980 | 433 |
| Flow Entry, veh/h | 221 | 474 | 347 | 1900 |
| Cap Entry, veh/h | 840 | 943 | 1313 | 0.228 |
| V/C Ratio | 0.264 | 0.502 | 0.264 | 0.0 |
| Control Delay, s/veh | 7.1 | 10.1 | 5.0 | A |
| LOS | A | B | A | 1 |
| 95th %tile Queue, veh | 1 | 3 | 1 | |

Queuing and Blocking Report

Intersection: 3: Meridian Rd & Bent Grass Meadows Dr

| Movement | EB | EB | NB | NB | NB | SB | SB | SB |
|-----------------------|-----|-----|-----|------|------|-----|-----|-----|
| Directions Served | L | R | L | T | T | T | T | R |
| Maximum Queue (ft) | 175 | 217 | 190 | 119 | 99 | 396 | 377 | 193 |
| Average Queue (ft) | 77 | 100 | 85 | 51 | 36 | 241 | 195 | 54 |
| 95th Queue (ft) | 140 | 178 | 154 | 98 | 81 | 367 | 336 | 123 |
| Link Distance (ft) | 277 | 277 | | 1650 | 1650 | 723 | 723 | |
| Upstream Blk Time (%) | | 0 | | | | | | |
| Queuing Penalty (veh) | | 0 | | | | | | |
| Storage Bay Dist (ft) | | | 700 | | | | | 330 |
| Storage Blk Time (%) | | | | | | | 0 | 0 |
| Queuing Penalty (veh) | | | | | | | 1 | 0 |

Intersection: 25: Golden Sage & Woodmen

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|-----------------------|-----|------|------|-----|-----|------|------|-----|-----|-----|-----|-----|
| Directions Served | L | T | T | R | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 185 | 127 | 132 | 35 | 17 | 217 | 224 | 27 | 149 | 89 | 21 | 77 |
| Average Queue (ft) | 75 | 72 | 54 | 5 | 4 | 116 | 101 | 4 | 81 | 8 | 3 | 23 |
| 95th Queue (ft) | 156 | 118 | 108 | 23 | 14 | 195 | 196 | 16 | 136 | 47 | 14 | 57 |
| Link Distance (ft) | | 1641 | 1641 | | | 1652 | 1652 | | | 392 | | 151 |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 460 | | | 400 | 465 | | | 375 | 130 | | 185 | |
| Storage Blk Time (%) | | | | | | | | | 2 | | | |
| Queuing Penalty (veh) | | | | | | | | | 0 | | | |

Intersection: 25: Golden Sage & Woodmen

| Movement | SB |
|-----------------------|-----|
| Directions Served | TR |
| Maximum Queue (ft) | 142 |
| Average Queue (ft) | 70 |
| 95th Queue (ft) | 128 |
| Link Distance (ft) | 151 |
| Upstream Blk Time (%) | 1 |
| Queuing Penalty (veh) | 1 |
| Storage Bay Dist (ft) | |
| Storage Blk Time (%) | |
| Queuing Penalty (veh) | |

Zone Summary

Zone wide Queuing Penalty: 2

Queuing and Blocking Report

Intersection: 3: Meridian Rd & Bent Grass Meadows Dr

| Movement | EB | EB | NB | NB | NB | SB | SB | SB |
|-----------------------|-----|-----|-----|------|------|-----|-----|-----|
| Directions Served | L | R | L | T | T | T | T | R |
| Maximum Queue (ft) | 209 | 153 | 238 | 162 | 187 | 245 | 218 | 101 |
| Average Queue (ft) | 106 | 58 | 118 | 84 | 77 | 146 | 97 | 44 |
| 95th Queue (ft) | 176 | 113 | 195 | 150 | 146 | 223 | 193 | 81 |
| Link Distance (ft) | 277 | 277 | | 1650 | 1650 | 723 | 723 | |
| Upstream Blk Time (%) | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | |
| Storage Bay Dist (ft) | | | 700 | | | | | 330 |
| Storage Blk Time (%) | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | |

Intersection: 25: Golden Sage & Woodmen

| Movement | EB | EB | EB | EB | WB | WB | WB | WB | NB | NB | NB | SB |
|-----------------------|-----|------|------|-----|-----|------|------|-----|-----|-----|-----|-----|
| Directions Served | L | T | T | R | L | T | T | R | L | T | R | L |
| Maximum Queue (ft) | 204 | 220 | 205 | 43 | 48 | 137 | 116 | 17 | 131 | 65 | 35 | 83 |
| Average Queue (ft) | 102 | 107 | 96 | 14 | 10 | 67 | 42 | 3 | 62 | 12 | 9 | 35 |
| 95th Queue (ft) | 194 | 183 | 176 | 36 | 33 | 118 | 88 | 12 | 112 | 48 | 29 | 74 |
| Link Distance (ft) | | 1641 | 1641 | | | 1652 | 1652 | | | 392 | | 151 |
| Upstream Blk Time (%) | | | | | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | | | | | |
| Storage Bay Dist (ft) | 460 | | | 400 | 465 | | | 375 | 130 | | 185 | |
| Storage Blk Time (%) | | | | | | | | | 1 | | | |
| Queuing Penalty (veh) | | | | | | | | | 0 | | | |

Intersection: 25: Golden Sage & Woodmen

| Movement | SB |
|-----------------------|-----|
| Directions Served | TR |
| Maximum Queue (ft) | 101 |
| Average Queue (ft) | 43 |
| 95th Queue (ft) | 80 |
| Link Distance (ft) | 151 |
| Upstream Blk Time (%) | |
| Queuing Penalty (veh) | |
| Storage Bay Dist (ft) | |
| Storage Blk Time (%) | |
| Queuing Penalty (veh) | |

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report

Intersection: 3: Meridian Rd & Bent Grass Meadows Dr

| Movement | EB | EB | NB | NB | NB | SB | SB | SB |
|-----------------------|-----|-----|-----|------|------|-----|-----|-----|
| Directions Served | L | L | L | T | T | T | T | R |
| Maximum Queue (ft) | 135 | 150 | 331 | 101 | 85 | 695 | 635 | 355 |
| Average Queue (ft) | 73 | 83 | 191 | 40 | 33 | 417 | 369 | 163 |
| 95th Queue (ft) | 121 | 132 | 301 | 83 | 72 | 635 | 585 | 392 |
| Link Distance (ft) | 274 | 274 | | 1658 | 1658 | 714 | 714 | |
| Upstream Blk Time (%) | | | | | | 0 | 0 | |
| Queuing Penalty (veh) | | | | | | 0 | 0 | |
| Storage Bay Dist (ft) | | | 700 | | | | | 330 |
| Storage Blk Time (%) | | | | | | | 8 | 0 |
| Queuing Penalty (veh) | | | | | | | 23 | 1 |

Queuing and Blocking Report

Intersection: 3: Meridian Rd & Bent Grass Meadows Dr

| Movement | EB | EB | EB | NB | NB | NB | SB | SB | SB |
|-----------------------|-----|-----|-----|-----|------|------|-----|-----|-----|
| Directions Served | L | L | R | L | T | T | T | T | R |
| Maximum Queue (ft) | 264 | 281 | 59 | 496 | 315 | 233 | 450 | 407 | 181 |
| Average Queue (ft) | 160 | 173 | 2 | 262 | 138 | 129 | 298 | 250 | 60 |
| 95th Queue (ft) | 235 | 255 | 43 | 467 | 244 | 208 | 424 | 377 | 123 |
| Link Distance (ft) | 277 | 277 | 277 | | 1660 | 1660 | 712 | 712 | |
| Upstream Blk Time (%) | 0 | 1 | 0 | | | | | | |
| Queuing Penalty (veh) | 1 | 2 | 0 | | | | | | |
| Storage Bay Dist (ft) | | | | 700 | | | | | 330 |
| Storage Blk Time (%) | | | | | | | | 1 | 0 |
| Queuing Penalty (veh) | | | | | | | | 1 | 0 |

Appendix Table 1
Bent Grass Residential Filing No. 2
Study Area Trip Generation Estimate

| |
|---|
| 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, Second Edition" by ITE |
| (3) DU = dwelling unit |
| (4) KSF = thousand square feet |
| (5) Trip generation based on peak-hour intersection turning movement counts by LSC in May 2019 |
| (6) Trip generation based on information based on peak-hour intersection turning movement counts by LSC May 2019 |
| (7) Daily and morning peak-hour trip generation rates for Pet Supply Superstore are estimates by LSC |
| (8) VFP = vehicle fueling position |
| (9) The AM peak-hour trip generation rates have been reduced by LSC as the proposed fast-food restaurant does not serve breakfast |
| (10) Based on the NCHRP 684 Internal Trip Capture Estimate Tool |
| Source: LSC Transportation Consultants, Inc. |

**Appendix Table 2
Bent Grass Residential Fil No. 2
Internal Trip Estimate**

| Land Use | Raw ITE Trip Generation (Individual Driveway) | | | | | | 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 | | | |
| Single-Family Detached Housing | 7,770 | 153 | 458 | 515 | 301 | School Other Total | 5% | 21% | 16% | 4% | 3% | 473 | 39 | 91 | 22 | 10 | |
| Multifamily Housing (Low-Rise) | 1,998 | 29 | 97 | 96 | 57 | | 5% | 5% | 2% | 3% | 5% | 456 | 9 | 13 | 21 | 19 | |
| | | | | | | | 10% | 26% | 19% | 7% | 8% | 929 | 48 | 104 | 43 | 29 | |
| | 9,768 | 182 | 555 | 611 | 358 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Elementary School | 945 | 181 | 154 | 41 | 44 | | 50% | 50% | 25% | 25% | 50% | 473 | 91 | 39 | 10 | 22 | |
| Retail/Office | 45,620 | 1,295 | 889 | 1,942 | 2,057 | | 1% | 1% | 1% | 1% | 1% | 456 | 13 | 9 | 19 | 21 | |
| Industrial/Manufacturing | 5,044 | 543 | 137 | 144 | 484 | | 0% | 0% | 0% | 0% | 0% | 0 | 0 | 0 | 0 | 0 | |
| TOTAL Non-Residential | 51,609 | 2,019 | 1,180 | 2,127 | 2,585 | | | | | | | 929 | 104 | 48 | 29 | 43 | |
| TOTAL | 61,377 | 2,201 | 1,735 | 2,738 | 2,943 | | | | | | | 1,858 | 152 | 152 | 72 | 72 | |

Notes: