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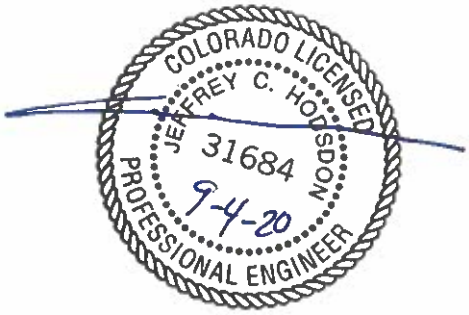
Bent Grass Meadows Drive & Meridian Road
Updated Transportation Memorandum

PCD File No.: CDR-19-004
(LSC #194900)
September 4, 2020

ACCEPTED for FILE
Engineering Review
09/25/2020 2:39:51 PM
dsdnijkamp
EPC Planning & Community
Development Department

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.

9/4/2020
Date

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September 4, 2020

Bent Grass Metro District
c/o Randy Case II
102 East Pikes Peak Avenue, #200
Colorado Springs, CO 80903

RE: Bent Grass Meadows Drive &
Meridian Road
El Paso County, Colorado
Updated Transportation Memorandum
LSC #194900

Dear Randy:

LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the intersection of Bent Grass Meadows Drive & Meridian Road in El Paso County, Colorado. The study area is shown in Figure 1. 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 Residential Filing No. 2 Traffic Impact Study – April 17, 2020

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 short-term traffic volumes on the study-area roadways following the completion of Bent Grass Meadows Drive between the Woodmen frontage road and Meridian road;

- The projected average weekday and peak-hour vehicle trips to be generated by the site at buildout;
- The assignment of the projected additional study-area site-generated traffic volumes to the study-area roadways and intersections;
- The projected total traffic volumes on the study-area roadway network;
- The projected levels of service at the intersections of Meridian Road/Bent Grass Meadows Drive and Meridian Park Drive/Bent Grass Meadows Drive at the site access point to Bent Grass Meadows Drive;
- A traffic-signal warrant analysis of the intersection of Meridian Road/Bent Grass Meadows Drive;
- A vehicle queueing analysis at the key study-area intersections; and
- Recommendations for all necessary short-term intersection improvements and phasing of these improvements including the potential closure of or restrictions to the existing 7-Eleven access to Bent Grass Meadows Drive.

LAND USE

Figures 2a and 2b show the existing and future land uses served by the section of Bent Grass Meadows Drive in the area just west of Meridian Road. The area south of Bent Grass Meadows Drive includes 104 existing single-family homes that are part of Bent Grass Residential Filing No 1, 178 lots for single-family homes in the approved Bent Grass Residential Filing No. 2 development, and the Bent Grass East Commercial development. There is an existing mobile home with accompanying sheds and utility garages just north of the Bent Grass Residential Filing 1. There are also two vacant parcels just northwest of the intersection of Meridian/Bent Grass Meadows with a total area of 7.94 acres. Although there are no known plans to develop these parcels at this time, previous studies have assumed they would be developed with a mix of retail and office uses.

The Bent Grass East Commercial development has been divided into nine traffic analysis zones. The location of each zone is shown in Figure 2. The existing and future land uses assumed for each zone are shown in Table 1.

The Bent Grass East Commercial development is partially developed with a gas station with convenience stone, a veterinary clinic, and a dental clinic. Plans have been approved to expand the veterinary clinic from 4,171 square feet to 8,342 and to provide additional parking for the dental clinic.

There is currently one vacant lot east of Meridian Park Drive, Lot 1A Bent Grass East Commercial Filing 2A, and one vacant lot west of Meridian Park Drive, Tract BB Bent Grass East Commercial Filing 2B. The south half of Tract BB is planned to be subdivided into four lots. Figure 3 shows the site plan for this area. Access for these lots is planned to Meridian Park Drive aligning with the south 7-Eleven access point and to Bent Grass Meadows Drive about 530 feet west of Meridian Park Drive.

EXISTING ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The roadways in the study area are identified below, followed by a brief description. 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 (US Hwy 24). The posted speed limit is 55 miles per hour (mph).
- **Bent Grass Meadows Drive** is a Non-Residential Collector that currently extends north from the Woodmen North Frontage Road for about 2,000 feet and west from Meridian Road for about one-half mile. Ultimately, 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. The Bent Grass Meadows Drive/Meridian Road intersection is planned to be signalized in the future, once warrants for signalization are satisfied.

Existing Traffic Conditions

Figure 4 shows the existing morning and afternoon peak-hour traffic volumes at the intersections of Meridian Road/Bent Grass Meadows Drive and Meridian Park Drive/Bent Grass Meadows Drive and the existing 7-Eleven access between these two intersections. The traffic volumes are from traffic counts conducted in the fall of 2018. 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 2 shows the level of service delay ranges.

Table 2: Intersection Levels of Service Delay Ranges

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

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

The intersections of Meridian Road/Bent Grass Meadows Drive and Meridian Park Drive/Bent Grass Meadows Drive and the existing 7-Eleven access between these two intersections 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. Figure 4 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 intersection of Meridian Park/Bent Grass Meadows Drive and the 7-Eleven access to Bent Grass Meadows Drive are currently operating at LOS A during the peak hour as stop-sign-controlled intersections.

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 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 most closely. However, the simulation model indicated limited queue occurrence and 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 in 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.

SHORT-TERM BASELINE TRAFFIC

Figure 5 shows the projected changes to the existing traffic volumes shown in Figure 4, following changes to the road network expected in the short term. These include the completion of Bent Grass Meadows Drive between Meridian Road and the Woodmen frontage road, which is planned with the Bent Grass Residential Filing 2 development and closure of the 7-Eleven access.

Figure 6 shows the additional traffic projected to be added to the area street network in the short term. These volumes include traffic due to the approved expansion of the veterinary clinic located on Bent Grass East Commercial Filing No. 2B Lot 2B and the Bent Grass Residential Filing No. 2 development. The volumes shown in Figure 6 also include an increase in through traffic on Meridian Road, based on a growth rate of 5 percent per year.

TRIP GENERATION

Estimates of the vehicle trips generated by the development of the currently-vacant parcels within Bent Grass East Commercial have been made using the nationally published trip-generation rates found in *Trip Generation, 10th Edition* by the Institute of Transportation Engineers (ITE). Table 1 shows the land use assumed for each vacant parcel within Bent Grass East Commercial. There are currently no plans for the portion of Tract BB just south of Bent Grass Meadows Drive and for Filing 2A Lot 1A. It was assumed that these areas would be developed with similar uses and densities proposed for Tracts A and D. Table 1 also shows a trip-generation estimate for Bent Grass Residential Filings 1 and 2.

The total number of vehicle trips generated has been reduced to take into account the "pass-by" phenomena. A pass-by trip is made by a motorist who would already be on the adjacent roadways regardless of the proposed development, but who stops in at the site while passing by. The motorist would then continue on his or her way to a final destination in the original direction. The pass-by percentages shown on Table 1 are from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition*, 2017 by ITE.

Development of the currently-vacant parcels within Bent Grass East Commercial (not including the approved expansion of the veterinary clinic) can be expected to generate an additional 4,595 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 212 additional vehicles would enter and 126 additional 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 228 additional vehicles would enter and 233 additional 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 7 shows the directional distribution estimates for the primary 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 distribution based, on recent traffic counts at the intersection of Meridian/Bent Grass Meadows.

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

When the distribution percentages (from Figure 7) were applied to the trip-generation estimates (from Table 1), the site-generated traffic volumes on the area roadways were determined. Figure 8 shows the additional site-generated traffic volumes projected, due to development of the currently-proposed land uses assumed for TAZs 5, 6, and 7. Figure 9 shows the additional site-generated traffic volumes, due to development of the remaining vacant parcels within Bent Grass Commercial, based on the land uses assumed for TAZs 8 and 9.

2021 TOTAL TRAFFIC

Figure 10 shows the projected short-term total traffic volumes at the site-access point and key adjacent intersections. The short-term total traffic volumes are the sum of the existing traffic volumes (from Figure 4), the short-term changes in existing traffic patterns (from Figure 5), the additional short-term baseline traffic (from Figure 6), site-generated traffic due to TAZs 5, 6, and 7 (from Figure 8), and site-generated traffic due to TAZs 8 and 9 (from Figure 9).

PROJECTED LEVELS OF SERVICE

The intersections of Meridian Road/Bent Grass Meadows Drive and Meridian Park Drive/Bent Grass Meadows Drive 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. Synchro was used to analyze the signal-control scenarios. The 7-Eleven access to Bent Grass Meadows Drive was assumed to be closed in the short term. Figure 10 and Table 3 show the level of service analysis results. Table 3 also includes the corresponding vehicular-delay values, for comparison. The level of service technical 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. If signalized, all movements are projected to operate at LOS D or better during the peak hours, based on the projected 2020 total traffic volumes, which assume full buildout of the Bent Grass East Commercial development.

The intersection of Meridian Park/Bent Grass Meadows Drive is projected to operate at LOS B or better for all movements as a stop-sign-controlled intersection, based on the projected 2020 total traffic volumes, which assume full buildout of the Bent Grass East Commercial development.

TRAFFIC SIGNAL WARRANT ANALYSIS

Vehicular Volume Traffic Signal Warrants

The combination of major street approach volumes (includes the sum of northbound and southbound approach volumes) and minor street volumes (eastbound and westbound approaches analyzed separately) at the subject intersection were analyzed to determine if the

combination currently exceeds or would exceed the threshold criteria for Eight-Hour and/or Four-Hour Vehicular-Volume Traffic-Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices* (MUTCD). Table 4 shows the warrant evaluation. Table 4 shows the existing condition and the projected traffic condition following buildout of the approved and currently-proposed land uses within Bent Grass East Commercial development (TAZs 4, 5, 6, and 7).

Based on the analysis shown in Table 4, four of the eight hours analyzed currently meet the thresholds for an Eight-Hour Vehicular-Volume Warrant. With the addition of traffic projected to be generated by the approved expansion of the veterinary clinic located on Lot 3B of Filing No. 2B, seven of the eight hours analyzed are projected to meet the threshold. With the addition of traffic projected to be generated by development of the currently-proposed land uses (TAZs 5, 6, and 7) all eight hours analyzed are projected to meet the thresholds.

Two of the eight hours analyzed currently meet the thresholds for a Four-Hour Vehicular-Volume Warrant. A Four-Hour Vehicular-Volume Warrant is projected to be met with the addition of traffic projected to be generated by the approved expansion of the veterinary clinic located on Lot 3B of Filing No. 2B.

Warrant 7 Analysis (Crash Experience)

The following is from the MUTCD:

> *Support:*
> *01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.*
> *Standard:*
> *02 The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:*
>
> *A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and*
>
> *B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and*
>
> *C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 [from the MUTCD] (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.*

The Colorado State Patrol provided LSC with crash data for the intersection of Bent Grass Meadows Drive and Meridian Road from 2015 through November 2018. From December 2017 to November 2018 there were ten reported crashes at this intersection. Eight of the crashes involved an eastbound left-turning vehicle and a southbound through vehicle. The remaining two crashes involved a northbound left-turning vehicle and a southbound through vehicle. In one of these crashes an eastbound left-turning vehicle waiting in the Meridian Road median blocked the line of sight for the northbound left-turning vehicle. All ten of these crashes would be considered susceptible to correction by a traffic -control signal. A copy of these data are attached for reference.

Based on analysis of the available data, item B above has been satisfied, as five or more crashes susceptible to correction by a traffic-control signal were reported in a twelve-month period. Item C is also currently satisfied. Item A would likely need to be discussed with El Paso County. This is the final remaining item before the warrant is satisfied.

ALTERNATIVE INTERSECTION TRAFFIC CONTROL

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.

Modern Roundabout Intersection

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

<u>Advantages</u>

- 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, generally, roundabouts have 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 short-term level of service for northbound through movement is projected to be worse than with either stop sign or 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.

Table 3 shows the level of service results for a signalized and unsignalized channelized-T intersection traffic control.

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 Boulevard, a taper, and a northbound left-turn lane approaching Woodmen Hills Drive. 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 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.

VEHICLE QUEUING ANALYSIS

For Predicting Closure of 7-Eleven Access

A queuing analysis was performed using Synchro/SimTraffic for Bent Grass Meadows Drive between Meridian Road and Meridian Park Drive to determine when the existing 7-Eleven access, located between these two intersections, would need to be closed or restricted to exit only and right-out only. The 2020 background morning and afternoon peak-hour traffic volumes were entered into the Synchro model. The intersection of Bent Grass Meadows/Meridian was modeled as a signal-controlled intersection. The simulation was run five times. Additional traffic was added until the eastbound left-turn queue approaching Meridian Road was projected to overflow the existing turn lane, the westbound left-turn lane approaching the 7-Eleven access was projected to overflow the existing turn lane, and/or the eastbound right-turn queue approaching Meridian Road blocked the 7-Eleven access. The queuing reports are attached.

When 113 entering and 63 exiting vehicles (representing approximately 50 percent development of the currently-vacant parcels within Bent Grass East Commercial) were added to the projected 2020 background traffic volumes shown in Figure 5, the westbound left-turn queue approaching the 7-Eleven access is projected to exceed the existing turn-lane length. The eastbound right-turn queue approaching Meridian Road is also projected to extend to the 7-Eleven access.

With Closure of the 7-Eleven Access

A queuing analysis was performed using Synchro/SimTraffic for Bent Grass Meadows Drive between Meridian Road and Meridian Park Drive. The 2021 total morning and afternoon peak-hour traffic volumes were entered into the Synchro model. The simulation was run five times. The queueing analysis assumes dual eastbound left-turn lanes and an exclusive eastbound right-turn lane with a southbound acceleration lane on Bent Grass Meadows Drive approaching Meridian Drive. The queuing reports are attached.

Based on the projected 2021 total traffic volumes, the projected maximum eastbound left-turn queue on Bent Grass Meadows Drive approaching Meridian Road is 128 feet. The maximum westbound left-turn queue approaching Meridian Park Drive is 130 feet. These queues could be accommodated if Bent Grass Meadows Drive were restriped as shown in Figure 11.

The projected maximum northbound left-turn queue on Meridian Road approaching Bent Grass Meadows Drive is 170 feet. The existing northbound left-turn lane at this intersection is about 700 feet long.

Southbound Right-Turn Lane Storage Length at Meridian/Bent Grass Meadows Drive

There is currently a 340-foot southbound right-turn deceleration lane plus 225-foot taper on Meridian Road approaching Bent Grass Meadows Drive (355 feet plus 225-foot taper to a point about 15 feet south of the point of curvature along the radius). The ECM requires a minimum of 50 feet for storage for auxiliary turn lanes (longer, if necessary, to accommodate projected queues). The existing lane at 580 feet (lane plus taper) provides 50 feet for storage.

From the AASHTO “Green Book” section 9.7.2.2, storage distance (for auxiliary turn lanes): is *the distance provided for the storage of the queue of stopped vehicles waiting to turn.*

A deceleration lane should be sufficiently long to store the number of vehicles likely to accumulate in a queue during a critical period. The critical period would be when the southbound approach has the green signal and southbound through traffic is proceeding through the intersection. As the southbound right-turning traffic and southbound through traffic move on the same phase (the SB green), right-turning traffic would accumulate only during unusual circumstances (unusual for this particular intersection) – such as a pedestrian crossing the west leg of the intersection (in which case a right-turning vehicle(s) would need to yield to the pedestrian). *The storage length should be sufficient to avoid spillback of turning vehicles into the through-travel lanes waiting for a signal*

change or for a gap in the opposing traffic flow. No spillback would occur as a result of opposing vehicular traffic flow (northbound left-turning traffic), as the southbound right-turning traffic and southbound through traffic will move on the same phase and northbound left-turning traffic on the permissive phase must give right-of-way to southbound right-turning vehicles.

The queuing reports from Synchro are attached showing the projected 95th percentile and 50th percentile queues for this turning movement. These are based on all cycles, for most of which there will not be a conflicting pedestrian. Considering the queue results and the probability of a pedestrian conflict or other unusual circumstance, the current lane will provide sufficient storage length. Also, the queues projected are for the peak periods, during which time the queues would also be longer in the adjacent southbound through lane with higher through volumes on Meridian Road. The queues for the southbound through lanes are significantly longer than the southbound right-turn queue would be.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Development of the currently-vacant parcels within Bent Grass East Commercial can be expected to generate an additional 4,595 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 212 additional vehicles would enter and 126 additional 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 228 additional vehicles would enter and 233 additional 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 2021 total traffic volumes, which assume full buildout of the Bent Grass East Commercial development.
- The intersection of Meridian Park/Bent Grass Meadows Drive is projected to operate at LOS B or better for all movements as a stop-sign-controlled intersection, based on the projected 2021 total traffic volumes, which assume full buildout of the Bent Grass East Commercial development.

Traffic Signal Warrant Analysis

- As discussed in the Traffic Signal Warrant Analysis section above, a Four-Hour Vehicular-Volume Traffic-Signal Warrant is projected to be met with the addition of traffic projected to be generated by the approved expansion of the veterinary clinic located on Lot 3B of Filing No. 2B. Seven of the eight hours analyzed are projected to meet the threshold for

an Eight-Hour Vehicular-Volume Traffic-Signal Warrant. All eight hours analyzed are projected to meet the thresholds with the addition of traffic projected to be generated by the currently-proposed land uses (TAZs 5, 6, and 7).

- **Crash Experience Warrant:** As discussed in the Traffic-Signal Warrant Analysis section above, in order for a Crash-Experience Warrant to be considered, three criteria need to be met. The existing number of reported crashes in the last twelve months and the vehicular volumes at the intersection of Bent Grass Meadows/Meridian meet criteria B and C. Criteria A states, "Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency." Item A would likely need to be discussed with El Paso County. This is the final remaining item before the warrant is satisfied.

Alternative Intersection Traffic Control

- Please refer to the report section above for discussion and details. Although the analysis indicates lower intersection delay and fewer stops for northbound through traffic with the signalized channelized-T intersection, the conventional signalized intersection is likely a more viable solution, given the added cost of a channelized-T intersection and the identified need for a future eastbound dual left-turn lane at this intersection.

Roadway Improvements

- Table 5 identifies the proposed short-term roadway improvements that will be needed at and just west of the intersection of Meridian Road/Bent Grass Meadows Drive. Figure 10 shows the location of each improvement. Table 5 also gives a recommended trigger for when each improvement will be needed.
- Table 5 also presents potential future improvements which are not proposed at this time. The locations of these future improvements are shown in Figure 12.
- The following auxiliary lanes are already in-place:
    - There is currently a 700-foot 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 2021 total traffic volumes, which assume buildout of the Bent Grass East Commercial Development.
    - There is currently a 340-foot southbound right-turn deceleration lane plus 225-foot taper on Meridian Road approaching Bent Grass Meadows Drive (355 feet plus 225-foot taper to a point about 15 feet south of the point of curvature along the radius). The ECM requires a minimum of 50 feet for storage for auxiliary turn lanes. The existing lane at 580 feet (lane plus taper) provides 50 feet for storage. Please refer to the queuing analysis section for additional details.

* * * * *

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 1, 3, 4, and 5
Figures 1-12
Crash Reports
Traffic Count Report
Level of Service Reports
Queuing Reports

Tables and Figures

TRANSPORTATION
CONSULTANTS, INC.

Table 1
Trip Generation Estimate
Bent Grass East Commercial

Zone	Lot	Area (acres)	Floor Area Ratio	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Pass-By Trips [2]	New External Trips Generated Average Weekday Traffic
Bent Grass East Commercial Trip Generation Estimate																		
Existing Land Uses																		
1	Bent Grass East Commercial Fil. No. 1 Lot 1	1.05	0.07	- - -	7-Eleven	3.01 KSF[3]												
2	Bent Grass East Commercial Fil. No. 2 Tract A	1.5	- - -	- - -	Drainage	- - - - - -												
3	Bent Grass East Commercial Fil. No. 2A Lot 2A	0.70	0.12	720	Medical-Dental Office Building	3.516 KSF			(4)			- - -	184	150	130	137	- - -	- - -
4	Bent Grass East Commercial Fil No. 2B Lot 3B	0.99	0.19	640	Animal Hospital/Veterinary Clinic	4.171 KSF												
Approved Future Land Uses																		
4	Bent Grass East Commercial Fil No. 2B Lot 3B	0.99	0.19	640	Animal Hospital/Veterinary Clinic	4.171 KSF	21.50	2.53	1.24	1.57	2.35	90	11	5	7	10	0%	90
					Trip Generation Estimate Based on the Existing Traffic and Approved Land Uses							**- - -**	**195**	**155**	**137**	**147**		- - -
Currently Proposed Land Uses																		
5	Bent Grass East Commercial Fil No. 2B Tract BB - A	0.91	0.12	932	High-Turnover Sit-Down Restaurant	4.8 KSF	112.18	5.47	4.47	6.06	3.71	538	26	21	29	18	43%	307
6	Bent Grass East Commercial Fil No. 2B Tract BB - B	0.49	0.22	770	Business Park	4.8 KSF	76.88	1.29	0.23	0.48	1.36	369	6	1	2	7	0%	369
	Bent Grass East Commercial Fil No. 2B Tract BB - C	0.49	0.28	770	Business Park	6.0 KSF	76.88	1.29	0.23	0.48	1.36	461	8	1	3	8	0%	461
7	Bent Grass East Commercial Fil No. 2B Tract BB - D	0.68	0.20	820	Shopping Center	6.0 KSF	92.52	3.93	2.41	3.70	4.01	555	24	14	22	24	34%	366
												Currently Proposed Land Uses	**1,923**	**64**	**37**	**56**	**57**		**1,503**
					Additional Trip Generation Estimate Based on the Approved and Currently Proposed Land Uses							**2,013**	**75**	**42**	**63**	**67**		**1,593**
					Total Short-Term Trip Generation Estimate (Existing Traffic Plus Trip Generation Estimate Based on the Approved and Currently Proposed Land Uses)							**- - -**	**259**	**192**	**193**	**204**		**- - -**
Assumed Future Land Uses Within Bent Grass East Commercial																		
8	Bent Grass East Commercial Fil No. 2B Tract BB	2.48	0.24	930	Fast Casual Restaurant	5 KSF	315.17	1.39	0.68	7.77	6.36	1,576	7	3	39	32	43%	898
	(remaining)			820	Shopping Center	21 KSF	92.52	3.93	2.41	3.70	4.01	1,936	82	50	77	84	34%	1,278
9	Bent Grass East Commercial Fil. No. 2A Lot 1A	1.46	0.24	820	Shopping Center	15 KSF	92.52	3.93	2.41	3.70	4.01	1,388	59	36	56	60	34%	916
												Assumed Future Land Uses	**4,900**	**148**	**89**	**172**	**176**		**3,092**
					Additional Trip Generation Estimate Based on the Currently Proposed and Future Land Uses							**6,823**	**212**	**126**	**228**	**233**		**4,595**
					Additional Trip Generation Estimate Based on the Approved, Currently Proposed and Future Land Uses							**6,913**	**223**	**131**	**235**	**243**		**4,685**
					Total Buildout Trip Generation Estimate (Existing Traffic Plus Additional Trip Generation Estimate Based on Approved, Currently Proposed and Future Land Uses)							**- - -**	**407**	**281**	**365**	**380**		- - -
Bent Grass Residential Trip Generation Estimate																		
10	Bent Grass Residential Filing No. 1			210	Single Family Detached Housing	104 DU[3]			(4)			- - -	57	16	19	39		- - -
11	Bent Grass Residential Filing No. 2			210	Single Family Detached Housing	179 KSF	9.44	0.19	0.56	0.62	0.37	1,690	33	99	112	66	0%	1,690

Notes:
(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)
(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2017" by ITE
(3) KSF = thousand square feet
(4) Based on manual turning movement counts by LSC October 2018

Source: LSC Transportation Consultants, Inc.

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

2020 Total Traffic

AM Peak

Scenario		Eastbound		Northbound		Southbound		Overall
		Left	Right	Left	Through	Through	Right	
Stop-Sign Control With Channelized "T" Configuration	Delay	1374.6	80.2	35.7	Free	Free	Free	- - -
	LOS	F	F	E				
Modern Roundabout	Delay	21.0	44.5	6.2	6.7	16.0	23.0	18.2
	LOS	C	E	A	A	C	D	C
Conventional Signal Control	Delay	41.7	18	22.8	4.7	23.6	2.2	18.0
	LOS	D	B	C	A	C	A	B
Conventional Signal Control With Free Eastbound Right	Delay	42.0	0.2	22.9	4.7	23.3	2.2	16.4
	LOS	D	A	C	A	C	A	B
Signal Control With Channelized "T" Configuration	Delay	41.7	18.0	22.8	Free	23.6	2.2	16.9
	LOS	D	B	C		C	A	B
Signal Control With Dual Eastbound Left-Turn Lanes and Free Eastbound	Delay	35.9	0.2	20.2	3.3	18.6	1.9	13.2
	LOS	D	A	C	A	B	A	B

PM Peak

Scenario		Eastbound		Northbound		Southbound		Overall
		Left	Right	Left	Through	Through	Right	
Stop-Sign Control With Channelized "T" Configuration	Delay	305.9	18.6	15.6	Free	Free	Free	- - -
	LOS	F	C	C				
Modern Roundabout	Delay	10.2	11.4	13.3	17.2	8.4	9.6	12.5
	LOS	B	B	B	C	A	A	B
Conventional Signal Control	Delay	45.0	15.2	14.1	8.6	11.7	1.9	12.2
	LOS	D	B	B	A	B	A	B
Conventional Signal Control With Free Eastbound Right	Delay	45.0	0.2	14.1	8.6	11.7	1.9	11.0
	LOS	D	A	B	A	B	A	B
Signal Control With Channelized "T" Configuration	Delay	45.0	15.2	14.1	Free	11.7	1.9	8.6
	LOS	D	A	B		B	A	A
Signal Control With Dual Eastbound Left-Turn Lanes and Free Eastbound	Delay	36.5	0.2	7.6	5.9	11.4	2.0	8.9
	LOS	D	B	A	A	B	A	B

Source: LSC Transportation Consultants, Inc.

Table 4

Bent Grass East Commercial

Traffic Signal Warrant Analysis of Meridian Road/Bent Grass Meadows Drive

	Traffic Volumes										Warrant 1, Eight Hour Vehicular Volume Evaluation[5]										Warrant 2, Four Hour Vehicular Volume Evaluation[4]				Warrant 7, Crash Experience					
	Existing [1]		Approved Uses			Currently Proposed Uses					Warrant Thresholds				Warrant Threshold Met?							Warrant Threshold Met?			Warrant Volume Thresholds				Warrant Threshold Met?	
				Existing + Approved					Existing + Approved + Proposed		Condition A (70%)		Condition B (70%)		Existing		Existing + Approved		Existing + Approved + Proposed		Warrant Threshold Minor Minimum				Condition A (56%)		Condition B (56%)		Existing	
Hour	Major[2]	Minor[3]	TAZ 4 EB LT	Major[2]	Minor[3]	TAZ 5 EB LT	TAZ 6 EB LT	TAZ 7 EB LT	Major[2]	Minor[3]	Major	Minor	Major	Minor	A	B	A	B	A	B		Existing	Existing + Approved	Existing + Approved + Proposed	Major	Minor	Major	Minor	A	B
6:30 AM	2160	46	1	2160	47	5	1	3	2160	56	420	105	630	53	No	No	No	No	No	Yes	60	No	No	No	336	84	504	42	No	Yes
7:30 AM	2023	77	2	2023	79	8	1	6	2023	94	420	105	630	53	No	Yes	No	Yes	No	Yes	60	Yes	Yes	Yes	336	84	504	42	No	Yes
11:30 AM	1357	52	8	1357	60	9	5	10	1357	84	420	105	630	53	No	No	No	Yes	No	Yes	60	No	Yes	Yes	336	84	504	42	No	Yes
12:30 PM	1398	54	3	1398	57	16	2	12	1398	87	420	105	630	53	No	Yes	No	Yes	No	Yes	60	No	No	Yes	336	84	504	42	No	Yes
2:00 PM	1610	47	6	1610	53	7	2	9	1610	71	420	105	630	53	No	No	No	Yes	No	Yes	60	No	No	Yes	336	84	504	42	No	Yes
3:00 PM	2218	63	8	2218	71	5	2	9	2218	87	420	105	630	53	No	Yes	No	Yes	No	Yes	60	Yes	Yes	Yes	336	84	504	42	No	Yes
4:15 PM	2306	58	6	2306	64	6	7	11	2306	88	420	105	630	53	No	Yes	No	Yes	No	Yes	60	No	Yes	Yes	336	84	504	42	No	Yes
5:15 PM	2310	51	5	2310	56	10	7	13	2310	86	420	105	630	53	No	No	No	Yes	No	Yes	60	No	No	Yes	336	84	504	42	No	Yes
															0	4	0	7	0	8		2	4	7					0	8
															No	No	No	No	No	Yes		No	Yes	Yes					No	Yes

Notes:

(1) Based on counts by LSC in February 2016.

(2) Meridian Road northbound and southbound left-turn, through, and right-turn volumes.

(3) Bent Grass Meadows Drive left-turn volume only.

(4) Thresholds are based on 2 or more lanes on major approach and 1 lane on minor approach with the 70% factor used as the major street speed exceeds 40 mph.

Source: LSC Transportation Consultants, Inc.

Table 5

Short-Term (Currently Proposed) & Future Improvements

Meridian/Bent Grass Meadows Drive & Bent Grass Meadows Drive/Meridian Park Drive

	Improvement	Description	Trigger	Timing
Currently-Proposed Short Term Roadway Improvements (see Figure 11 for reference)				
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.
B	Southbound Right-turn acceleration lane on Meridian Road south from Bent Grass Meadows	Construct a continuous southbound right-turn accel/decel lane on Meridian Rd between Bent Grass Meadows Dr and Owl Pl	ECM turning volume threshold has been exceeded.	With this project
C	Widen the south side of Bent Grass Meadows Boulevard to allow for a three-lane eastbound approach at Meridian/Bent Grass Meadows Boulevard.	Widen Bent Grass Meadows Boulevard on the south side between the east end of the curb & gutter (just east of the 7-11 access) and Meridian Road; reconfigure the southwest corner radius; install guard rail as necessary. Restripe for dual left turn lanes and one right turn lane eastbound (the dual left can only be placed into operation once the signal is operational). If this improvement is completed before the signal is installed, temporarily stripe out the middle (left turn) lane.	To Allow for eastbound dual Left Turn lanes once the intersection is signalized.	With this project
D	Restripe the painted center median on Bent Grass Meadows Dr. to eliminate the westbound left turn bay in conjunction with the closure of the 7-11 access (Item E below)	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 11.	With C	With this project
E	Closure of the 7-Eleven Access	Reconstruct the south Bent Grass Meadows Drive curb between Meridian Park Dr and Meridian Rd to remove the existing 7-Eleven access; Place barricade across the access per MUTCD and County guidelines/criteria and/or work with the property owner to complete the closure from the parking lot/fueling area.	With D	With this project
F	Modify Pavement Markings to extend WB LT at Meridian Park Drive		With D	With this project
Future Roadway Improvements (See Figure 12 for reference)				
G	Bent Grass Meadows Drive - future north side widening of the short section just west of Meridian Road.	Future North Side Widening - Widen Bent Grass Meadows to ultimate width on the north side between Meridian Road and the point where the north side curb and gutter begins; This would be accomplished with the upgrade/extension of the culvert on north side; reconfigure the corner radius to match, relocate signal pole if necessary; adjust guard rail if necessary; add corner pedestrian ramps if applicable.	Future project - TBD with future TIS reports	Future project - TBD with future TIS reports
H	Future additional Improvements on the SW corner following culvert extension/upgrade	Depending on the scope of the culvert project, extend sidewalk; relocate signal pole if necessary; relocate or remove guard rail and add corner pedestrian ramps if applicable.	Future project - Likely with G	Future project - Likely with G
I	Future - Potential addition of a westbound right turn bay in conjunction with a future north-side access.	Westbound right turn lane on the north side of Bent Grass Meadows Drive just west of the Bent Grass Meadows/Meridian Park Drive intersection.	A westbound right turn volume of 50 vehicles per hour or if otherwise recommended in a future TIS report.	To be determined based on a future traffic report for future development on the north side.
J	Future center median striping modifications on Bent Grass Meadows Drive just west of Meridian Park Drive.	Future - modify center median striping as needed to create an eastbound left turn lane (align with opposing westbound left turn lane)	With future development and associated opening of the access on the north leg of the Bent Grass Meadows Blvd./Meridian Park Drive intersection.	With future development.

Source: LSC Transportation Consultants, Inc. (Revised: 7-24-2020)

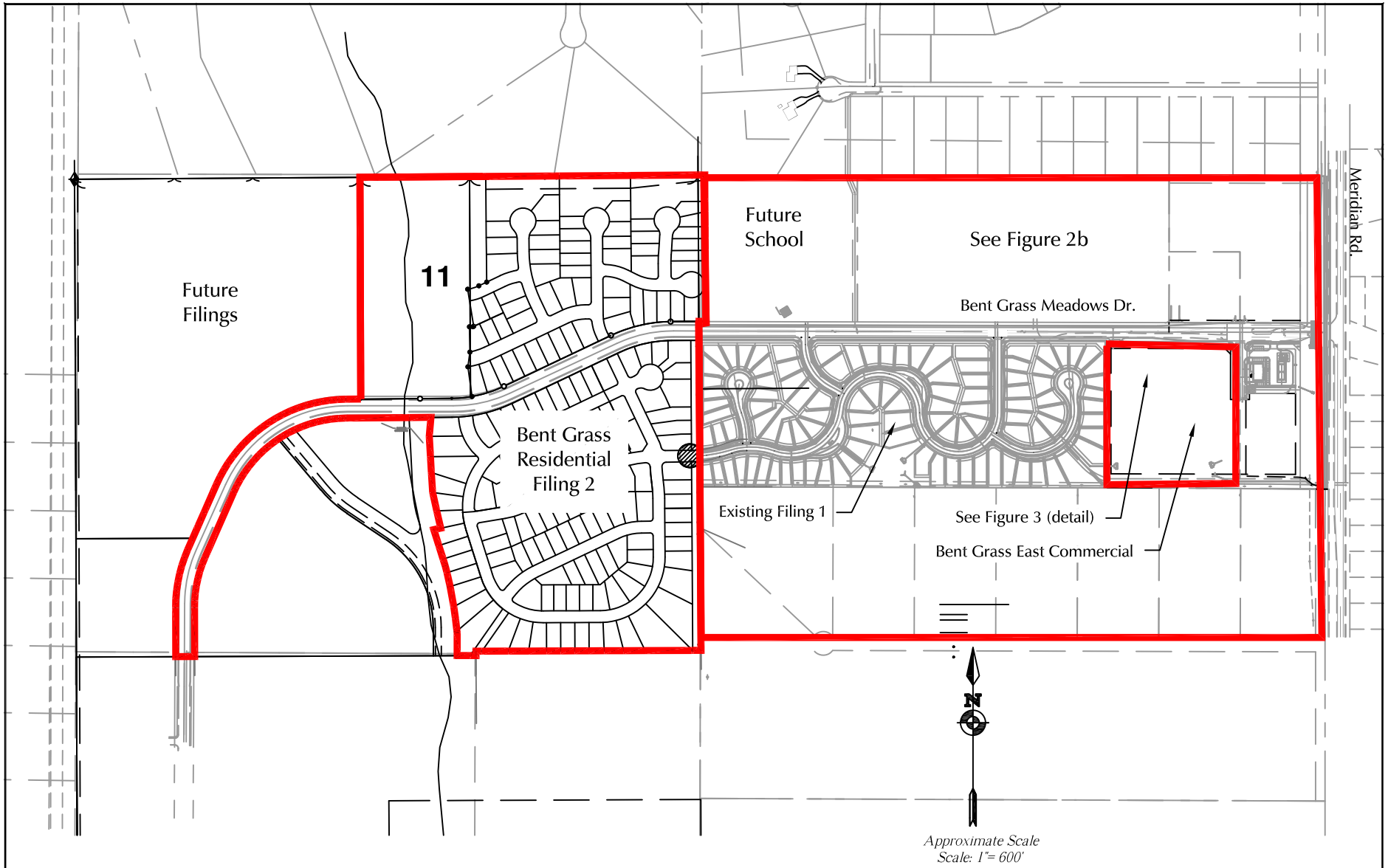
Approximate Scale
Scale: 1"= 1,000'

Figure 1

Vicinity Map

Bent Grass Meadows (LSC #194900)

TRANSPORTATION CONSULTANTS, INC.



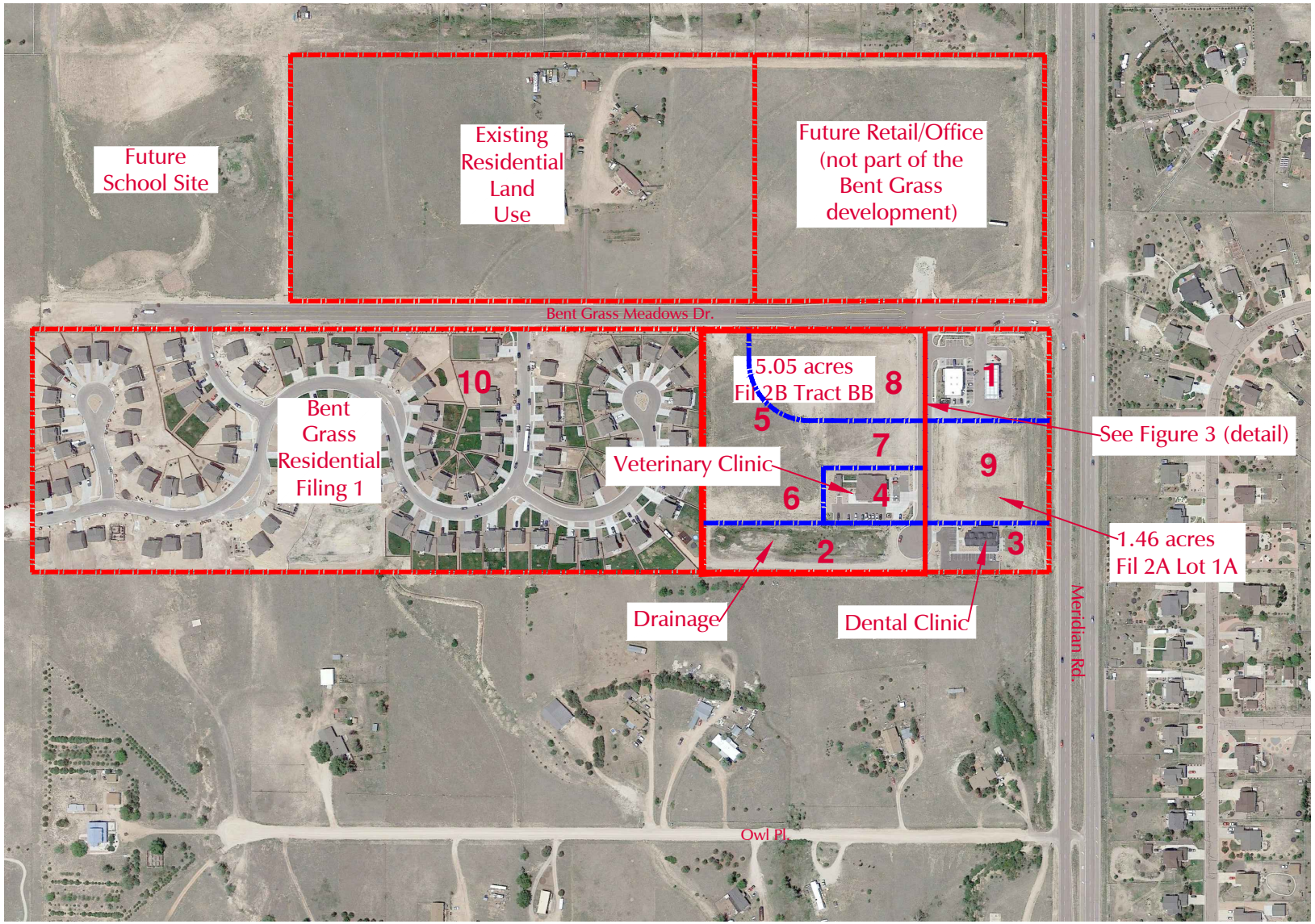
LEGEND:
XX = TAZ Number

TRANSPORTATION CONSULTANTS, INC.

Figure 2a

Area Land Uses

Bent Grass Residential Filing No 2 (LSC #194460)



LEGEND:
XX = TAZ Number

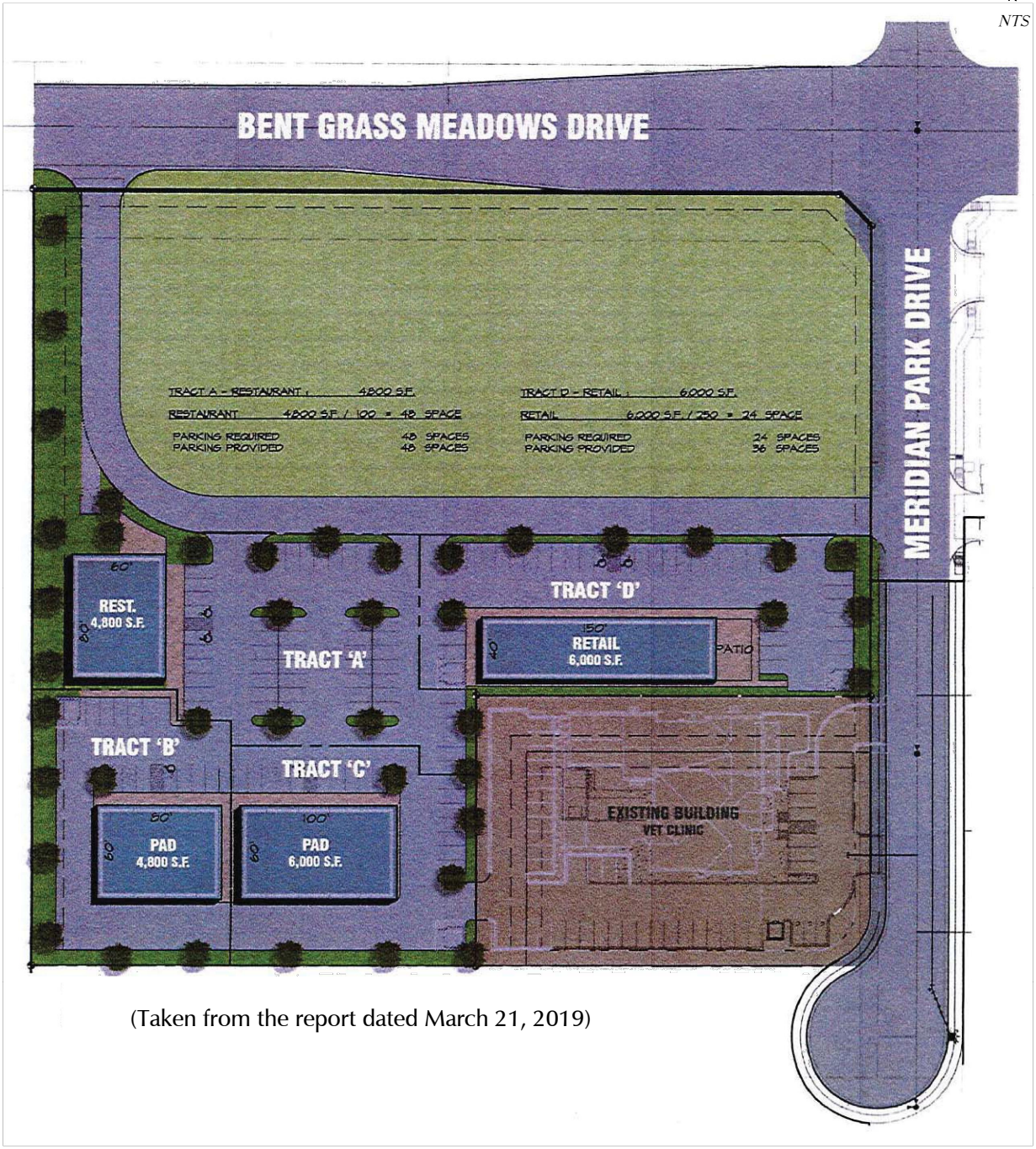
TRANSPORTATION CONSULTANTS, INC.

Figure 2b

Area Land Use (detail)

Bent Grass Meadows (LSC #194900)

NTS



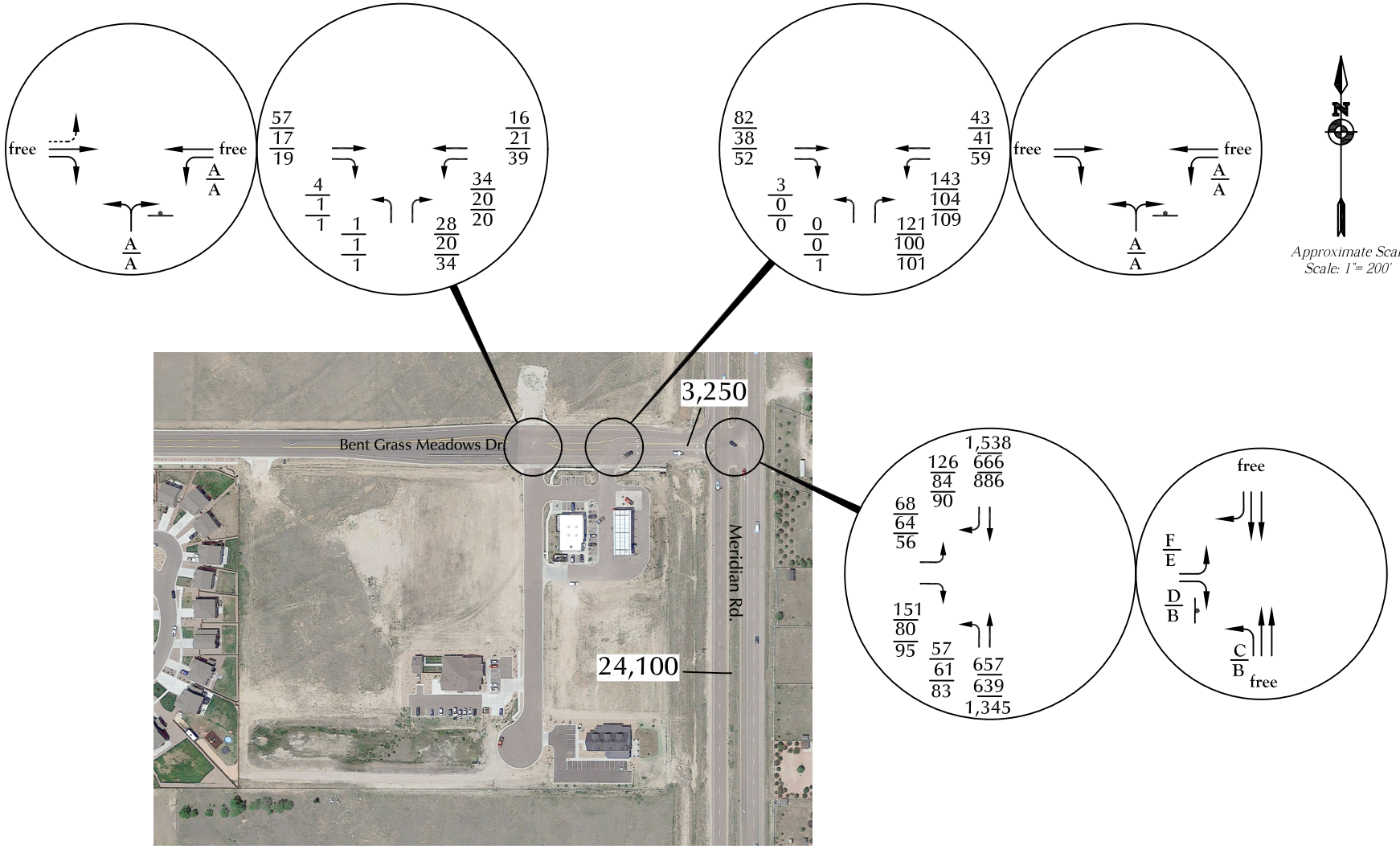
(Taken from the report dated March 21, 2019)

Figure 3

Commercial Site Plan (detail)

Bent Grass Meadows (LSC #194900)

TRANSPORTATION CONSULTANTS, INC.



LEGEND:

⊦	=	Stop Sign
XX / XX / XX	=	AM Weekday Peak-Hour Traffic (vehicles per hour) / Noon Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)
XXXX	=	Average Weekday Traffic (vehicles per hour) (estimate by LSC)
C / A / B	=	AM Individual Movement Peak-Hour Level of Service / Noon Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

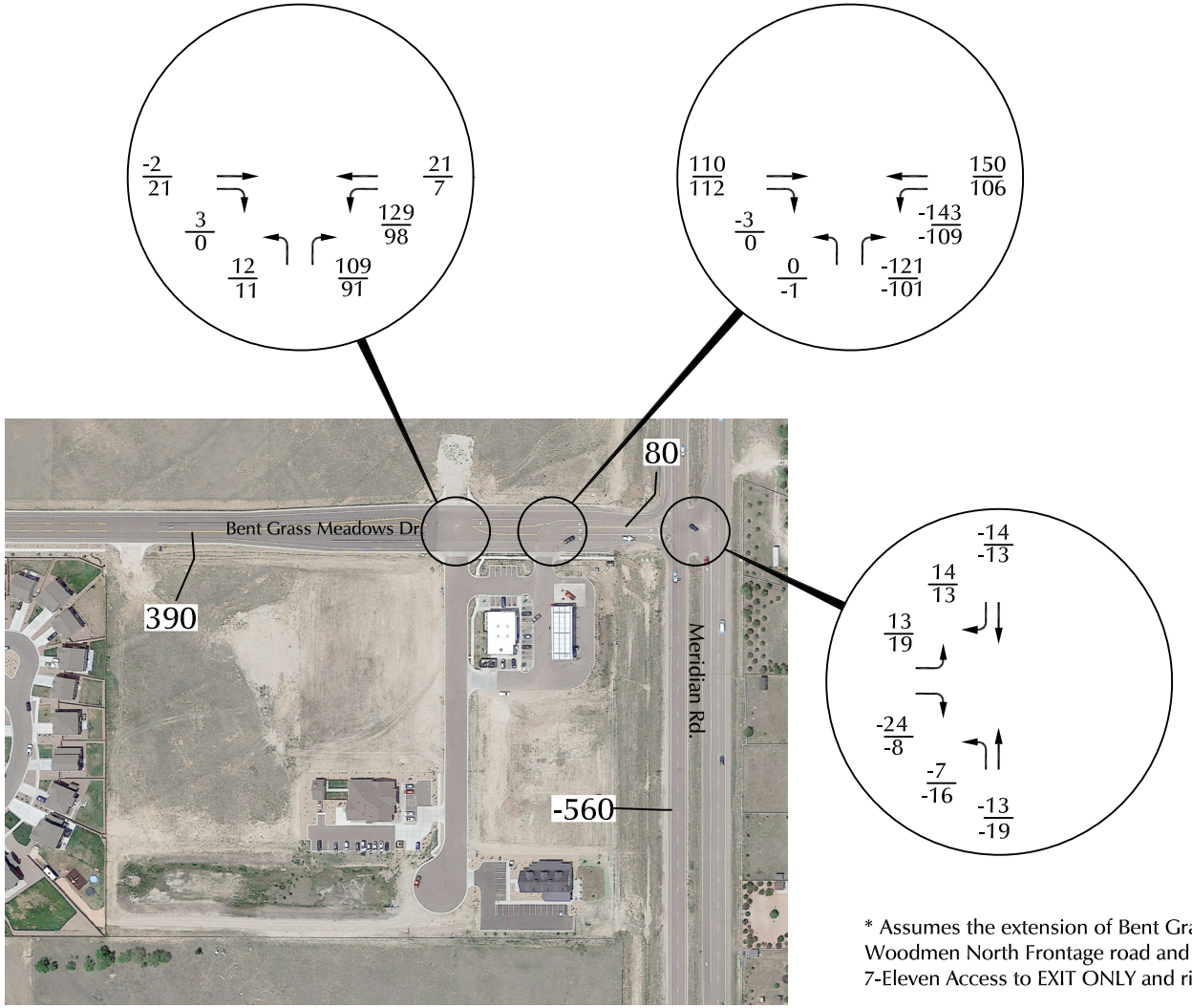
Based on counts by LSC Sept and Oct 2018

TRANSPORTATION CONSULTANTS, INC.

Figure 4

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

Bent Grass Meadows (LSC #194900)



Approximate Scale
Scale: 1"= 200'

* Assumes the extension of Bent Grass Meadows Drive to the Woodmen North Frontage road and the conversion of the 7-Eleven Access to EXIT ONLY and right-out only.

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$ Based on counts by LSC Sept and Oct 2018

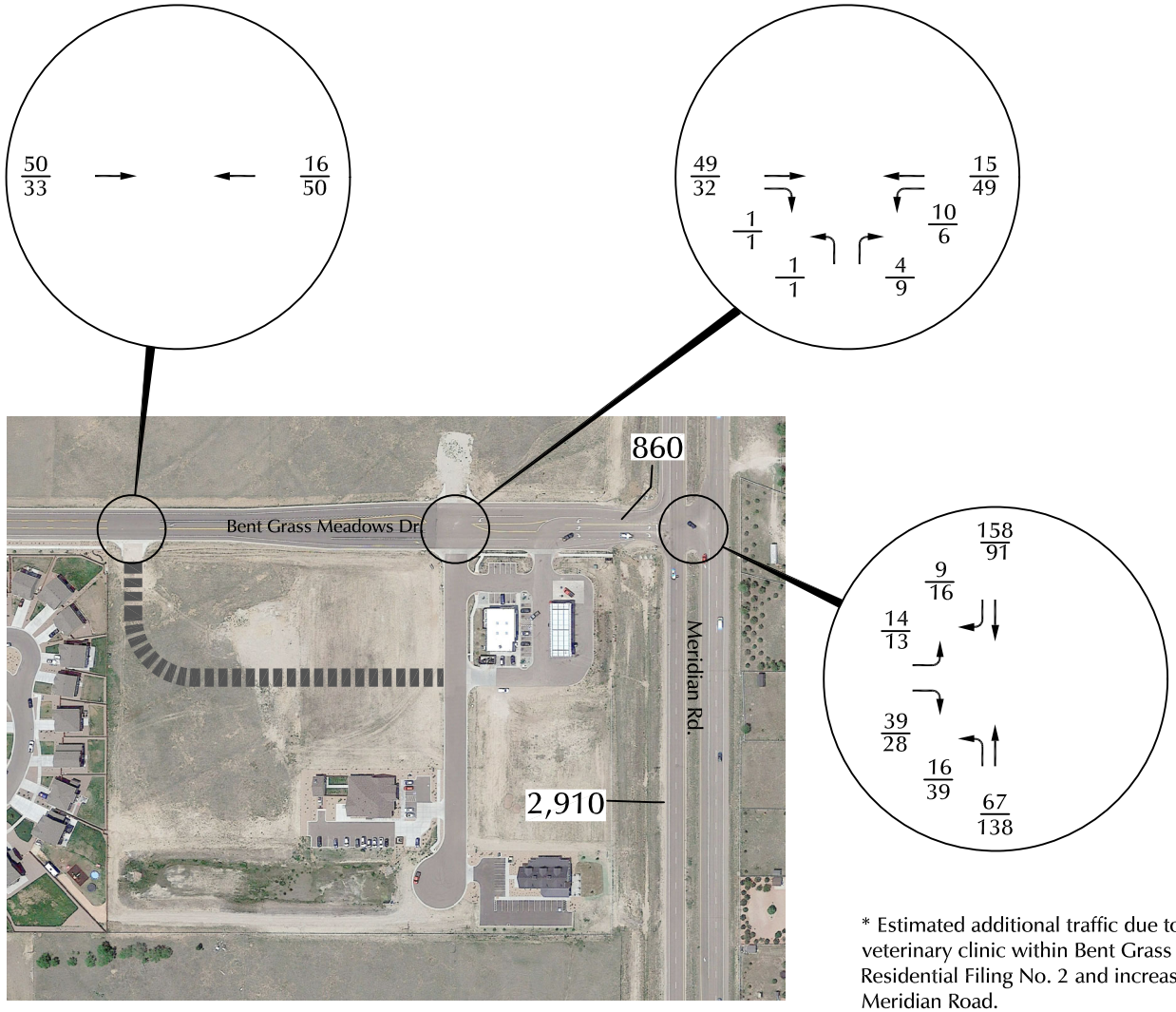
XXXX = Average Weekday Traffic (vehicles per hour)

TRANSPORTATION CONSULTANTS, INC.

Figure 5

Short-Term Change in Traffic Patterns*

Bent Grass Meadows (LSC #194900)



* Estimated additional traffic due to approved expansion of the veterinary clinic within Bent Grass Commercial and Bent Grass Residential Filing No. 2 and increases the through traffic on Meridian Road.

LEGEND:

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

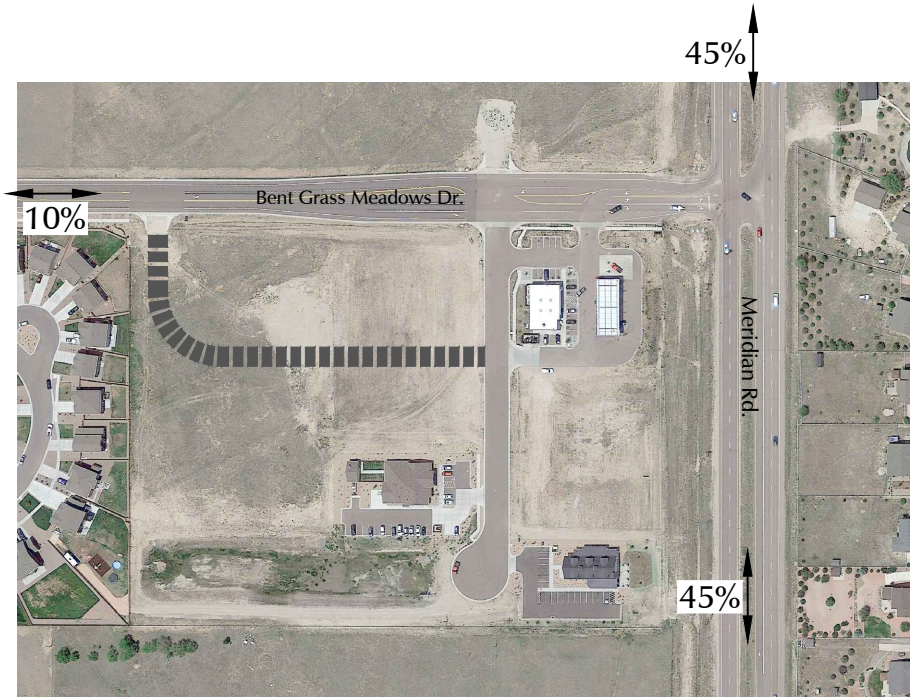
XXXX = Average Weekday Traffic (vehicles per hour)

TRANSPORTATION CONSULTANTS, INC.

Figure 6

Additional Short-Term Baseline Traffic*

Bent Grass Meadows (LSC #194900)



Approximate Scale
Scale: 1"= 200'

LEGEND:

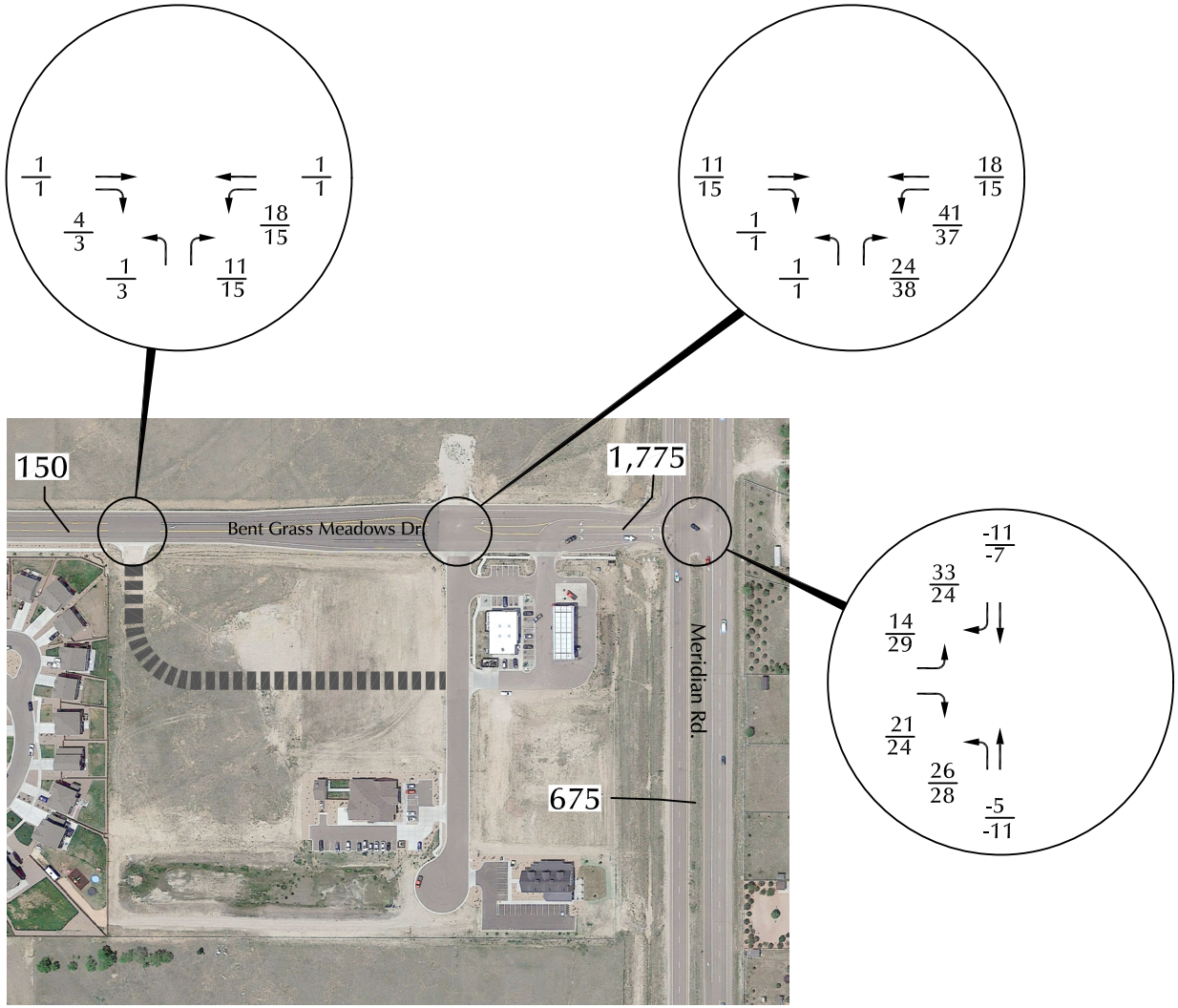
XX% = Percent Directional Distribution

Figure 7

Directional Distribution for TAZ 5, 6, and 7 Trips

Bent Grass Meadows (LSC #194900)

LSC TRANSPORTATION CONSULTANTS, INC.



Approximate Scale
Scale: 1"= 200'

LEGEND:

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

XXXX = Average Weekday Traffic (vehicles per hour)

TRANSPORTATION CONSULTANTS, INC.

Figure 8

Assignment of Proposed Site-Generated Traffic (TAZ 5, 6 & 7)

Bent Grass Meadows (LSC #194900)

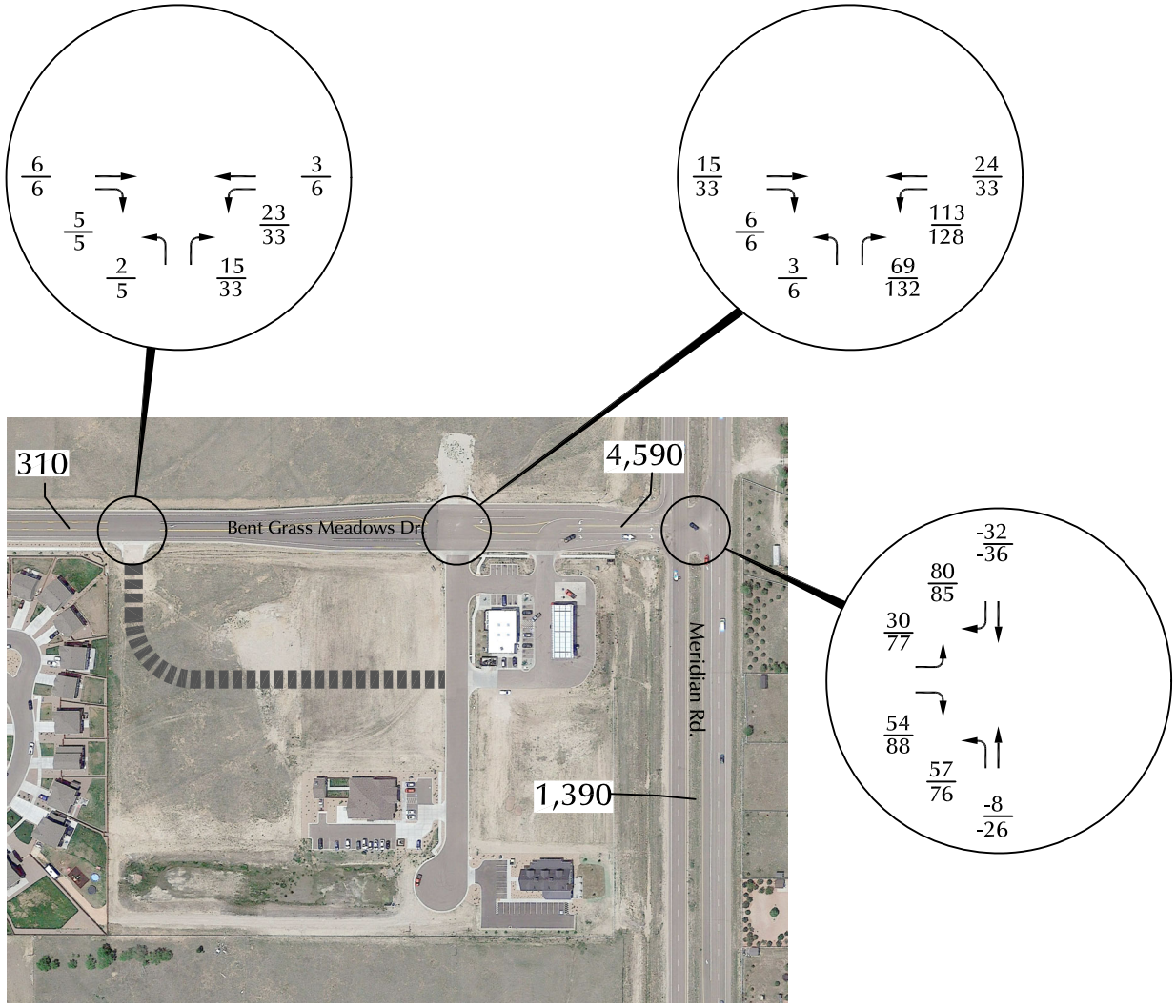


Figure 9

Assignment of Future Site-Generated Traffic (TAZ 8 & 9)

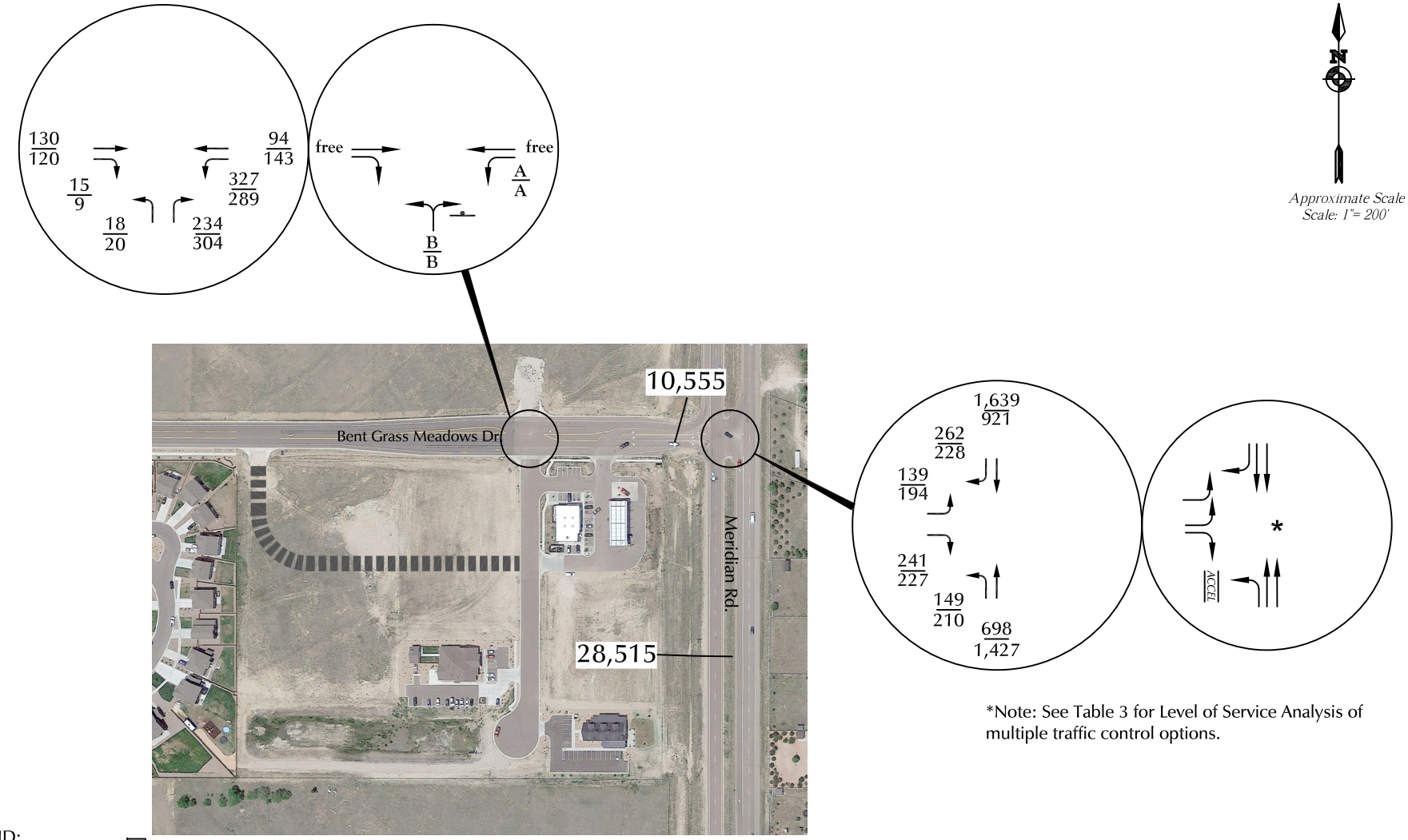
Bent Grass Meadows (LSC #194900)

LEGEND:

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

XXXX = Average Weekday Traffic (vehicles per hour)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

• = Stop Sign = Traffic Signal

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

XXXX = Average Weekday Traffic (vehicles per hour)

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

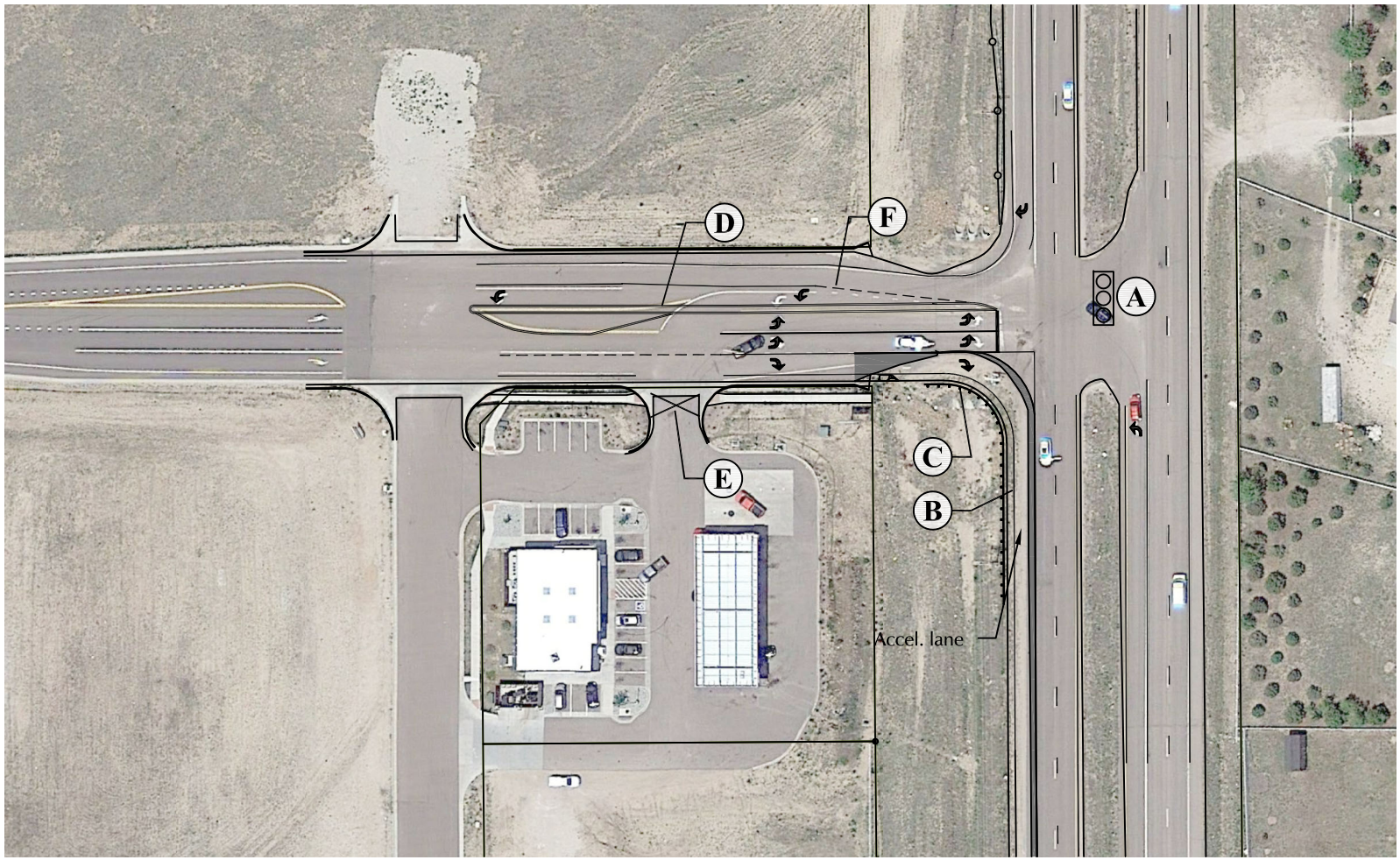
$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 10

Year 2021 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Bent Grass Meadows (LSC #194900)



N

Approximate Scale
Scale: 1"= 100'

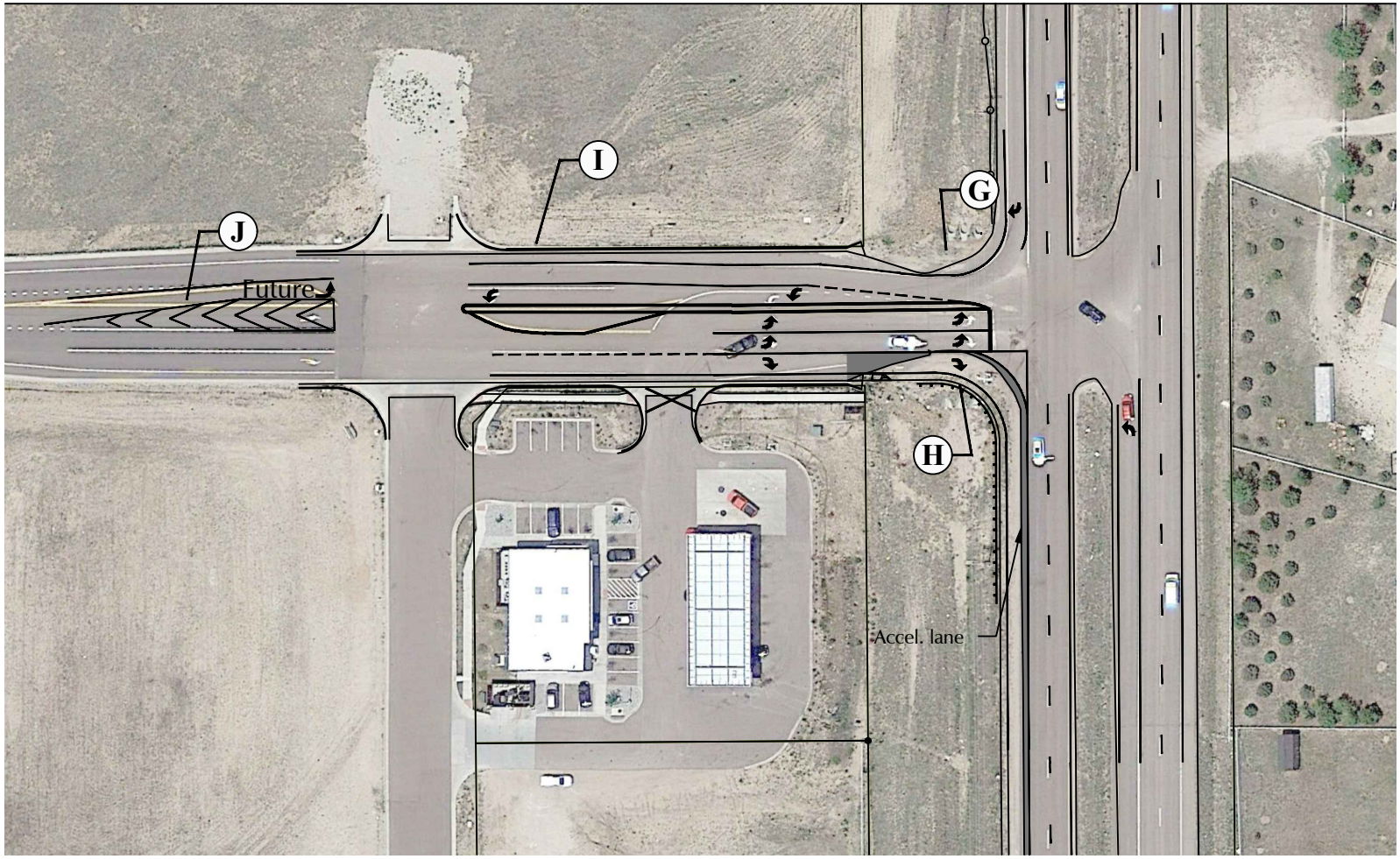
Please refer to Table 5 for the list of improvements A-F.

Figure 11

Proposed Short Term Roadway Improvements

Bent Grass Meadows (LSC #194900)

LSC TRANSPORTATION CONSULTANTS, INC.



Approximate Scale
Scale: 1"= 100'

Please refer to Table 5 for the list of improvements G-J.

Figure 12

Future Roadway Improvements

Bent Grass Meadows (LSC #194900)

TRANSPORTATION CONSULTANTS, INC.

Crash History

TRANSPORTATION
CONSULTANTS, INC.

AccidentDate	Year	Month	DayOfWee	AccidentTime	NumberInjured	TotalVehicles	ReferencePointName	ReferencePointAtName	Accident_Narrative_Printable
11/6/2018 0:00	2018	11	Tuesday	3:58:00 PM	3	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle 1 was eastbound on Bent Grass Meadows Dr making a left turn onto northbound Meridian Rd. Vehicle 2 was southbound on Meridian Rd at Bent Grass Meadows Dr in the left lane. Vehicle 1 proceeded from a stop sign and pulled into vehicle 2's path. Vehicle 2 collided its front with the side of vehicle 1. Vehicle 1 began to rotate counter clockwise and came to a rest facing west in the center of the intersection. Vehicle 2 also began to rotate counter clockwise and came to a rest facing east blocking the left lane of southbound Meridian Rd.
11/4/2018 0:00	2018	11	Sunday	1:19:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was eastbound Bent Grass Meadow Dr attempting to turn north onto Meridian Rd. Vehicle #2 was southbound on Meridian Rd in the #1 lane approaching Bent Grass Meadow Dr. Vehicle #1 pulled out in front of vehicle #2. Vehicle #2's front struck the left front/side of vehicle #1. Vehicle #2 rotated counter clockwise and its right side struck the left side of vehicle #1. Vehicle #1 and #2 both came to a stop facing southeast.
10/9/2018 0:00	2018	10	Tuesday	6:33:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was northbound on Meridian Road attempting to turn left onto Bent Grass Meadows. Vehicle #2 was southbound on Meridian Road. There was a vehicle in the center median of Meridian Road from eastbound Bent Grass Meadows waiting to turn onto northbound Meridian Road. The view (from driver #1) of southbound traffic on Meridian Road was obstructed by that vehicle. The front of vehicle #2 collided with the right front side of vehicle #1 approximately 15' north of the south road edge of Bent Grass Meadows and 13' east of the west road edge of Meridian Road. Vehicle #1 rotated counterclockwise 1/4 times and continued southbound for approximately 97' before coming to final rest on all four wheels facing south. Vehicle #2 rotated clockwise 180 degrees coming to final rest on all four wheels facing north. Vehicles were moved prior to investigation.
10/2/2018 0:00	2018	10	Tuesday	9:11:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle 1 was turning from eastbound Bent Grass Meadows to northbound Meridian Road. Vehicle 2 was traveling south on Meridian Road in the left lane. Vehicle 1 stopped at the stop sign then proceeded into the intersection when it was not clear. Vehicle 2 collided with vehicle 1. Both vehicles were driven to an adjacent parking lot.
9/8/2018 0:00	2018	9	Saturday	10:03:00 AM	3	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was stopped on Bent Grass Meadows Drive eastbound at Meridian Road. Vehicle #2 was traveling southbound on Meridian Road in the right lane approaching Bent Grass Meadows Drive. Vehicle #1 entered the intersection and its front struck Vehicle #2's right rear. Vehicle #2 rotated 1/4 turn clockwise traveling 65.2 feet and began to roll. Vehicle #2 traveled 56.7 feet while rolling 1/2 time, coming to final rest on its top facing west against a telephone pole. Vehicle #1 moved off the road from final rest.
7/6/2018 0:00	2018	7	Friday	12:24:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was stopped at the stop sign on eastbound Bentgrass Meadows, waiting to turn left onto Meridian Rd. Vehicle #2 was southbound on Meridian Rd in the right lane. Vehicle #1 started forward from the stop sign and collided its front with the passenger side of vehicle #2. This collision forced vehicle #2 to rotate clockwise, where it traveled through the left lane of southbound Meridian Rd and into the center median. Vehicle #2 came to rest in the median facing west. Vehicle #1 was moved prior to investigation.
6/5/2018 0:00	2018	6	Tuesday	6:01:00 PM	0	3	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was northbound on Meridian Road attempting to turn left onto Bent Grass Meadows. Vehicle #2 was southbound on Meridien Road. Vehicle #3 was eastbound on Bent Grass Meadows stopped at the stop sign. The front of vehicle #2 collided with the right side of Vehicle #1. The front of vehicle #1 then collided with the front of vehicle #3. Vehicles were moved prior to investigation.
2/13/2018 0:00	2018	2	Tuesday	3:14:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was proceeding eastbound from a stop sign at Bent Grass Meadows Drive to turn left onto Meridian Road northbound. Vehicle #2 was traveling southbound on Meridian Road in the #1 lane. Vehicle #1 collided with the front right of Vehicle #2 with its front left. After impact, Vehicle #2 came to rest south of the intersection on the left side of the roadway partially blocking the #1 lane. Vehicle #1 rotated 1/2 half turn clockwise and came to rest partially blocking the right turn lane from Meridian Road southbound onto Bent Grass Meadows Drive facing northwest.
1/8/2018 0:00	2018	1	Monday	5:47:00 PM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle 1 was stopped on Bent Grass Meadows facing east at the intersection of Meridian Road. Vehicle 2 was traveling south on Meridian Road in the left lane. Vehicle 1 failed to yield the right of way and entered the intersection. Vehicle 2 could not stop and collided with the driver's side of vehicle 1. Both vehicles came to rest in the median on their wheels facing east.
12/22/2017 0:00	2017	12	Friday	11:00:00 AM	0	2	MERIDIAN ROAD	BENT GRASS MEADOWS DR	Vehicle #1 was stopped on Bent Grass Meadows waiting to make a left turn onto Meridian Rd. Vehicle #2 was in the right through lane southbound on Meridian Rd approaching Bent Grass Meadows (at this intersection Meridian Rd does not have a stop sign only Bent Grass Meadows). Vehicle #1 failed to yield to Vehicle #2 and started into the intersection. Vehicle #1 collided it's front with the right side of Vehicle #2. Vehicle #2 rotated clockwise and came to rest on the shoulder facing north. Vehicle #1 was driven to rest.

Traffic Counts

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

File Name : Meridian Park Rd - Bent Grass Meadows AM
Site Code : 00184910
Start Date : 10/30/2018

Groups Printed- Bank 1

	Southbound				Bent Grass Meadows Westbound				Meridian Park Rd Northbound				Bent Grass Meadows Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0	0	6
06:35	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	5
06:40	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3
06:45	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0	0	5
06:50	0	0	0	0	2	1	0	0	0	0	0	0	0	4	1	0	8
06:55	0	0	0	0	3	1	0	0	0	0	2	0	0	2	0	0	8
Total	0	0	0	0	8	2	0	0	0	0	6	0	0	18	1	0	35
07:00	0	0	0	0	2	0	0	0	0	0	4	0	0	6	0	0	12
07:05	0	0	0	0	3	1	0	0	1	0	0	0	0	5	1	0	11
07:10	0	0	0	0	1	0	0	0	0	0	2	0	0	4	1	0	8
07:15	0	0	0	0	2	0	0	0	0	0	5	0	0	3	0	0	10
07:20	0	0	0	0	1	1	0	0	0	0	4	0	0	3	1	0	10
07:25	0	0	0	0	2	2	0	0	0	0	2	0	0	3	0	0	9
07:30	0	0	0	0	3	1	0	0	0	0	0	0	0	6	1	0	11
07:35	0	0	0	0	6	1	0	0	0	0	3	0	0	3	0	0	13
07:40	0	0	0	0	1	4	0	0	0	0	2	0	0	7	0	0	14
07:45	0	0	0	0	4	1	0	0	0	0	4	0	0	8	0	0	17
07:50	0	0	0	0	3	0	0	0	0	0	2	0	0	6	0	0	11
07:55	0	0	0	0	3	4	0	0	0	0	1	0	0	3	0	0	11
Total	0	0	0	0	31	15	0	0	1	0	29	0	0	57	4	0	137
08:00	0	0	0	0	5	1	0	0	0	0	3	0	0	6	0	0	15
08:05	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	6
08:10	0	0	0	0	2	0	0	0	0	0	4	0	0	2	0	0	8
08:15	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4
08:20	0	0	0	0	2	1	0	0	0	0	8	0	0	3	0	0	14
08:25	0	0	0	0	1	1	0	0	0	0	5	0	0	0	0	0	7
Grand Total	0	0	0	0	50	20	0	0	1	0	61	0	0	89	5	0	226
Apprch %	0	0	0	0	71.4	28.6	0	0	1.6	0	98.4	0	0	94.7	5.3	0	
Total %	0	0	0	0	22.1	8.8	0	0	0.4	0	27	0	0	39.4	2.2	0	

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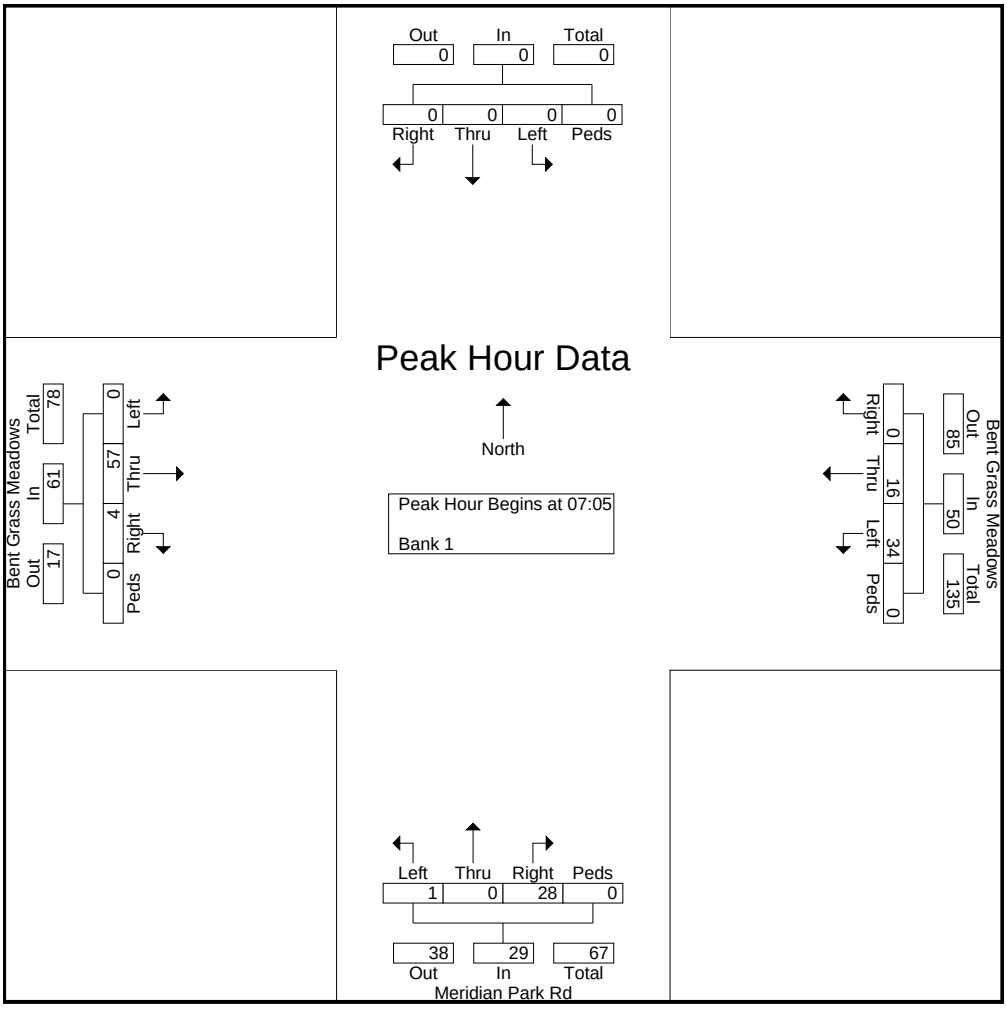
File Name : Meridian Park Rd - Bent Grass Meadows AM
Site Code : 00184910
Start Date : 10/30/2018
Page No : 2

	Southbound					Bent Grass Meadows Westbound					Meridian Park 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 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:05																					
07:05	0	0	0	0	0	3	1	0	0	4	**1**	0	0	0	1	0	5	**1**	0	6	11
07:10	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	0	4	1	0	5	8
07:15	0	0	0	0	0	2	0	0	0	2	0	0	**5**	0	**5**	0	3	0	0	3	10
07:20	0	0	0	0	0	1	1	0	0	2	0	0	4	0	4	0	3	1	0	4	10
07:25	0	0	0	0	0	2	2	0	0	4	0	0	2	0	2	0	3	0	0	3	9
07:30	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	6	1	0	7	11
07:35	0	0	0	0	0	**6**	1	0	0	**7**	0	0	3	0	3	0	3	0	0	3	13
07:40	0	0	0	0	0	1	**4**	0	0	5	0	0	2	0	2	0	7	0	0	7	14
07:45	0	0	0	0	0	4	1	0	0	5	0	0	4	0	4	0	**8**	0	0	**8**	**17**
07:50	0	0	0	0	0	3	0	0	0	3	0	0	2	0	2	0	6	0	0	6	11
07:55	0	0	0	0	0	3	4	0	0	7	0	0	1	0	1	0	3	0	0	3	11
08:00	0	0	0	0	0	5	1	0	0	6	0	0	3	0	3	0	6	0	0	6	15
Total Volume	0	0	0	0	0	34	16	0	0	50	1	0	28	0	29	0	57	4	0	61	140
% App. Total	0	0	0	0		68	32	0	0		3.4	0	96.6	0		0	93.4	6.6	0		
PHF	.000	.000	.000	.000	.000	.472	.333	.000	.000	.595	.083	.000	.467	.000	.483	.000	.594	.333	.000	.635	.686



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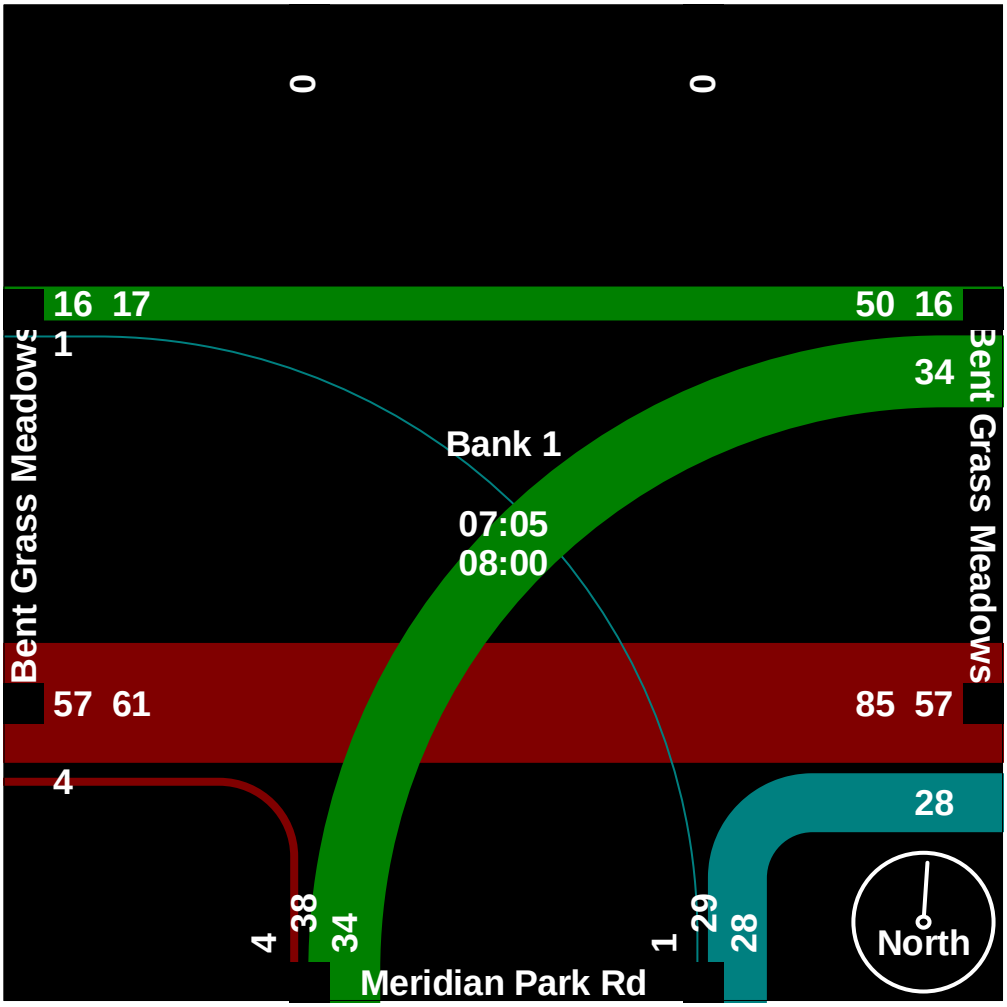
File Name : Meridian Park Rd - Bent Grass Meadows AM
Site Code : 00184910
Start Date : 10/30/2018
Page No : 3



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719-633-2868

File Name : Meridian Park Rd - Bent Grass Meadows Mid
Site Code : 00184910
Start Date : 10/30/2018
Page No : 1

Groups Printed- Bank 1

	Southbound				Bent Grass Meadows Westbound				Meridian Park Rd Northbound				Bent Grass Meadows Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
11:30	0	0	0	0	5	8	0	0	0	0	8	0	0	4	1	0	26
11:45	0	0	0	0	7	3	0	0	1	0	9	0	0	7	0	0	27
Total	0	0	0	0	12	11	0	0	1	0	17	0	0	11	1	0	53
12:00	0	0	0	0	1	7	0	0	0	0	3	0	0	7	0	0	18
12:15	0	0	0	0	2	4	0	0	0	0	4	0	0	1	1	0	12
12:30	0	0	0	0	9	7	0	0	1	0	3	0	0	6	0	0	26
12:45	0	0	0	0	8	3	0	0	0	0	10	0	0	3	0	0	24
Total	0	0	0	0	20	21	0	0	1	0	20	0	0	17	1	0	80
Grand Total	0	0	0	0	32	32	0	0	2	0	37	0	0	28	2	0	133
Apprch %	0	0	0	0	50	50	0	0	5.1	0	94.9	0	0	93.3	6.7	0	
Total %	0	0	0	0	24.1	24.1	0	0	1.5	0	27.8	0	0	21.1	1.5	0	

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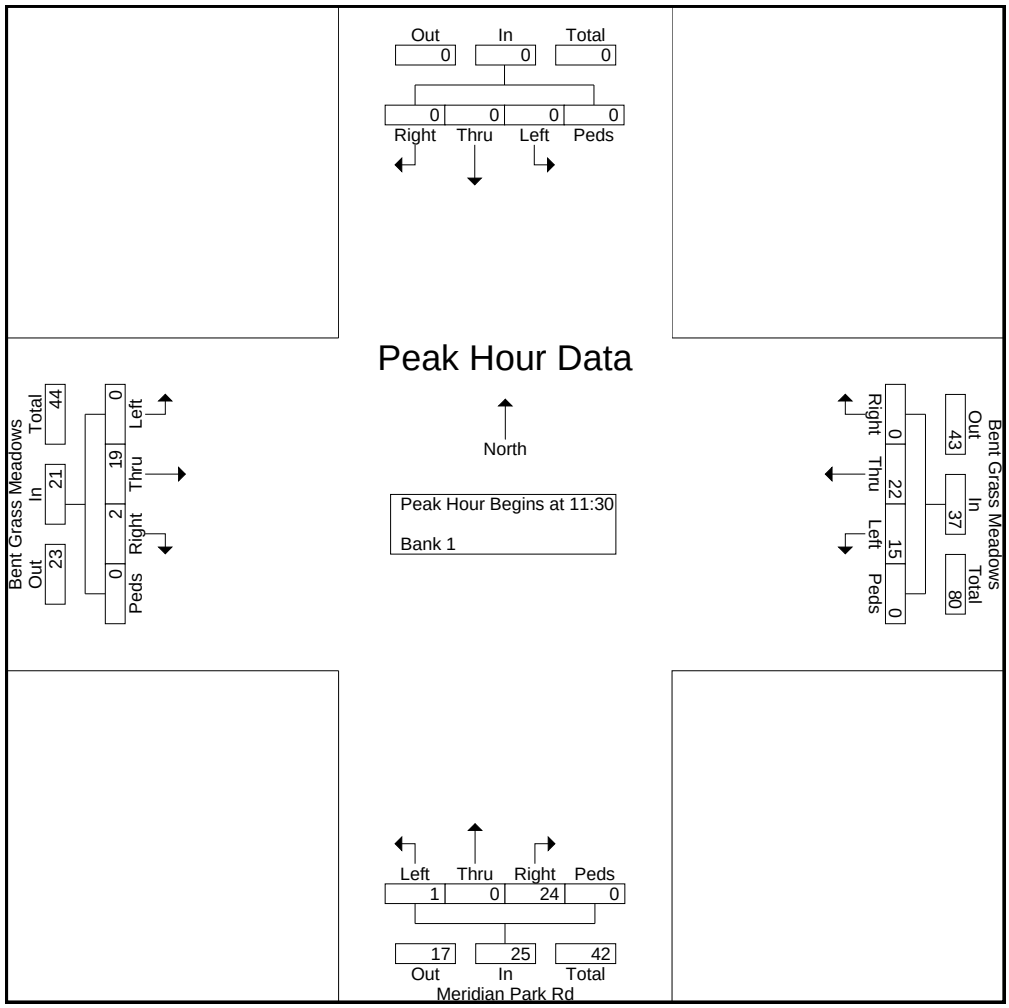
File Name : Meridian Park Rd - Bent Grass Meadows Mid
Site Code : 00184910
Start Date : 10/30/2018

	Southbound					Bent Grass Meadows Westbound					Meridian Park 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 11:30 to 12:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30																					
11:30	0	0	0	0	0	5	**8**	0	0	**13**	0	0	8	0	8	0	4	**1**	0	5	26
11:45	0	0	0	0	0	**7**	3	0	0	10	**1**	0	**9**	0	**10**	0	**7**	0	0	**7**	**27**
12:00	0	0	0	0	0	1	7	0	0	8	0	0	3	0	3	0	7	0	0	7	18
12:15	0	0	0	0	0	2	4	0	0	6	0	0	4	0	4	0	1	1	0	2	12
Total Volume	0	0	0	0	0	15	22	0	0	37	1	0	24	0	25	0	19	2	0	21	83
% App. Total	0	0	0	0		40.5	59.5	0	0		4	0	96	0		0	90.5	9.5	0		
PHF	.000	.000	.000	.000	.000	.536	.688	.000	.000	.712	.250	.000	.667	.000	.625	.000	.679	.500	.000	.750	.769



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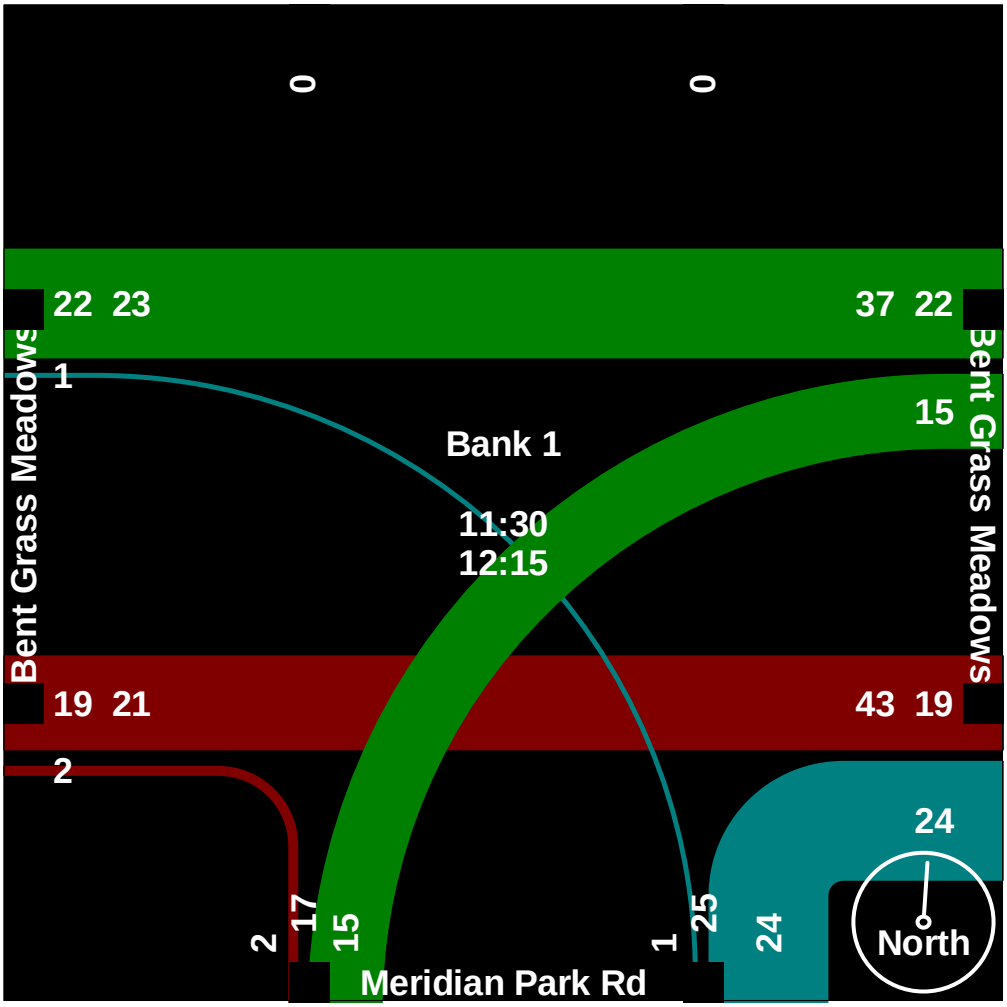
File Name : Meridian Park Rd - Bent Grass Meadows Mid
Site Code : 00184910
Start Date : 10/30/2018
Page No : 3



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719-633-2868

File Name : Meridian Park Rd - Bent Grass Meadows PM
Site Code : 00184910
Start Date : 10/29/2018
Page No : 1

Groups Printed- Bank 1

	Southbound				Bent Grass Meadows Westbound				Meridian Park Rd Northbound				Bent Grass Meadow Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	0	0	0	0	2	9	0	0	0	0	12	0	0	4	0	0	27
16:15	0	0	0	0	5	13	0	0	1	0	10	0	0	6	0	0	35
16:30	0	0	0	0	8	7	0	0	0	0	7	0	0	3	0	0	25
16:45	0	0	0	0	7	12	0	0	0	0	4	0	0	3	0	0	26
Total	0	0	0	0	22	41	0	0	1	0	33	0	0	16	0	0	113
17:00	0	0	0	0	2	14	0	0	1	0	8	0	0	5	1	0	31
17:15	0	0	0	0	3	6	0	0	0	0	15	0	0	8	0	0	32
17:30	0	0	0	0	4	11	0	0	0	0	5	0	0	3	1	0	24
17:45	0	0	0	0	3	9	0	0	0	0	2	0	0	6	0	0	20
Total	0	0	0	0	12	40	0	0	1	0	30	0	0	22	2	0	107
Grand Total	0	0	0	0	34	81	0	0	2	0	63	0	0	38	2	0	220
Apprch %	0	0	0	0	29.6	70.4	0	0	3.1	0	96.9	0	0	95	5	0	
Total %	0	0	0	0	15.5	36.8	0	0	0.9	0	28.6	0	0	17.3	0.9	0	

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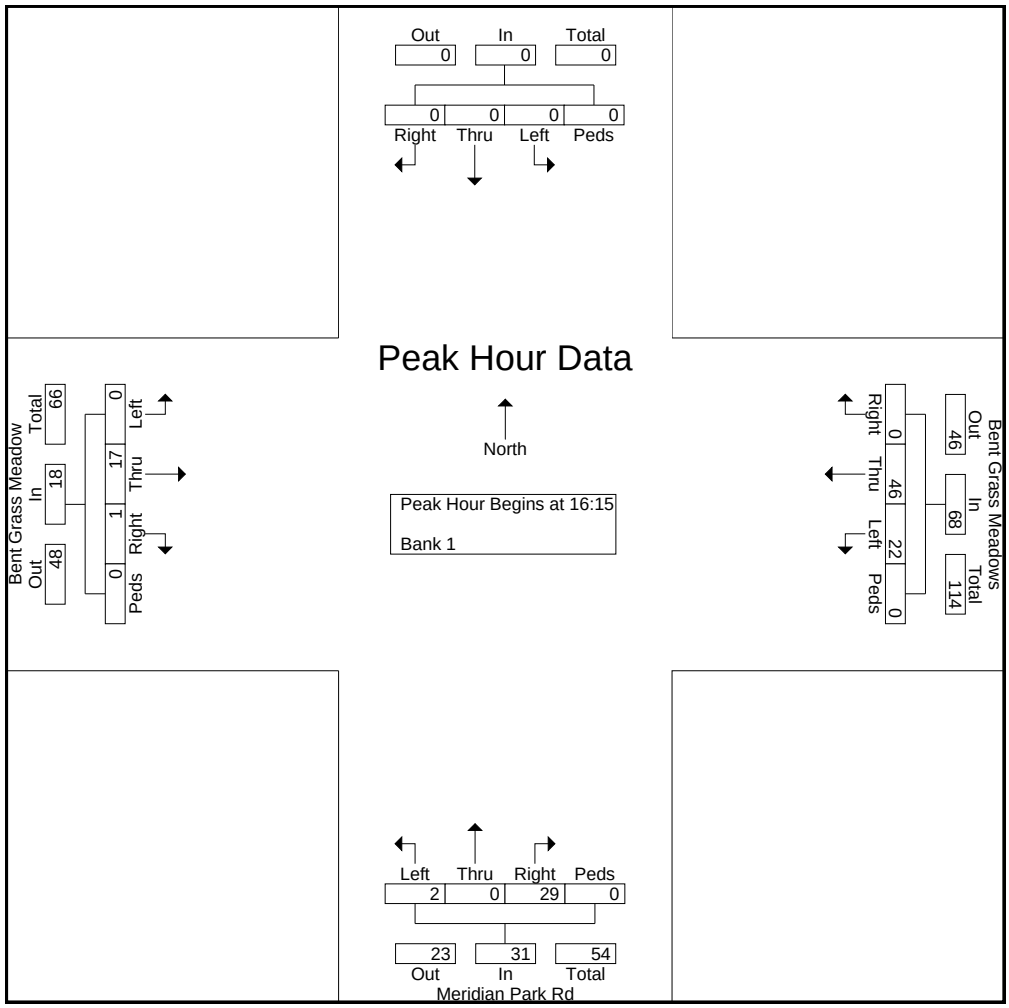
File Name : Meridian Park Rd - Bent Grass Meadows PM
Site Code : 00184910
Start Date : 10/29/2018

	Southbound					Bent Grass Meadows Westbound					Meridian Park Rd Northbound					Bent Grass Meadow 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 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	5	13	0	0	18	**1**	0	**10**	0	**11**	0	**6**	0	0	**6**	**35**
16:30	0	0	0	0	0	**8**	7	0	0	15	0	0	7	0	7	0	3	0	0	3	25
16:45	0	0	0	0	0	7	12	0	0	**19**	0	0	4	0	4	0	3	0	0	3	26
17:00	0	0	0	0	0	2	**14**	0	0	16	1	0	8	0	9	0	5	**1**	0	6	31
Total Volume	0	0	0	0	0	22	46	0	0	68	2	0	29	0	31	0	17	1	0	18	117
% App. Total	0	0	0	0		32.4	67.6	0	0		6.5	0	93.5	0		0	94.4	5.6	0		
PHF	.000	.000	.000	.000	.000	.688	.821	.000	.000	.895	.500	.000	.725	.000	.705	.000	.708	.250	.000	.750	.836



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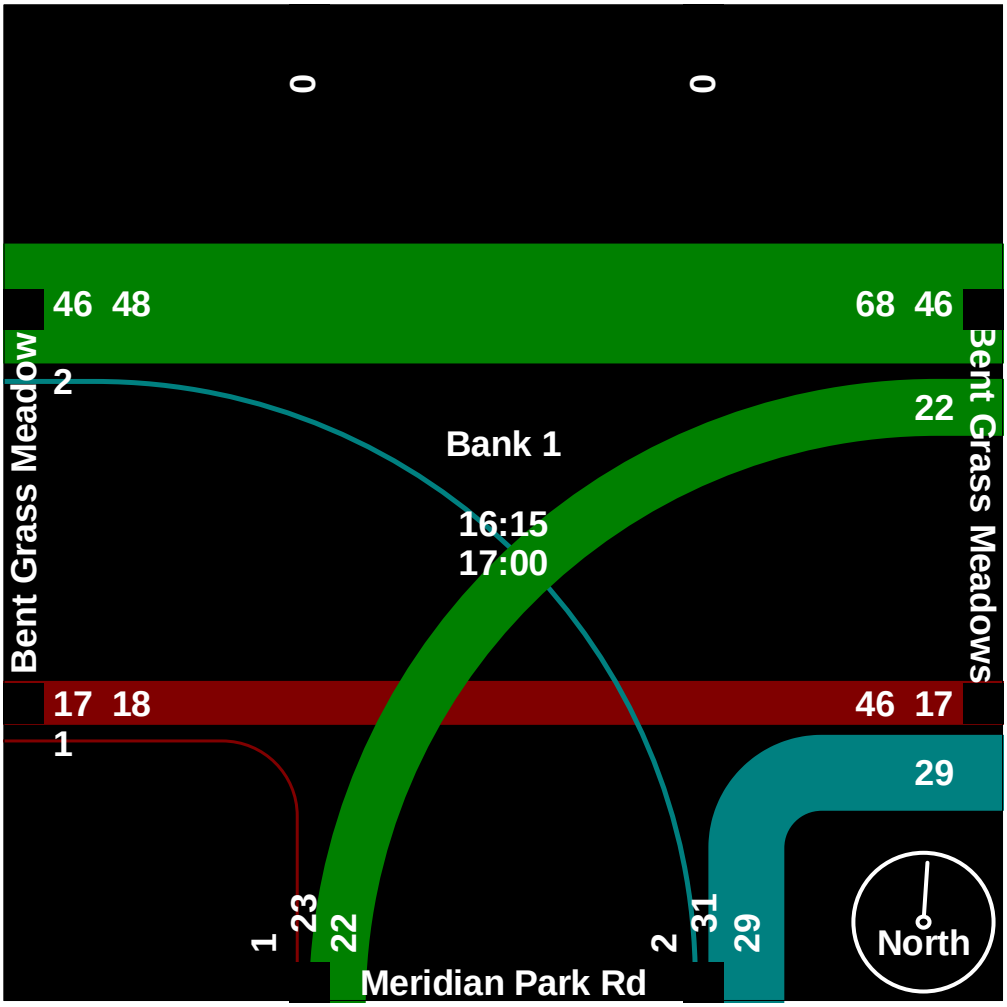
File Name : Meridian Park Rd - Bent Grass Meadows PM
Site Code : 00184910
Start Date : 10/29/2018
Page No : 3



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545 E Pikes Peak Ave, Suite 210
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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				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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.
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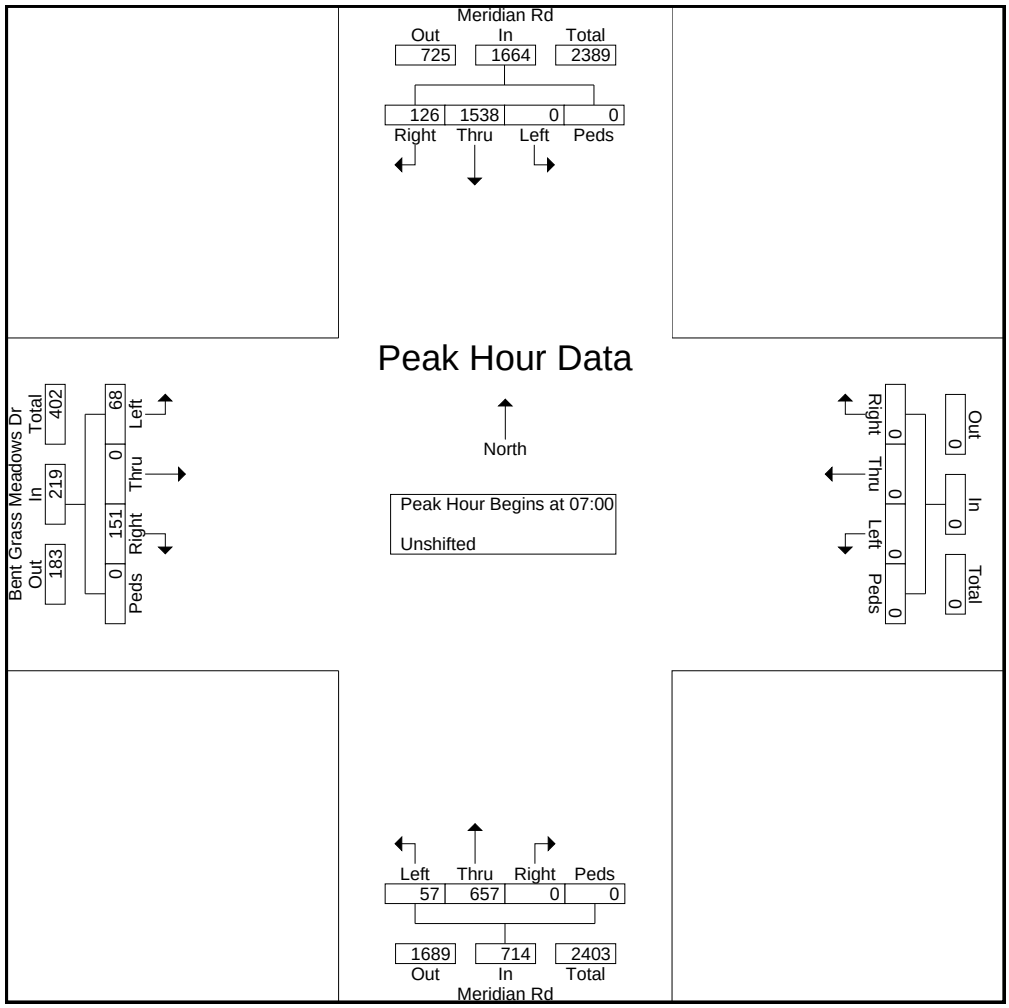
719-633-2868

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



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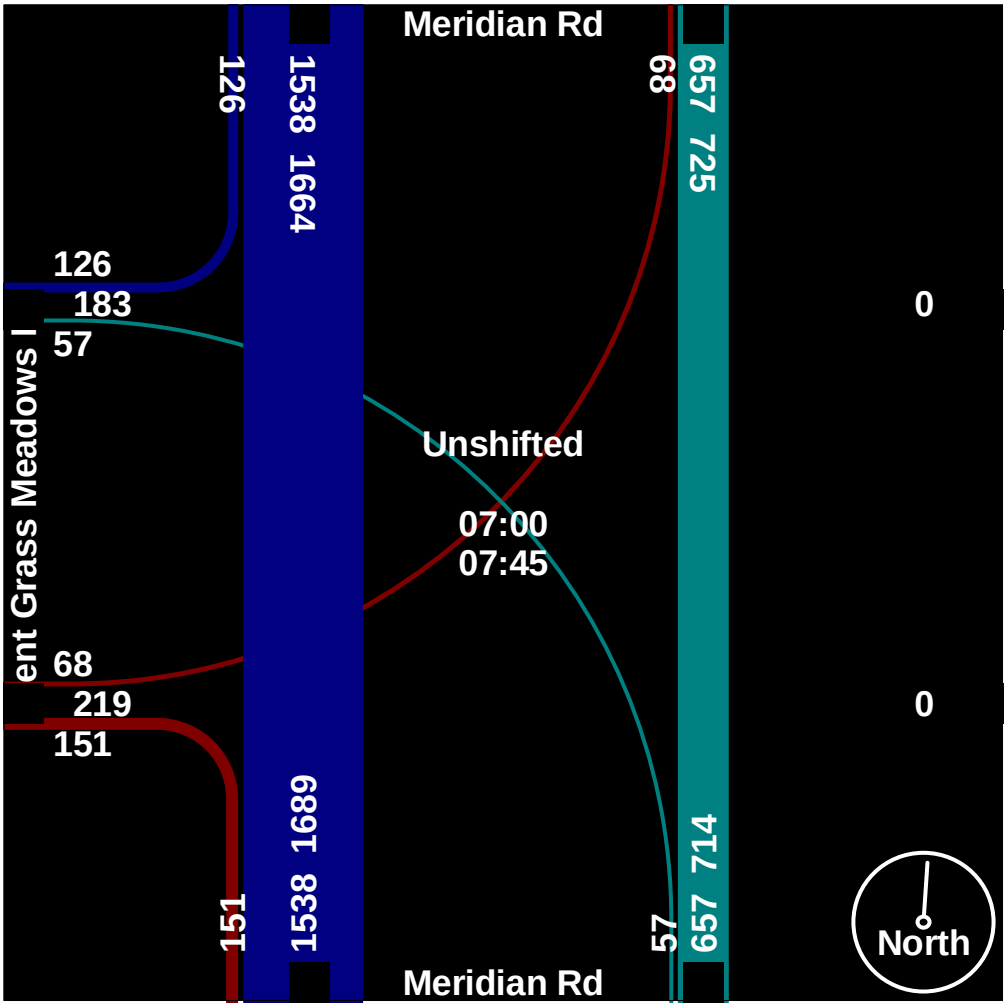
719-633-2868

File Name : Meridian Rd - Bent Grass Meadows Dr AM 9-18
Site Code : 154561
Start Date : 9/12/2018
Page No : 3



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719-633-2868

File Name : Meridian Rd - Bent Grass Meadows Noon 9-18
Site Code : 154561
Start Date : 9/11/2018
Page No : 1

Groups Printed- Unshifted

	Meridian Rd Southbound				Westbound				Meridian Rd Northbound				Bent Grass Meadows Dr Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
11:30	0	135	22	0	0	0	0	0	8	158	0	0	7	0	20	0	350
11:45	0	129	11	0	0	0	0	0	5	163	0	1	9	0	21	0	339
Total	0	264	33	0	0	0	0	0	13	321	0	1	16	0	41	0	689
12:00	0	170	27	0	0	0	0	0	16	135	0	0	16	0	20	0	384
12:15	0	170	17	0	0	0	0	0	18	173	0	0	20	0	22	0	420
12:30	0	155	23	0	0	0	0	0	13	164	0	0	15	0	25	0	395
12:45	0	171	17	0	0	0	0	0	14	167	0	0	13	0	13	0	395
Total	0	666	84	0	0	0	0	0	61	639	0	0	64	0	80	0	1594
13:00	0	117	16	0	0	0	0	0	16	160	0	2	14	0	12	0	337
13:15	0	158	15	0	0	0	0	0	16	176	0	0	12	0	21	0	398
Grand Total	0	1205	148	0	0	0	0	0	106	1296	0	3	106	0	154	0	3018
Apprch %	0	89.1	10.9	0	0	0	0	0	7.5	92.2	0	0.2	40.8	0	59.2	0	
Total %	0	39.9	4.9	0	0	0	0	0	3.5	42.9	0	0.1	3.5	0	5.1	0	

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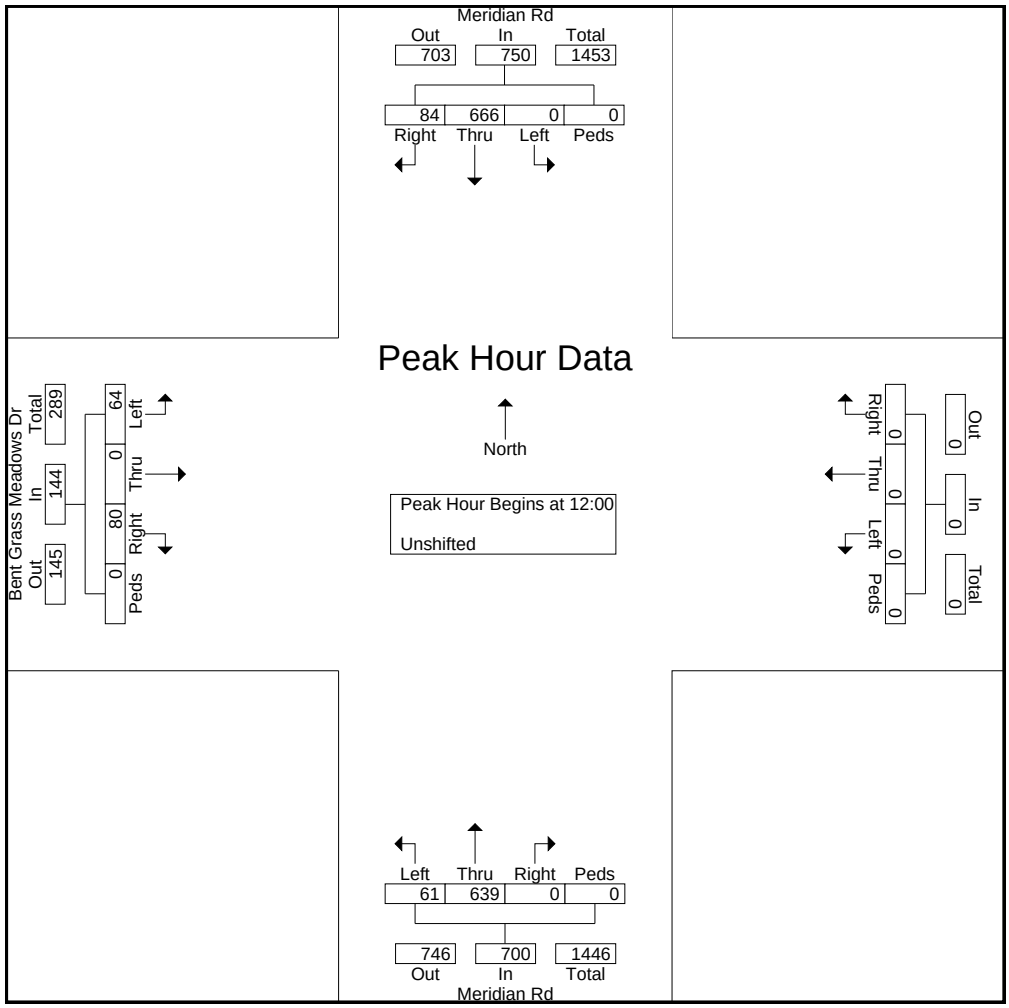
File Name : Meridian Rd - Bent Grass Meadows Noon 9-18
Site Code : 154561
Start Date : 9/11/2018
Page No : 2

	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 11:30 to 13:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00																					
12:00	0	170	**27**	0	**197**	0	0	0	0	0	16	135	0	0	151	16	0	20	0	36	384
12:15	0	170	17	0	187	0	0	0	0	0	**18**	**173**	0	0	**191**	**20**	0	22	0	**42**	**420**
12:30	0	155	23	0	178	0	0	0	0	0	13	164	0	0	177	15	0	**25**	0	40	395
12:45	0	**171**	17	0	188	0	0	0	0	0	14	167	0	0	181	13	0	13	0	26	395
Total Volume	0	666	84	0	750	0	0	0	0	0	61	639	0	0	700	64	0	80	0	144	1594
% App. Total	0	88.8	11.2	0		0	0	0	0		8.7	91.3	0	0		44.4	0	55.6	0		
PHF	.000	.974	.778	.000	.952	.000	.000	.000	.000	.000	.847	.923	.000	.000	.916	.800	.000	.800	.000	.857	.949



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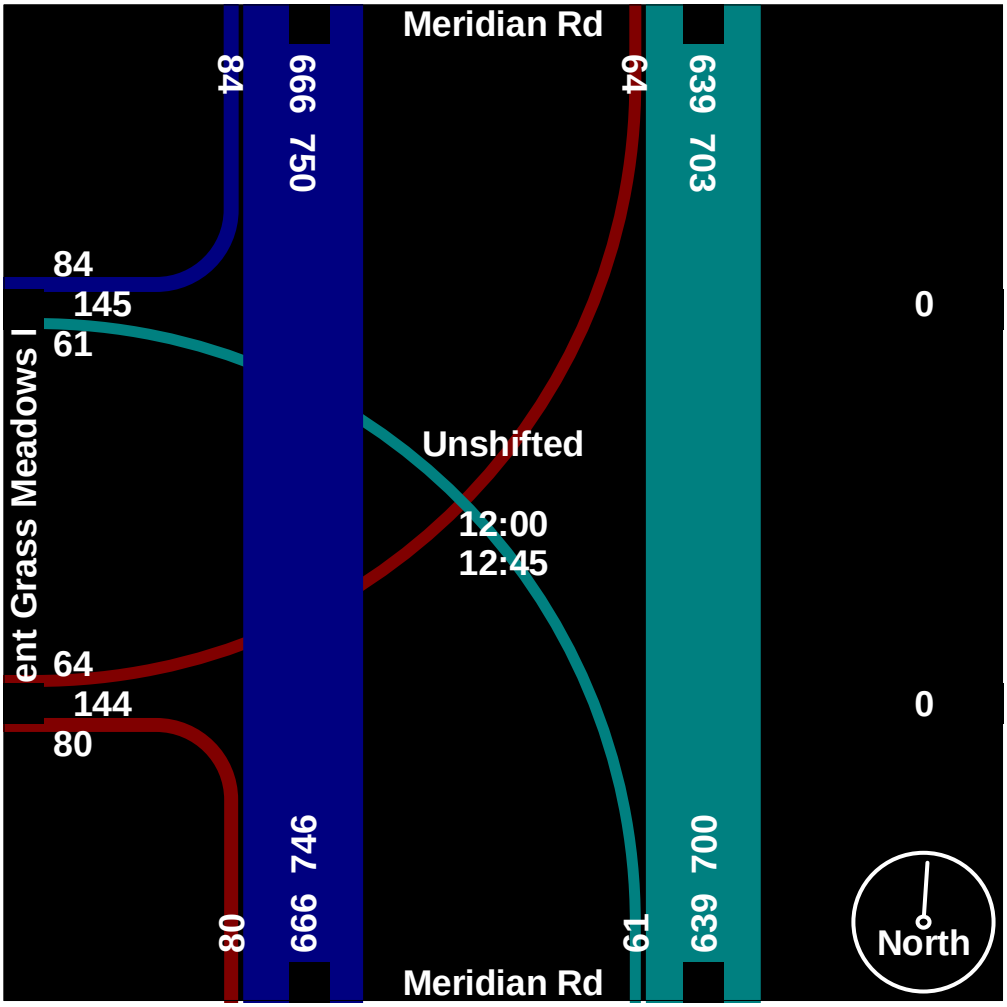
File Name : Meridian Rd - Bent Grass Meadows Noon 9-18
Site Code : 154561
Start Date : 9/11/2018
Page No : 3



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File Name : Meridian Rd - Bent Grass Meadows Mid 9-18
Site Code : 00000000
Start Date : 9/11/2018
Page No : 1

Groups Printed- Unshifted

	Meridian Rd Southbound				Westbound				meridian Rd Northbound				Bent Grass Meadows Dr Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
14:00	0	150	16	0	0	0	0	0	6	178	0	0	6	0	10	0	366
14:15	0	160	15	0	0	0	0	0	9	204	0	1	11	0	17	0	417
14:30	0	159	16	0	0	0	0	0	19	197	0	0	11	0	17	0	419
14:45	0	195	26	0	0	0	0	0	17	243	0	0	19	0	38	0	538
Total	0	664	73	0	0	0	0	0	51	822	0	1	47	0	82	0	1740
15:00	0	247	21	0	0	0	0	0	17	222	0	0	16	0	22	0	545
15:15	0	241	30	0	0	0	0	0	18	278	0	1	23	0	36	0	627
15:30	0	206	26	0	0	0	0	0	10	252	0	0	10	0	25	0	529
15:45	0	250	31	0	0	0	0	0	29	340	0	0	14	0	33	0	697
Total	0	944	108	0	0	0	0	0	74	1092	0	1	63	0	116	0	2398
Grand Total	0	1608	181	0	0	0	0	0	125	1914	0	2	110	0	198	0	4138
Apprch %	0	89.9	10.1	0	0	0	0	0	6.1	93.8	0	0.1	35.7	0	64.3	0	
Total %	0	38.9	4.4	0	0	0	0	0	3	46.3	0	0	2.7	0	4.8	0	

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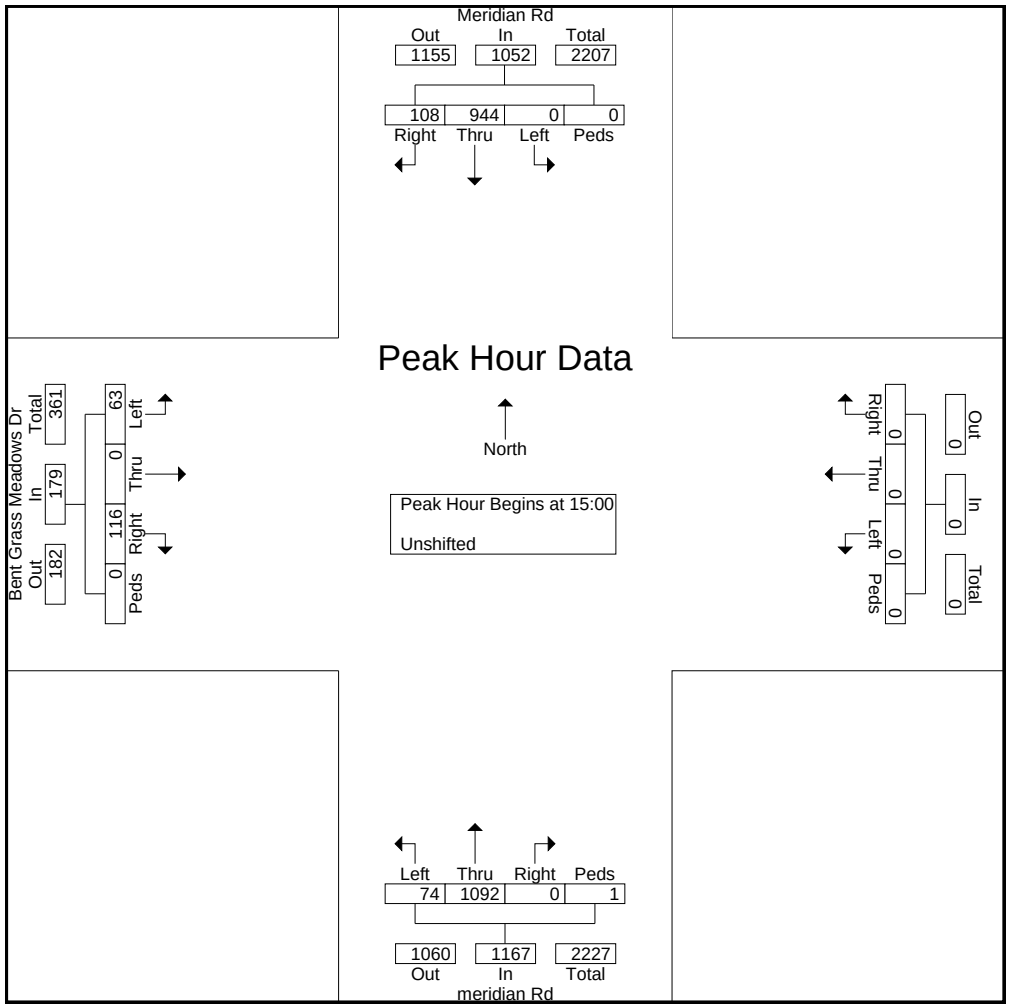
File Name : Meridian Rd - Bent Grass Meadows Mid 9-18
Site Code : 00000000
Start Date : 9/11/2018
Page No : 2

	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 14:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:00																					
15:00	0	247	21	0	268	0	0	0	0	0	17	222	0	0	239	16	0	22	0	38	545
15:15	0	241	30	0	271	0	0	0	0	0	18	278	0	**1**	297	**23**	0	**36**	0	**59**	627
15:30	0	206	26	0	232	0	0	0	0	0	10	252	0	0	262	10	0	25	0	35	529
15:45	0	**250**	**31**	0	**281**	0	0	0	0	0	**29**	**340**	0	0	**369**	14	0	33	0	47	**697**
Total Volume	0	944	108	0	1052	0	0	0	0	0	74	1092	0	1	1167	63	0	116	0	179	2398
% App. Total	0	89.7	10.3	0		0	0	0	0		6.3	93.6	0	0.1		35.2	0	64.8	0		
PHF	.000	.944	.871	.000	.936	.000	.000	.000	.000	.000	.638	.803	.000	.250	.791	.685	.000	.806	.000	.758	.860



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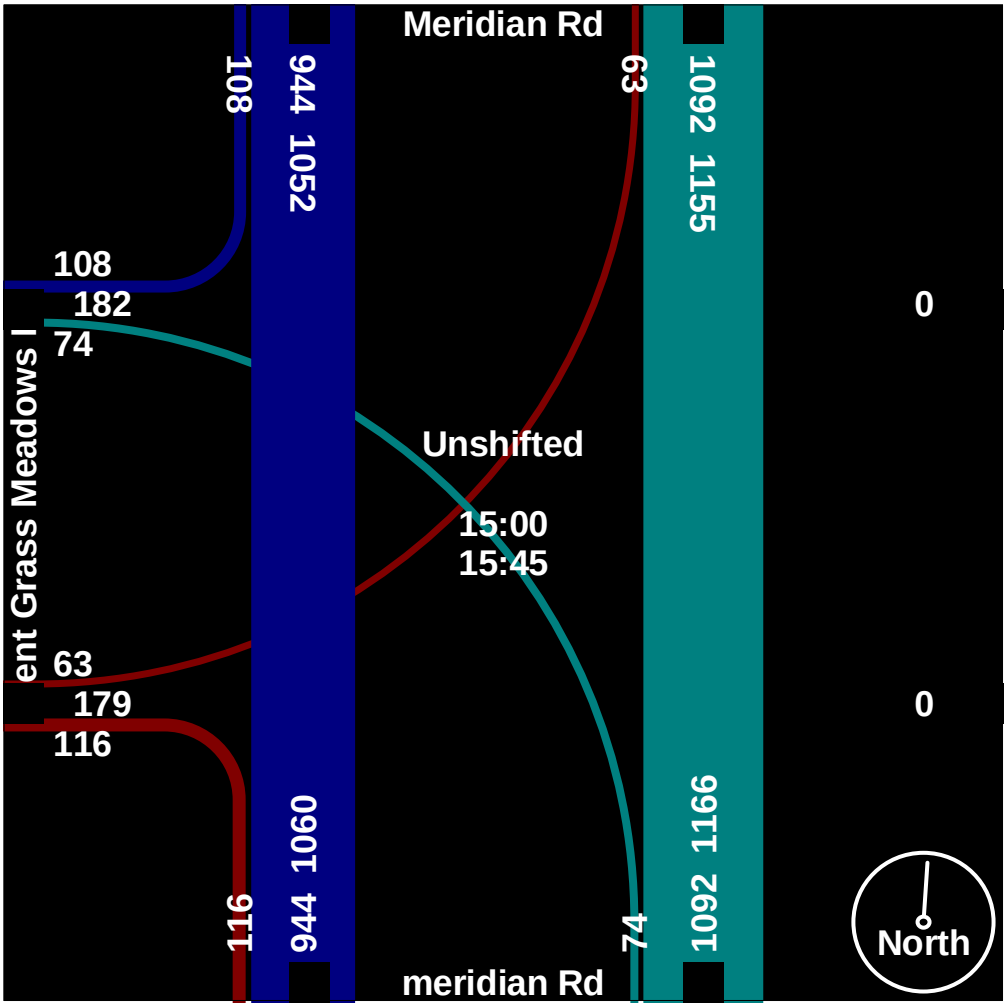
File Name : Meridian Rd - Bent Grass Meadows Mid 9-18
Site Code : 00000000
Start Date : 9/11/2018
Page No : 3



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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				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
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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545 E Pikes Peak Ave, Suite 210
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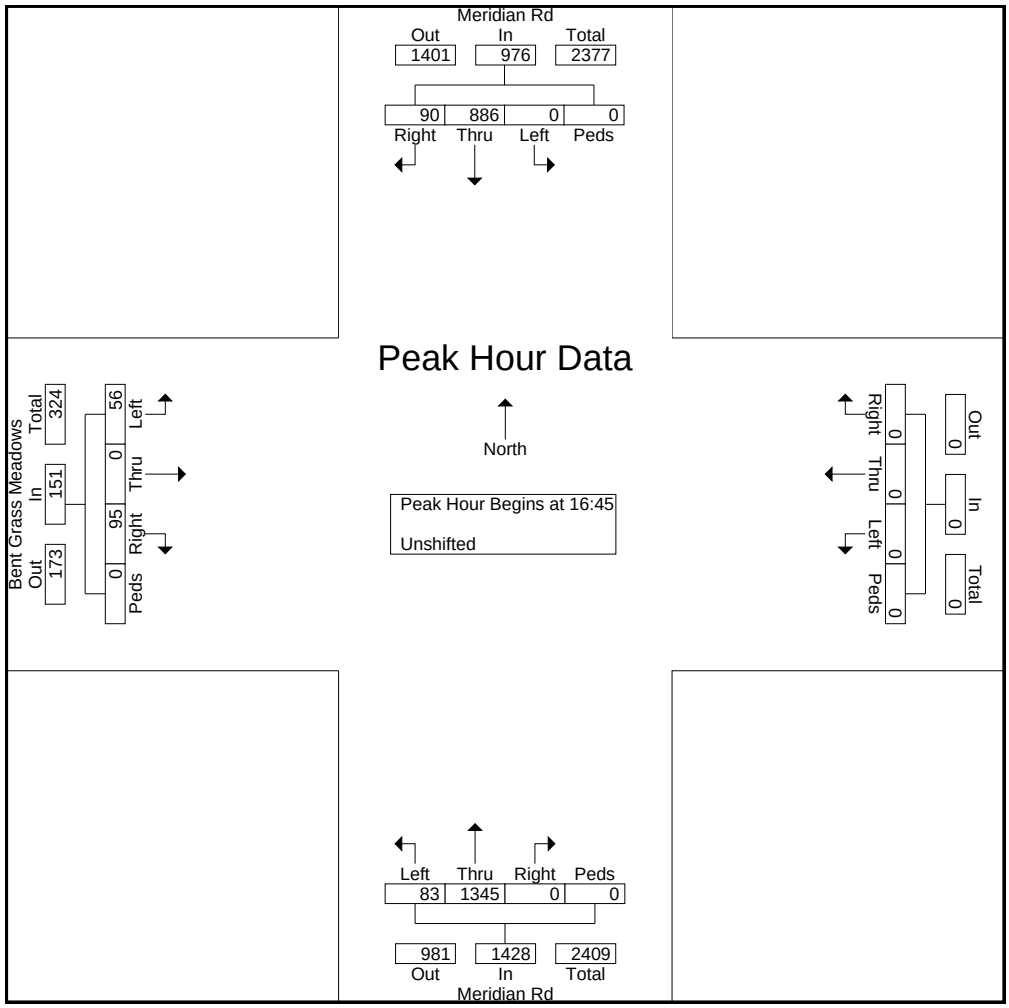
719-633-2868

File Name : Meridian Rd - Bent Grass Meadows PM 9-18
Site Code : 154561
Start Date : 9/12/2018

	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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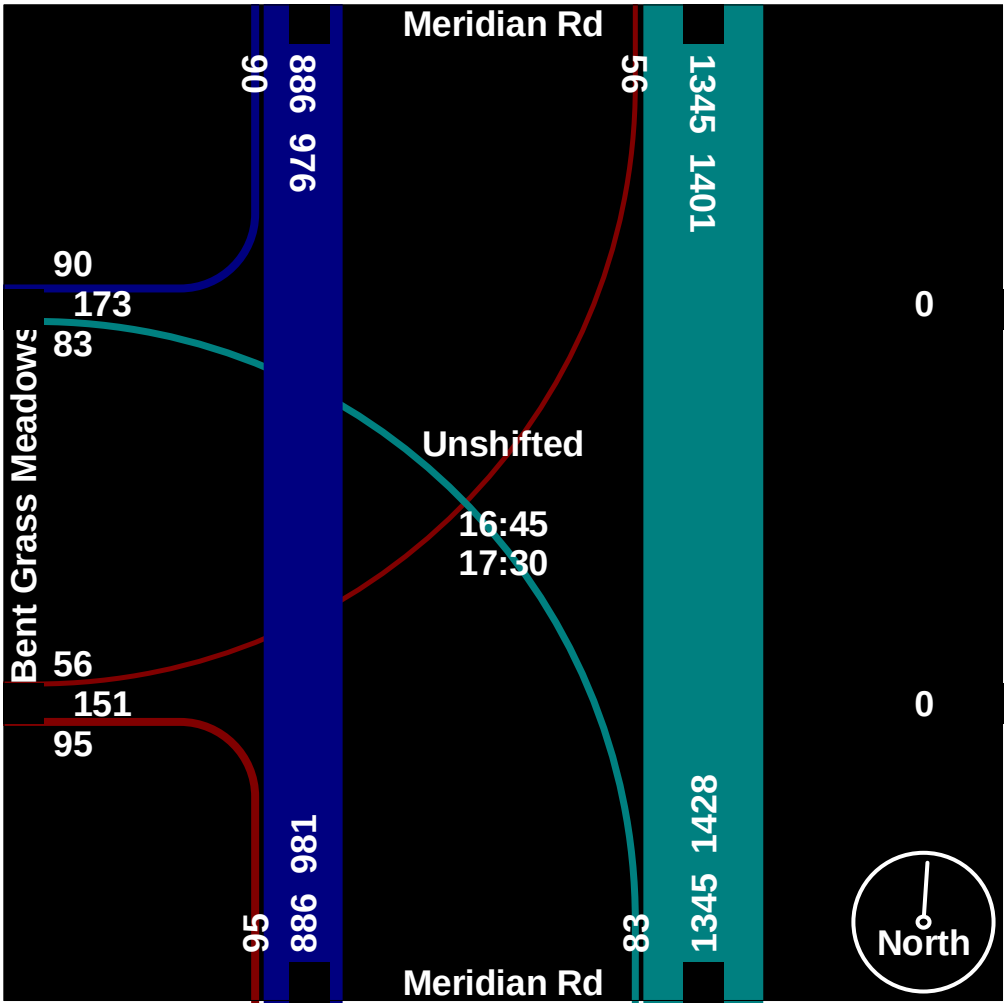
File Name : Meridian Rd - Bent Grass Meadows PM 9-18
Site Code : 154561
Start Date : 9/12/2018
Page No : 3



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545 E Pikes Peak Ave, Suite 210
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File Name : Bent Grass Meadows - 7-11 North Access AM
Site Code : 00184910
Start Date : 10/30/2018
Page No : 1

Groups Printed- Unshifted

	Southbound				Bent Grass Meadows Westbound				7-11 North Access Northbound				Bent Grass Meadows Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30	0	0	0	0	7	0	0	0	0	0	10	0	0	5	1	0	23
06:35	0	0	0	0	11	1	0	0	0	0	6	0	0	4	0	0	22
06:40	0	0	0	0	14	1	0	0	0	0	14	0	0	2	0	0	31
06:45	0	0	0	0	4	1	0	0	0	0	8	0	0	4	0	0	17
06:50	0	0	0	0	12	2	0	0	0	0	6	0	0	4	0	0	24
06:55	0	0	0	0	12	4	0	0	0	0	11	0	0	4	0	0	31
Total	0	0	0	0	60	9	0	0	0	0	55	0	0	23	1	0	148
07:00	0	0	0	0	11	2	0	0	0	0	8	0	0	10	0	0	31
07:05	0	0	0	0	17	4	0	0	0	0	11	0	0	5	0	0	37
07:10	0	0	0	0	17	1	0	0	0	0	11	0	0	4	0	0	33
07:15	0	0	0	0	4	2	0	0	0	0	14	0	0	8	1	0	29
07:20	0	0	0	0	15	2	0	0	0	0	9	0	0	7	0	0	33
07:25	0	0	0	0	10	4	0	0	0	0	9	0	0	5	0	0	28
07:30	0	0	0	0	10	4	0	0	0	0	9	0	0	4	2	0	29
07:35	0	0	0	0	9	7	0	0	0	0	9	0	0	6	0	0	31
07:40	0	0	0	0	11	5	0	0	0	0	8	0	0	9	0	0	33
07:45	0	0	0	0	14	5	0	0	0	0	7	0	0	12	0	0	38
07:50	0	0	0	0	13	3	0	0	0	0	15	0	0	8	0	0	39
07:55	0	0	0	0	5	7	0	0	0	0	11	0	0	4	0	0	27
Total	0	0	0	0	136	46	0	0	0	0	121	0	0	82	3	0	388
08:00	0	0	0	0	11	6	0	0	0	0	8	0	0	10	0	0	35
08:05	0	0	0	0	6	0	0	0	0	0	7	0	0	6	0	0	19
08:10	0	0	0	0	20	2	0	0	0	0	11	0	0	6	0	0	39
08:15	0	0	0	0	8	1	0	0	0	0	11	0	0	2	0	0	22
08:20	0	0	0	0	11	3	0	0	0	0	9	0	0	11	0	0	34
08:25	0	0	0	0	12	2	0	0	0	0	6	0	0	6	0	0	26
Grand Total	0	0	0	0	264	69	0	0	0	0	228	0	0	146	4	0	711
Apprch %	0	0	0	0	79.3	20.7	0	0	0	0	100	0	0	97.3	2.7	0	
Total %	0	0	0	0	37.1	9.7	0	0	0	0	32.1	0	0	20.5	0.6	0	

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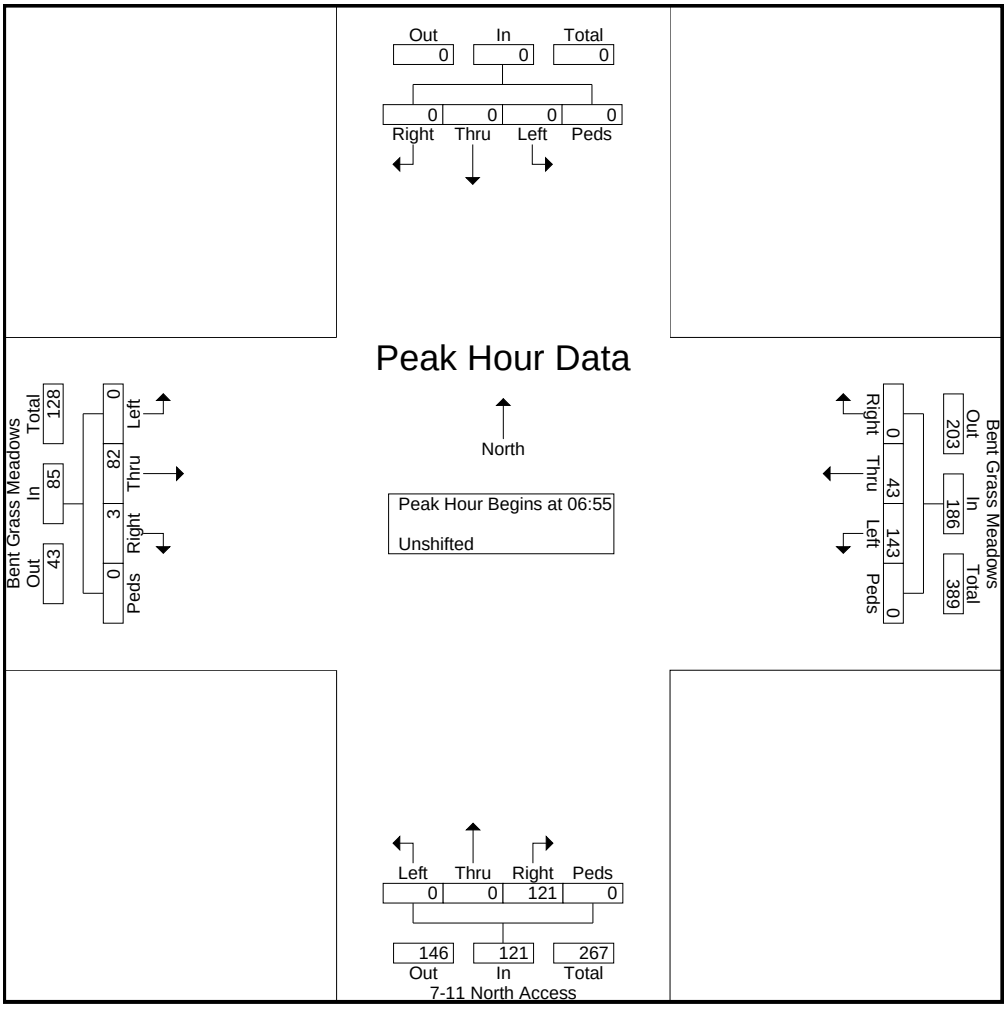
File Name : Bent Grass Meadows - 7-11 North Access AM
Site Code : 00184910
Start Date : 10/30/2018
Page No : 2

	Southbound					Bent Grass Meadows Westbound					7-11 North Access 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 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:55																					
06:55	0	0	0	0	0	12	4	0	0	16	0	0	11	0	11	0	4	0	0	4	31
07:00	0	0	0	0	0	11	2	0	0	13	0	0	8	0	8	0	10	0	0	10	31
07:05	0	0	0	0	0	**17**	4	0	0	**21**	0	0	11	0	11	0	5	0	0	5	37
07:10	0	0	0	0	0	17	1	0	0	18	0	0	11	0	11	0	4	0	0	4	33
07:15	0	0	0	0	0	4	2	0	0	6	0	0	14	0	14	0	8	1	0	9	29
07:20	0	0	0	0	0	15	2	0	0	17	0	0	9	0	9	0	7	0	0	7	33
07:25	0	0	0	0	0	10	4	0	0	14	0	0	9	0	9	0	5	0	0	5	28
07:30	0	0	0	0	0	10	4	0	0	14	0	0	9	0	9	0	4	**2**	0	6	29
07:35	0	0	0	0	0	9	**7**	0	0	16	0	0	9	0	9	0	6	0	0	6	31
07:40	0	0	0	0	0	11	5	0	0	16	0	0	8	0	8	0	9	0	0	9	33
07:45	0	0	0	0	0	14	5	0	0	19	0	0	7	0	7	0	**12**	0	0	**12**	38
07:50	0	0	0	0	0	13	3	0	0	16	0	0	**15**	0	**15**	0	8	0	0	8	**39**
Total Volume	0	0	0	0	0	143	43	0	0	186	0	0	121	0	121	0	82	3	0	85	392
% App. Total	0	0	0	0		76.9	23.1	0	0		0	0	100	0		0	96.5	3.5	0		
PHF	.000	.000	.000	.000	.000	.701	.512	.000	.000	.738	.000	.000	.672	.000	.672	.000	.569	.125	.000	.590	.838



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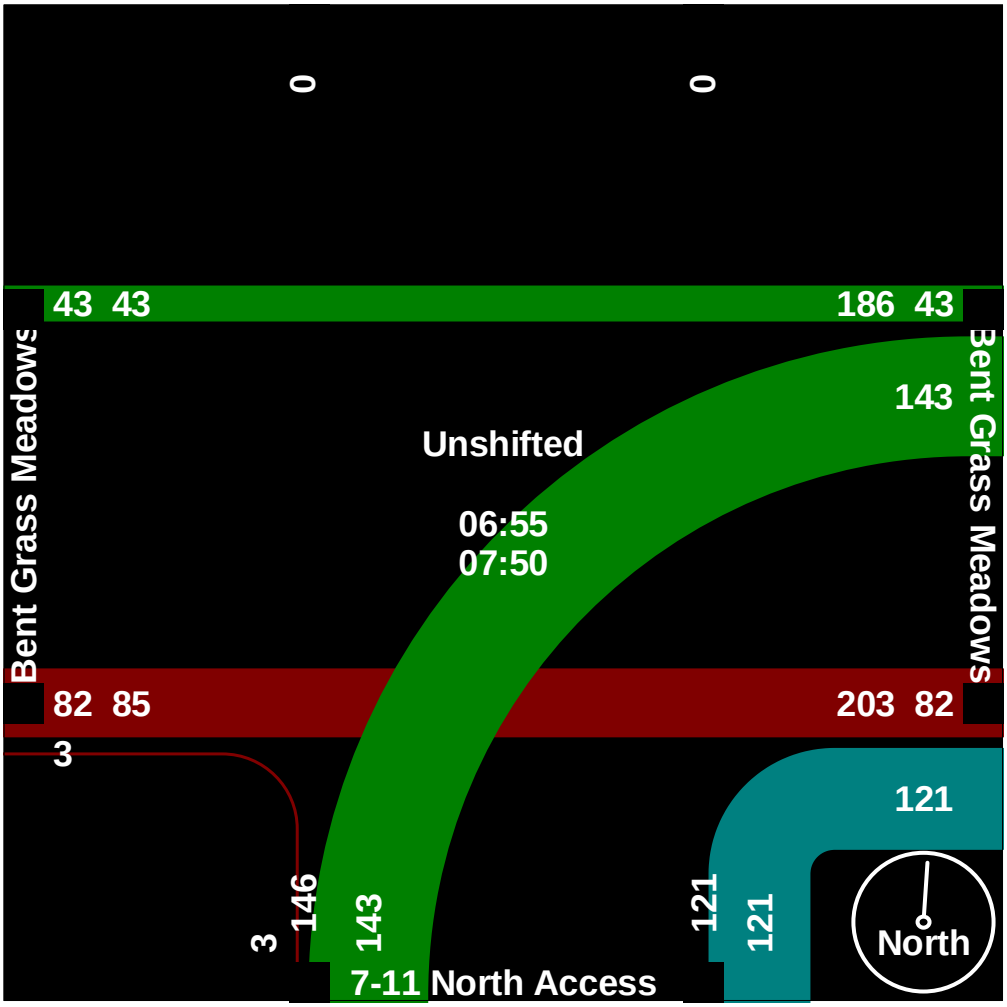
File Name : Bent Grass Meadows - 7-11 North Access AM
Site Code : 00184910
Start Date : 10/30/2018
Page No : 3



LSC Transportation Consultants, Inc.

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

File Name : Bent Grass Meadows - 7-11 North Access Mid 11-18
Site Code : 00184910
Start Date : 11/7/2018
Page No : 1

Groups Printed- Bank 1

	Southbound				Bent Grass Meadows Westbound				7-11 North Access Northbound				Bent Grass Meadows Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
08:30	0	0	0	0	24	12	0	0	0	0	26	0	0	17	3	0	82
08:45	0	0	0	0	14	7	0	0	0	0	18	0	0	9	0	0	48
Total	0	0	0	0	38	19	0	0	0	0	44	0	0	26	3	0	130
09:00	0	0	0	0	20	4	0	0	0	0	13	0	0	9	1	0	47
09:15	0	0	0	0	17	6	0	0	0	0	15	0	0	13	0	0	51
09:30	0	0	0	0	21	7	0	0	0	0	22	0	0	9	0	0	59
09:45	0	0	0	0	11	8	0	0	0	0	13	0	0	11	0	0	43
Total	0	0	0	0	69	25	0	0	0	0	63	0	0	42	1	0	200
10:00	0	0	0	0	27	3	0	0	0	0	18	0	0	6	0	0	54
10:15	0	0	0	0	14	9	0	0	0	0	18	0	0	10	0	0	51
10:30	0	0	0	0	23	10	0	0	0	0	16	0	0	11	2	0	62
10:45	0	0	0	0	29	13	0	0	0	0	26	0	0	10	1	0	79
Total	0	0	0	0	93	35	0	0	0	0	78	0	0	37	3	0	246
Grand Total	0	0	0	0	200	79	0	0	0	0	185	0	0	105	7	0	576
Apprch %	0	0	0	0	71.7	28.3	0	0	0	0	100	0	0	93.8	6.2	0	
Total %	0	0	0	0	34.7	13.7	0	0	0	0	32.1	0	0	18.2	1.2	0	

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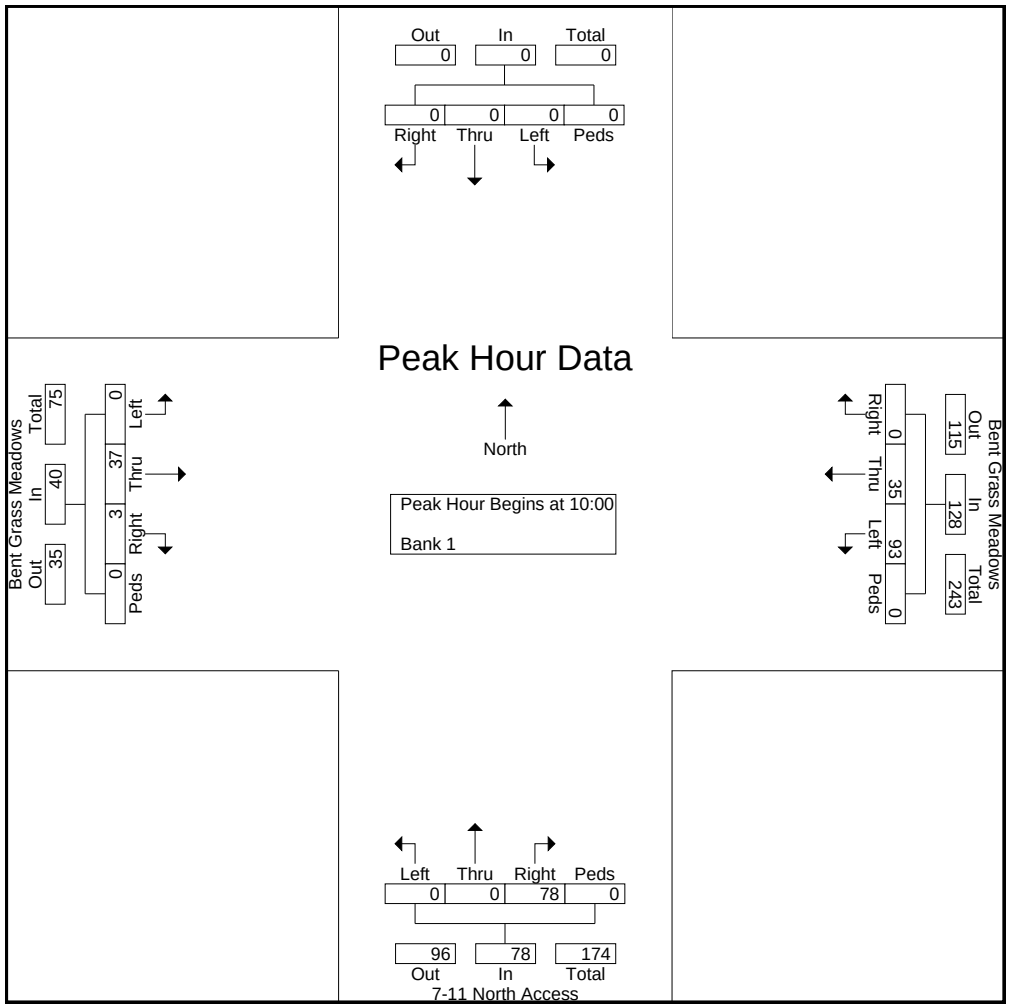
File Name : Bent Grass Meadows - 7-11 North Access Mid 11-18
Site Code : 00184910
Start Date : 11/7/2018

	Southbound					Bent Grass Meadows Westbound					7-11 North Access 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 08:30 to 10:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:00																					
10:00	0	0	0	0	0	27	3	0	0	30	0	0	18	0	18	0	6	0	0	6	54
10:15	0	0	0	0	0	14	9	0	0	23	0	0	18	0	18	0	10	0	0	10	51
10:30	0	0	0	0	0	23	10	0	0	33	0	0	16	0	16	0	**11**	**2**	0	**13**	62
10:45	0	0	0	0	0	**29**	**13**	0	0	**42**	0	0	**26**	0	**26**	0	10	1	0	11	**79**
Total Volume	0	0	0	0	0	93	35	0	0	128	0	0	78	0	78	0	37	3	0	40	246
% App. Total	0	0	0	0		72.7	27.3	0	0		0	0	100	0		0	92.5	7.5	0		
PHF	.000	.000	.000	.000	.000	.802	.673	.000	.000	.762	.000	.000	.750	.000	.750	.000	.841	.375	.000	.769	.778



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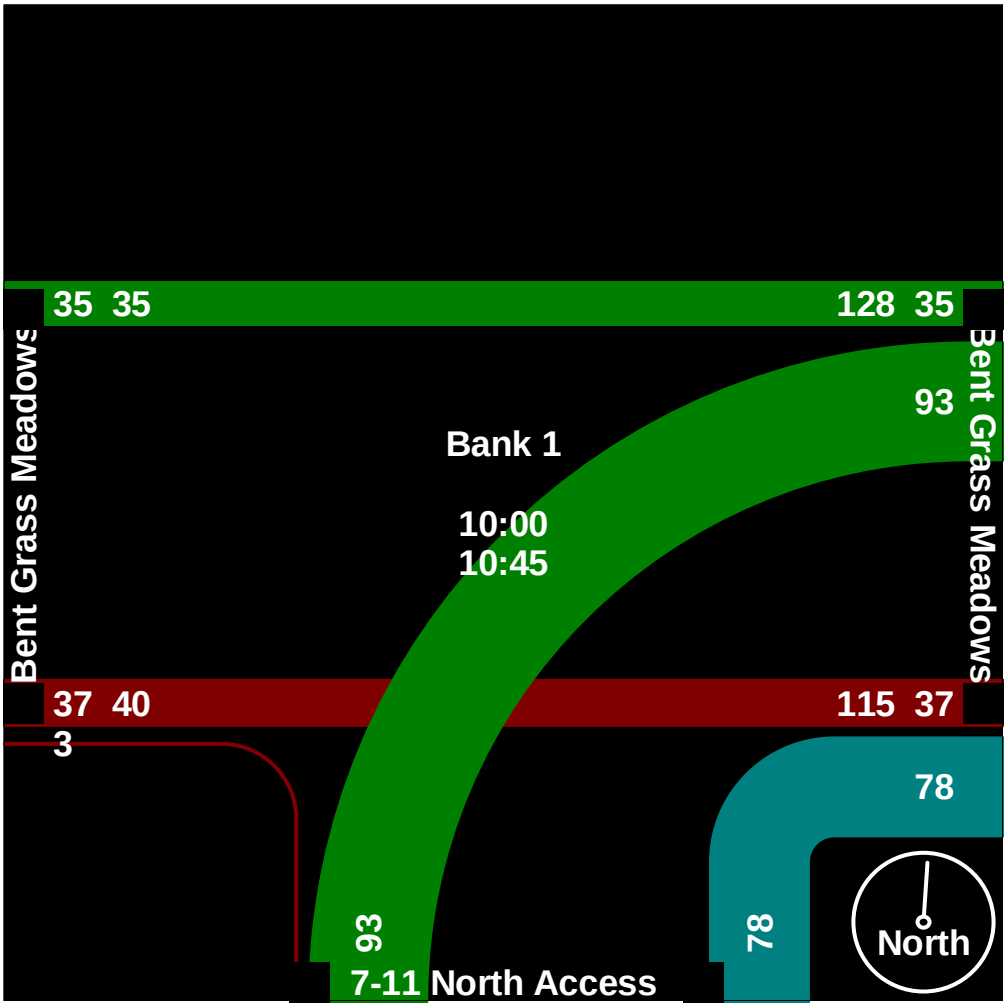
File Name : Bent Grass Meadows - 7-11 North Access Mid 11-18
Site Code : 00184910
Start Date : 11/7/2018
Page No : 3



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719-633-2868

File Name : Bent Grass Meadows - 7-11 North Access Mid
Site Code : 00184910
Start Date : 10/30/2018
Page No : 1

Groups Printed- Unshifted

	Southbound				Bent Grass Meadows Westbound				7-11 North Access Northbound				Bent Grass Meadows Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
11:30	0	0	0	0	28	12	0	0	1	0	19	0	0	12	0	0	72
11:45	0	0	0	0	23	10	0	0	0	0	21	0	0	14	2	0	70
Total	0	0	0	0	51	22	0	0	1	0	40	0	0	26	2	0	142
12:00	0	0	0	0	31	8	0	0	0	0	29	0	0	11	0	0	79
12:15	0	0	0	0	22	6	0	0	0	0	22	0	0	5	0	0	55
12:30	0	0	0	0	26	16	0	0	0	0	27	0	0	9	0	0	78
12:45	0	0	0	0	25	11	0	0	0	0	22	0	0	13	0	0	71
Total	0	0	0	0	104	41	0	0	0	0	100	0	0	38	0	0	283
Grand Total	0	0	0	0	155	63	0	0	1	0	140	0	0	64	2	0	425
Apprch %	0	0	0	0	71.1	28.9	0	0	0.7	0	99.3	0	0	97	3	0	
Total %	0	0	0	0	36.5	14.8	0	0	0.2	0	32.9	0	0	15.1	0.5	0	

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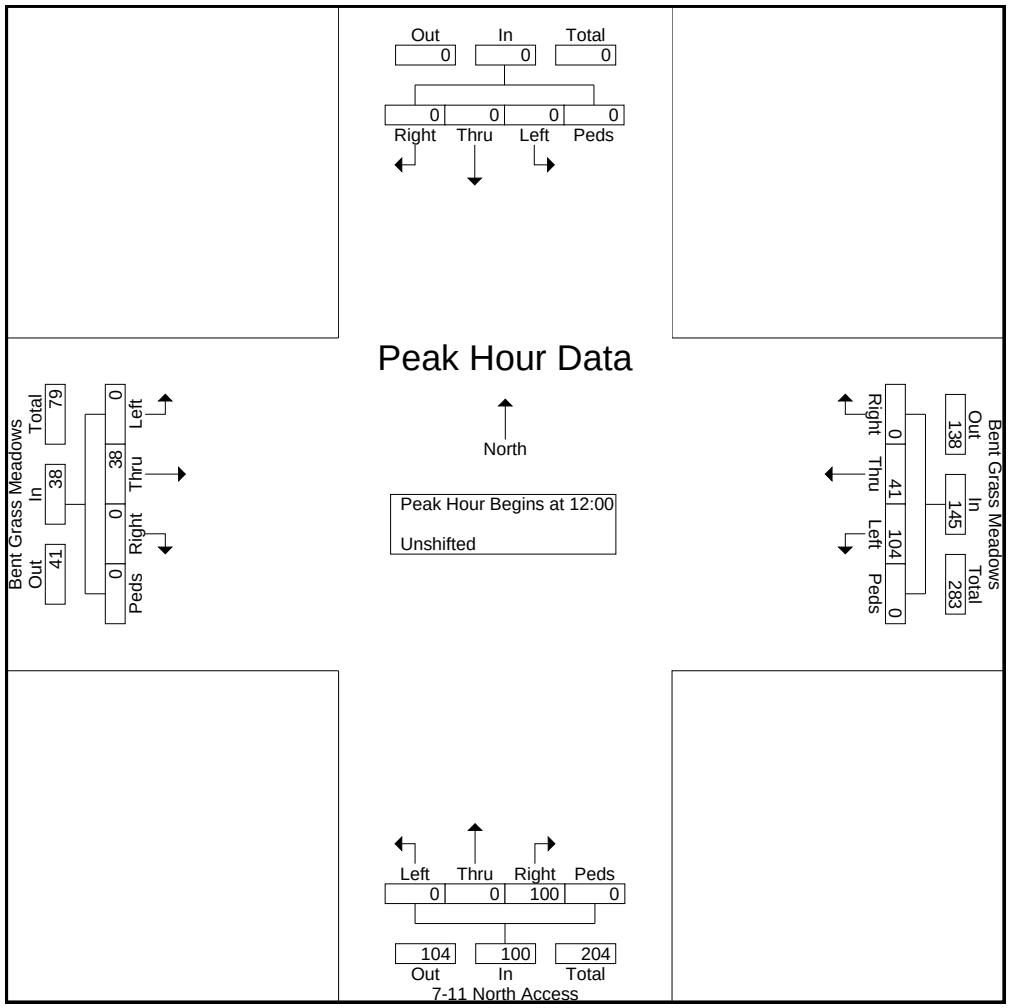
719-633-2868

File Name : Bent Grass Meadows - 7-11 North Access Mid
Site Code : 00184910
Start Date : 10/30/2018
Page No : 2

	Southbound					Bent Grass Meadows Westbound					7-11 North Access 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 11:30 to 12:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00																					
12:00	0	0	0	0	0	**31**	8	0	0	39	0	0	**29**	0	**29**	0	11	0	0	11	**79**
12:15	0	0	0	0	0	22	6	0	0	28	0	0	22	0	22	0	5	0	0	5	55
12:30	0	0	0	0	0	26	**16**	0	0	**42**	0	0	27	0	27	0	9	0	0	9	78
12:45	0	0	0	0	0	25	11	0	0	36	0	0	22	0	22	0	**13**	0	0	**13**	71
Total Volume	0	0	0	0	0	104	41	0	0	145	0	0	100	0	100	0	38	0	0	38	283
% App. Total	0	0	0	0		71.7	28.3	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.839	.641	.000	.000	.863	.000	.000	.862	.000	.862	.000	.731	.000	.000	.731	.896



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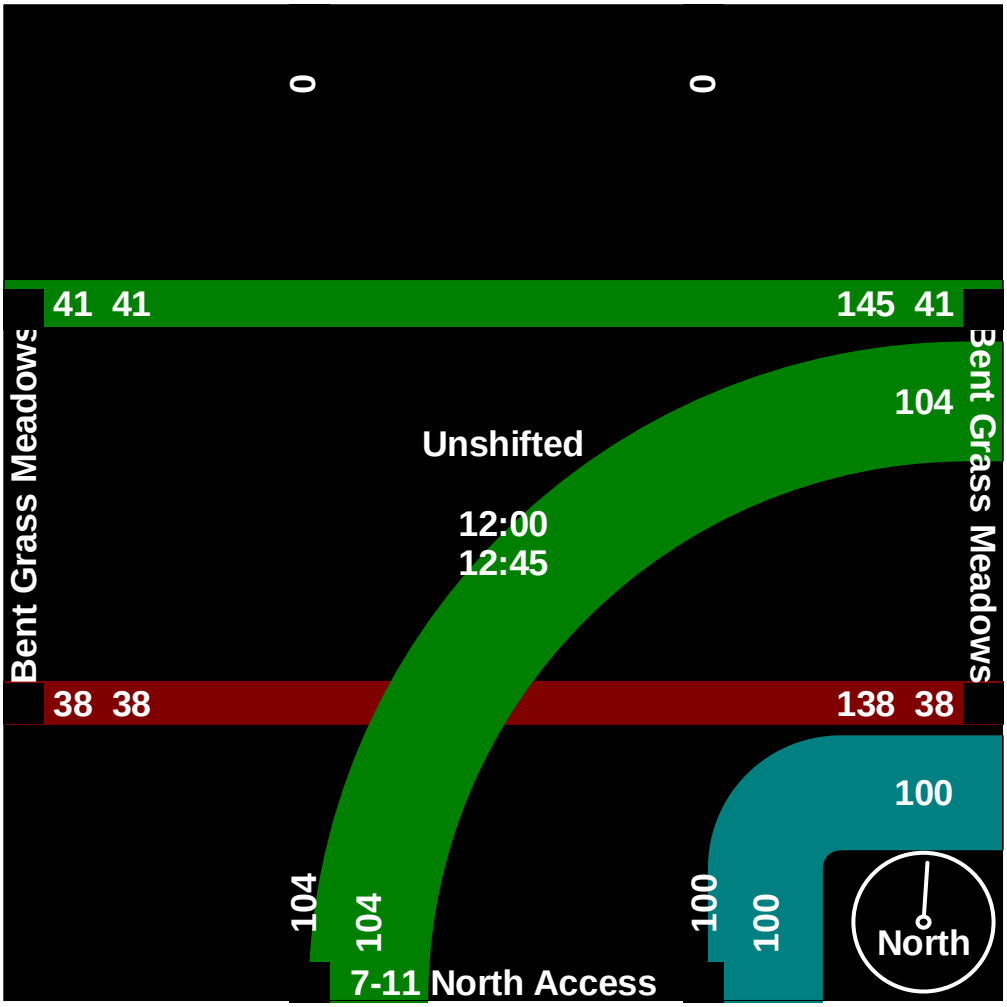
Site Code : 00184910
Start Date : 10/30/2018
Page No : 3



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File Name : Bent Grass Meadows - 7-11 North Access PM
Site Code : 00184910
Start Date : 10/29/2018
Page No : 1

Groups Printed- Unshifted

	Southbound				Bent Grass Meadows Westbound				7-11 North Access Northbound				Bent Grass Meadow Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
16:00	0	0	0	0	23	11	0	0	0	0	29	0	0	16	0	0	79
16:15	0	0	0	0	30	17	0	0	1	0	17	0	0	16	0	0	81
16:30	0	0	0	0	35	15	0	0	1	0	26	0	0	10	0	0	87
16:45	0	0	0	0	19	19	0	0	0	0	27	0	0	7	0	0	72
Total	0	0	0	0	107	62	0	0	2	0	99	0	0	49	0	0	319
17:00	0	0	0	0	26	16	0	0	0	0	26	0	0	12	1	0	81
17:15	0	0	0	0	29	9	0	0	0	0	22	0	0	23	0	0	83
17:30	0	0	0	0	14	15	0	0	0	0	18	0	0	7	0	0	54
17:45	0	0	0	0	24	12	0	0	0	0	23	0	0	6	2	0	67
Total	0	0	0	0	93	52	0	0	0	0	89	0	0	48	3	0	285
Grand Total	0	0	0	0	200	114	0	0	2	0	188	0	0	97	3	0	604
Apprch %	0	0	0	0	63.7	36.3	0	0	1.1	0	98.9	0	0	97	3	0	
Total %	0	0	0	0	33.1	18.9	0	0	0.3	0	31.1	0	0	16.1	0.5	0	

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719-633-2868

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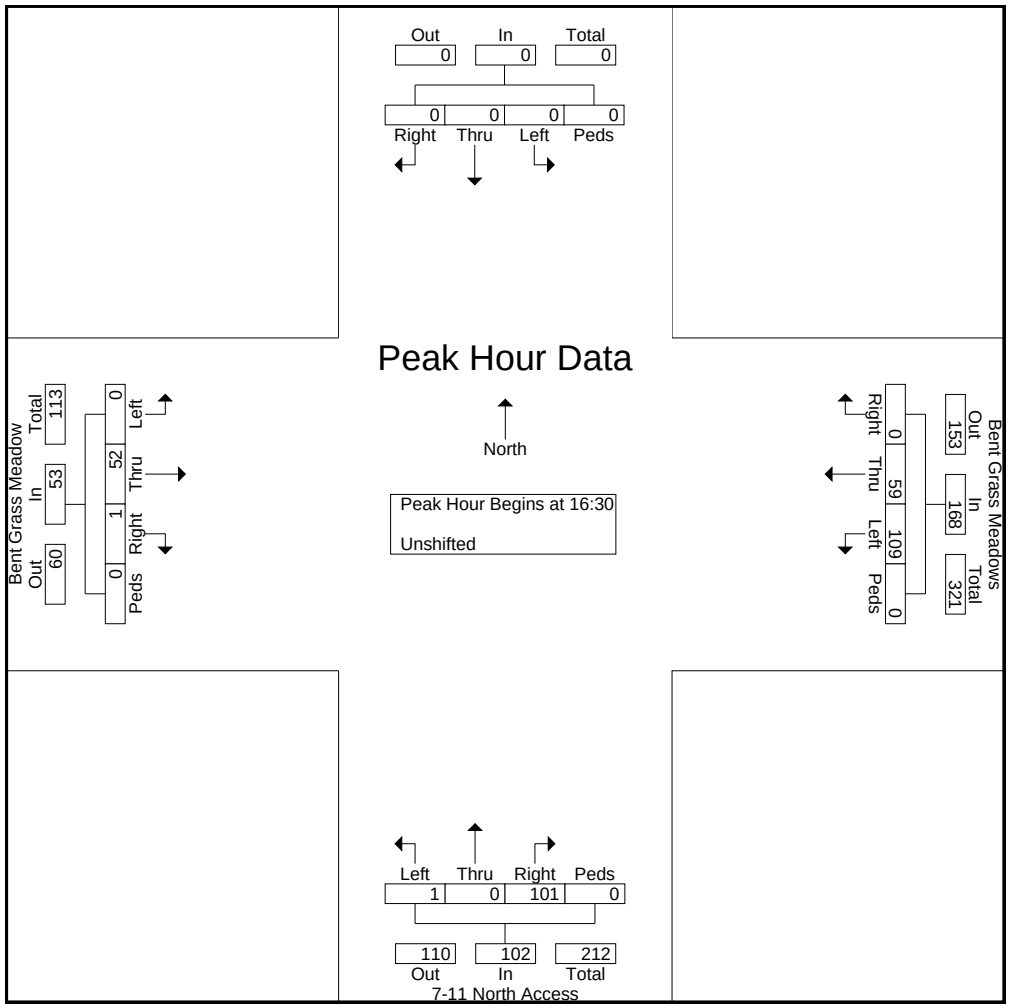
Start Date : 10/29/2018
Page No : 2

	Southbound					Bent Grass Meadows Westbound					7-11 North Access Northbound					Bent Grass Meadow 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 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	**35**	15	0	0	**50**	**1**	0	26	0	**27**	0	10	0	0	10	**87**
16:45	0	0	0	0	0	19	**19**	0	0	38	0	0	**27**	0	27	0	7	0	0	7	72
17:00	0	0	0	0	0	26	16	0	0	42	0	0	26	0	26	0	12	**1**	0	13	81
17:15	0	0	0	0	0	29	9	0	0	38	0	0	22	0	22	0	**23**	0	0	**23**	83
Total Volume	0	0	0	0	0	109	59	0	0	168	1	0	101	0	102	0	52	1	0	53	323
% App. Total	0	0	0	0		64.9	35.1	0	0		1	0	99	0		0	98.1	1.9	0		
PHF	.000	.000	.000	.000	.000	.779	.776	.000	.000	.840	.250	.000	.935	.000	.944	.000	.565	.250	.000	.576	.928



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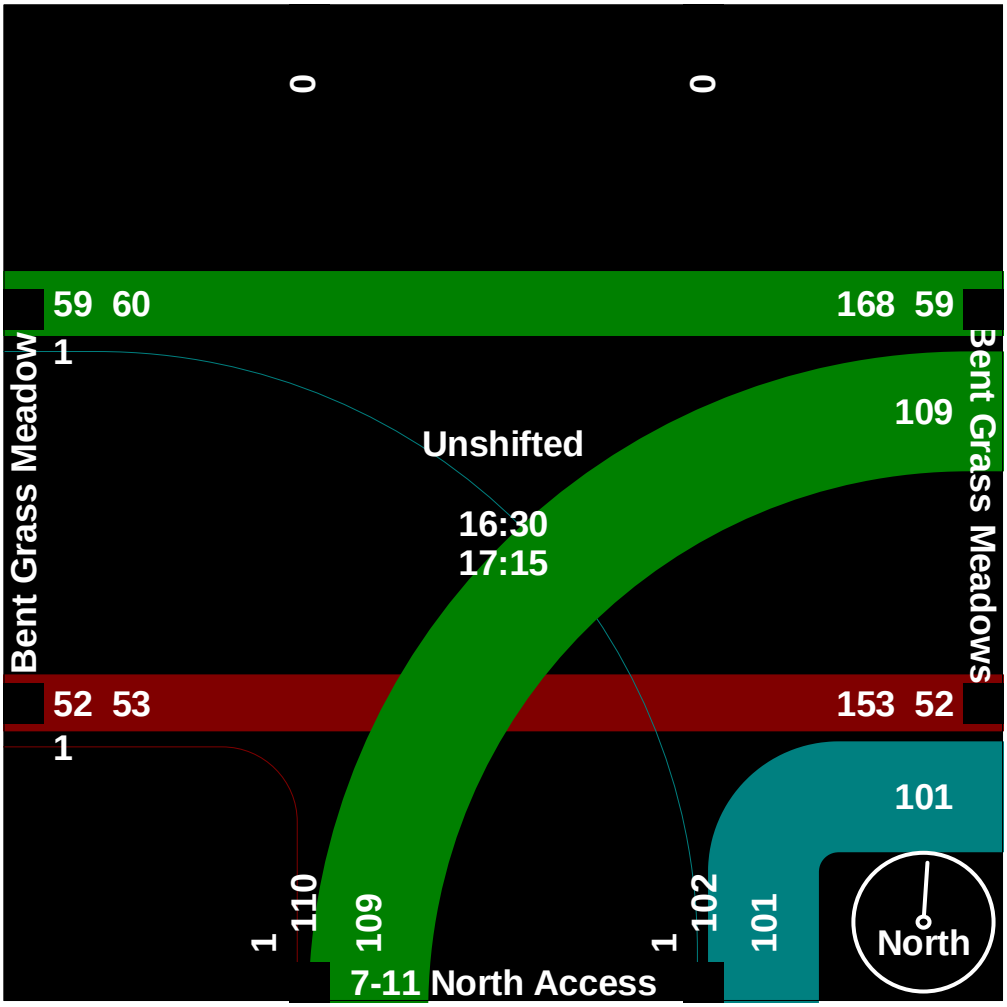
Page No : 3



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	68	151	57	657	1538	126
Future Vol, veh/h	68	151	57	657	1538	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	700	-	-	330
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	86	86	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	157	66	764	1748	143

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

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

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

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	82	3	143	43	0	121
Future Vol, veh/h	82	3	143	43	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	91	91	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	4	157	47	0	121

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	116	0	473	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	361	-
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	-	-	1473	-	550	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	491	941
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	941	-	-	1473	-
HCM Lane V/C Ratio	0.129	-	-	0.107	-
HCM Control Delay (s)	9.4	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	4	34	16	1	28
Future Vol, veh/h	57	4	34	16	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	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	91	91	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	5	37	18	1	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	83	0	170	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	92	-
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	-	-	1514	-	820	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	932	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1514	-	800	983
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	975	-	-	1514	-
HCM Lane V/C Ratio	0.03	-	-	0.025	-
HCM Control Delay (s)	8.8	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	80	61	639	666	84
Future Vol, veh/h	64	80	61	639	666	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	700	-	-	330
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	92	92	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	93	66	695	666	84

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1146	333	750	0	-	0
Stage 1	666	-	-	-	-	-
Stage 2	480	-	-	-	-	-
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	193	663	855	-	-	-
Stage 1	472	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	178	663	855	-	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	855	-	297	663	-	-
HCM Lane V/C Ratio	0.078	-	0.251	0.14	-	-
HCM Control Delay (s)	9.6	-	21.1	11.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	0.5	-	-

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	38	0	104	41	0	100
Future Vol, veh/h	38	0	104	41	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	93	93	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	0	112	44	0	116

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	44	0	312	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	268	-
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	-	-	1564	-	681	1026
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1564	-	632	1026
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1026	-	-	1564	-
HCM Lane V/C Ratio	0.113	-	-	0.072	-
HCM Control Delay (s)	9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	17	1	20	21	1	20
Future Vol, veh/h	17	1	20	21	1	20
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	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	64	64	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	1	31	33	1	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	24	0	118	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	95	-
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	-	-	1591	-	878	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1591	-	861	1054
Mov Cap-2 Maneuver	-	-	-	-	861	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1043	-	-	1591	-
HCM Lane V/C Ratio	0.02	-	-	0.02	-
HCM Control Delay (s)	8.5	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

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	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	52	1	109	59	1	101
Future Vol, veh/h	52	1	109	59	1	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	84	84	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	1	130	70	1	107

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	382	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	330	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1553	-	620	1016
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1553	-	568	1016
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	728	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.9	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1008	-	-	1553	-
HCM Lane V/C Ratio	0.108	-	-	0.084	-
HCM Control Delay (s)	9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	19	1	20	39	1	34
Future Vol, veh/h	19	1	20	39	1	34
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	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	100	100	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	2	20	39	2	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	109	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	79	-
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	-	-	1580	-	888	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1580	-	876	1044
Mov Cap-2 Maneuver	-	-	-	-	876	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	944	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1038	-	-	1580	-
HCM Lane V/C Ratio	0.058	-	-	0.013	-
HCM Control Delay (s)	8.7	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	93.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	139	241	149	0	1639	266
Future Vol, veh/h	139	241	149	0	1639	266
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	87	87	92	92	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	277	162	0	1762	286

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2086	881	2048	0	-	0
Stage 1	1762	-	-	-	-	-
Stage 2	324	-	-	-	-	-
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	291	273	-	-	-
Stage 1	~ 124	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	291	273	-	-	-
Mov Cap-2 Maneuver	~ 44	-	-	-	-	-
Stage 1	~ 50	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 553.7	35.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	273	-	44	291	-	-
HCM Lane V/C Ratio	0.593	-	3.631	0.952	-	-
HCM Control Delay (s)	35.7	$	1374.6	80.2	-	-
HCM Lane LOS	E	A	F	F	-	-
HCM 95th %tile Q(veh)	3.5	-	17.8	9.4	-	-

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

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

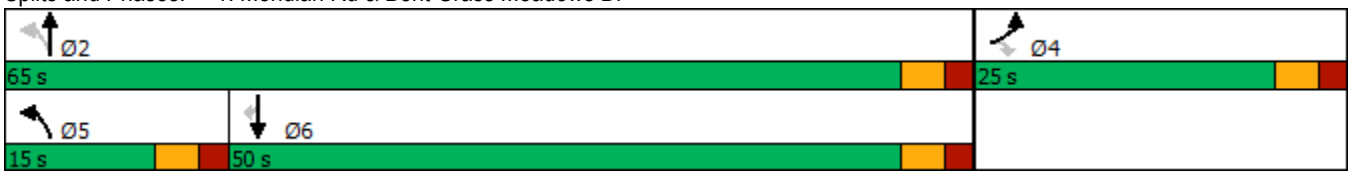
Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	437	921	2048
Demand Flow Rate, veh/h	446	939	2089
Vehicles Circulating, veh/h	1797	163	165
Vehicles Exiting, veh/h	457	2080	937
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	35.9	6.5	19.7
Approach LOS	E	A	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	0.365	0.635	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	163	283	441	498	982	1107
Cap Entry Lane, veh/h	356	356	1269	1269	1267	1267
Entry HV Adj Factor	0.982	0.979	0.981	0.980	0.980	0.980
Flow Entry, veh/h	160	277	433	488	962	1085
Cap Entry, veh/h	349	348	1245	1243	1241	1242
V/C Ratio	0.458	0.795	0.348	0.393	0.775	0.874
Control Delay, s/veh	21.0	44.5	6.2	6.7	16.0	23.0
LOS	C	E	A	A	C	C
95th %tile Queue, veh	2	7	2	2	8	13

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	241	149	698	1639	266
Future Volume (vph)	139	241	149	698	1639	266
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)	23.0	23.0	10.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	12.7	12.7	60.1	60.1	46.9	46.9
Actuated g/C Ratio	0.15	0.15	0.72	0.72	0.57	0.57
v/c Ratio	0.59	0.67	0.61	0.30	0.88	0.28
Control Delay	41.7	18.0	22.8	4.7	23.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	18.0	22.8	4.7	23.6	2.2
LOS	D	B	C	A	C	A
Approach Delay	26.7			7.9	20.6	
Approach LOS	C			A	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.9	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

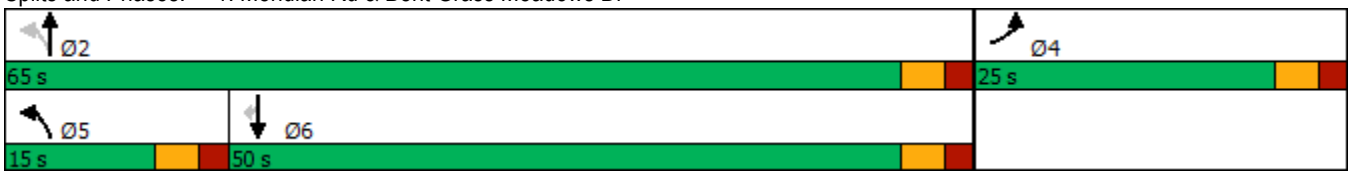
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	241	149	698	1639	266
Future Volume (vph)	139	241	149	698	1639	266
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)	23.0		10.0	23.0	23.0	23.0
Total Split (s)	25.0		15.0	65.0	50.0	50.0
Total Split (%)	27.8%		16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	12.8	83.6	60.8	60.8	47.6	47.6
Actuated g/C Ratio	0.15	1.00	0.73	0.73	0.57	0.57
v/c Ratio	0.59	0.17	0.62	0.29	0.87	0.28
Control Delay	42.0	0.2	22.9	4.7	23.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	0.2	22.9	4.7	23.3	2.2
LOS	D	A	C	A	C	A
Approach Delay	15.5			7.9	20.3	
Approach LOS	B			A	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 83.6	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

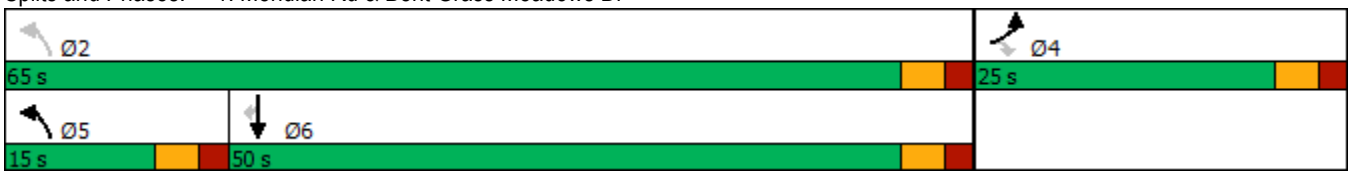
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations							
Traffic Volume (vph)	139	241	149	698	1639	266	
Future Volume (vph)	139	241	149	698	1639	266	
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)	23.0	23.0	10.0		23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0		50.0	50.0	65.0
Total Split (%)	27.8%	27.8%	16.7%		55.6%	55.6%	72%
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)	12.7	12.7	60.1	82.9	46.9	46.9	
Actuated g/C Ratio	0.15	0.15	0.72	1.00	0.57	0.57	
v/c Ratio	0.59	0.67	0.61	0.21	0.88	0.28	
Control Delay	41.7	18.0	22.8	0.1	23.6	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.7	18.0	22.8	0.1	23.6	2.2	
LOS	D	B	C	A	C	A	
Approach Delay	26.7			4.1	20.6		
Approach LOS	C			A	C		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.9	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	
! Phase conflict between lane groups.	

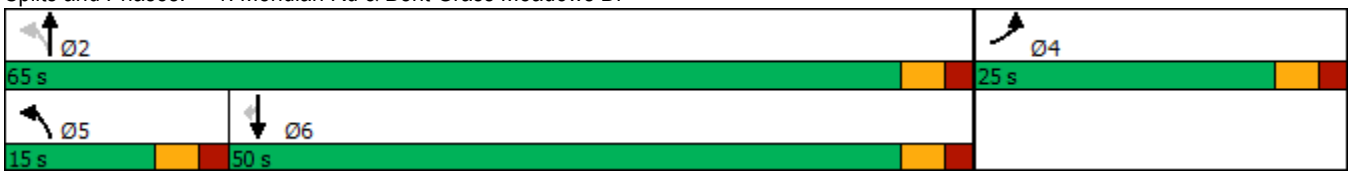
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	241	149	698	1639	266
Future Volume (vph)	139	241	149	698	1639	266
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)	23.0		10.0	23.0	23.0	23.0
Total Split (s)	25.0		15.0	65.0	50.0	50.0
Total Split (%)	27.8%		16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	9.0	79.8	60.8	60.8	47.6	47.6
Actuated g/C Ratio	0.11	1.00	0.76	0.76	0.60	0.60
v/c Ratio	0.41	0.17	0.59	0.28	0.83	0.27
Control Delay	35.9	0.2	20.2	3.3	18.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	0.2	20.2	3.3	18.6	1.9
LOS	D	A	C	A	B	A
Approach Delay	13.3			6.3	16.2	
Approach LOS	B			A	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79.8	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Intersection	
Int Delay, s/veh	7.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	15	327	94	18	234
Future Vol, veh/h	130	15	327	94	18	234
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	18	376	108	21	269

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	175	0	1017	157
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	860	-
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	-	-	1401	-	263	889
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	414	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1401	-	193	889
Mov Cap-2 Maneuver	-	-	-	-	193	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	303	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	-	-	1401	-
HCM Lane V/C Ratio	0.41	-	-	0.268	-
HCM Control Delay (s)	13.6	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2	-	-	1.1	-

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	194	227	210	0	921	228
Future Vol, veh/h	194	227	210	0	921	228
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	87	87	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	261	226	0	990	245

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1442	495	1235	0	-	0
Stage 1	990	-	-	-	-	-
Stage 2	452	-	-	-	-	-
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	~ 134	521	562	-	-	-
Stage 1	321	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 80	521	562	-	-	-
Mov Cap-2 Maneuver	~ 150	-	-	-	-	-
Stage 1	~ 192	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	151	15.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	562	-	150	521	-	-
HCM Lane V/C Ratio	0.402	-	1.487	0.501	-	-
HCM Control Delay (s)	15.6	0$	305.9	18.6	-	-
HCM Lane LOS	C	A	F	C	-	-
HCM 95th %tile Q(veh)	1.9	-	14.8	2.8	-	-

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

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

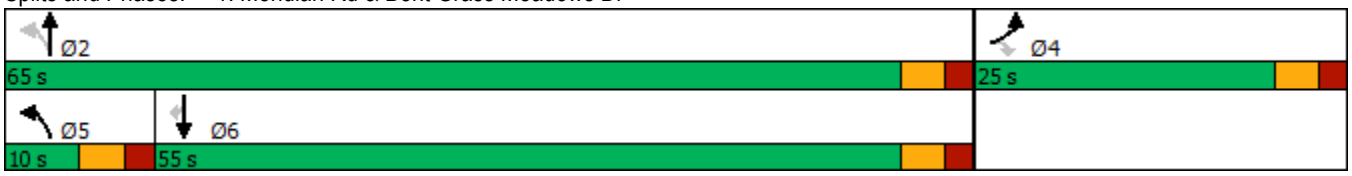
Approach	EB	NB	SB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	484	1760	1235
Demand Flow Rate, veh/h	493	1796	1260
Vehicles Circulating, veh/h	1010	227	231
Vehicles Exiting, veh/h	481	1276	1792
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.8	15.4	9.0
Approach LOS	B	C	A

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	0.460	0.540	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	227	266	844	952	592	668
Cap Entry Lane, veh/h	656	656	1207	1207	1203	1203
Entry HV Adj Factor	0.982	0.981	0.980	0.980	0.981	0.980
Flow Entry, veh/h	223	261	827	933	581	655
Cap Entry, veh/h	645	644	1183	1183	1180	1179
V/C Ratio	0.346	0.405	0.699	0.789	0.492	0.555
Control Delay, s/veh	10.2	11.4	13.3	17.2	8.4	9.6
LOS	B	B	B	C	A	A
95th %tile Queue, veh	2	2	6	9	3	4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	194	227	210	1427	921	228
Future Volume (vph)	194	227	210	1427	921	228
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)	23.0	23.0	10.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	10.0	65.0	55.0	55.0
Total Split (%)	27.8%	27.8%	11.1%	72.2%	61.1%	61.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	15.4	15.4	60.1	60.1	50.1	50.1
Actuated g/C Ratio	0.18	0.18	0.70	0.70	0.59	0.59
v/c Ratio	0.70	0.59	0.63	0.62	0.48	0.24
Control Delay	45.0	15.2	14.1	8.6	11.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	15.2	14.1	8.6	11.7	1.9
LOS	D	B	B	A	B	A
Approach Delay	28.9			9.3	9.7	
Approach LOS	C			A	A	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 85.6			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

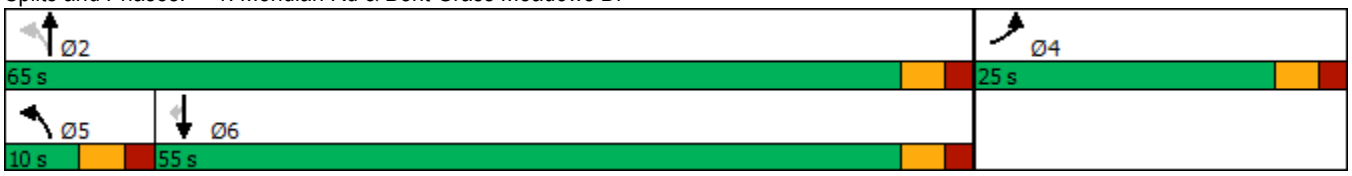
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	194	227	210	1427	921	228
Future Volume (vph)	194	227	210	1427	921	228
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)	23.0		10.0	23.0	23.0	23.0
Total Split (s)	25.0		10.0	65.0	55.0	55.0
Total Split (%)	27.8%		11.1%	72.2%	61.1%	61.1%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	15.4	85.6	60.1	60.1	50.1	50.1
Actuated g/C Ratio	0.18	1.00	0.70	0.70	0.59	0.59
v/c Ratio	0.70	0.16	0.63	0.62	0.48	0.24
Control Delay	45.0	0.2	14.1	8.6	11.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	0.2	14.1	8.6	11.7	1.9
LOS	D	A	B	A	B	A
Approach Delay	20.9			9.3	9.7	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 85.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 11.0	Intersection LOS: B
Intersection Capacity Utilization 60.3%	ICU Level of Service B
Analysis Period (min) 15	

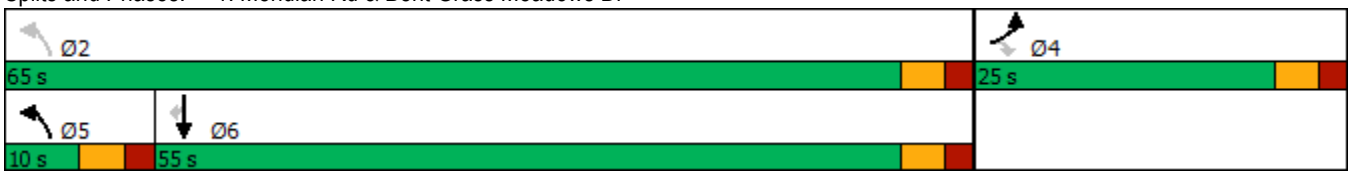
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø2
Lane Configurations							
Traffic Volume (vph)	194	227	210	1427	921	228	
Future Volume (vph)	194	227	210	1427	921	228	
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)	23.0	23.0	10.0		23.0	23.0	23.0
Total Split (s)	25.0	25.0	10.0		55.0	55.0	65.0
Total Split (%)	27.8%	27.8%	11.1%		61.1%	61.1%	72%
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)	15.4	15.4	60.1	85.6	50.1	50.1	
Actuated g/C Ratio	0.18	0.18	0.70	1.00	0.59	0.59	
v/c Ratio	0.70	0.59	0.63	0.43	0.48	0.24	
Control Delay	45.0	15.2	14.1	0.4	11.7	1.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	15.2	14.1	0.4	11.7	1.9	
LOS	D	B	B	A	B	A	
Approach Delay	28.9			2.1	9.7		
Approach LOS	C			A	A		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 85.6	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 60.3%	ICU Level of Service B
Analysis Period (min) 15	
! Phase conflict between lane groups.	

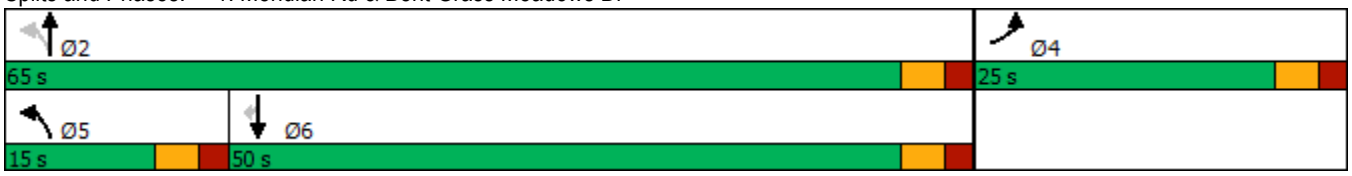
Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	194	227	210	1427	921	228
Future Volume (vph)	194	227	210	1427	921	228
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)	23.0		10.0	23.0	23.0	23.0
Total Split (s)	25.0		15.0	65.0	50.0	50.0
Total Split (%)	27.8%		16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	10.5	80.5	60.0	60.0	46.6	46.6
Actuated g/C Ratio	0.13	1.00	0.75	0.75	0.58	0.58
v/c Ratio	0.50	0.16	0.52	0.58	0.48	0.24
Control Delay	36.5	0.2	7.6	5.9	11.4	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	0.2	7.6	5.9	11.4	2.0
LOS	D	A	A	A	B	A
Approach Delay	16.9			6.1	9.6	
Approach LOS	B			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 80.5	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 55.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Bent Grass Meadows Dr



Intersection	
Int Delay, s/veh	7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	120	9	289	143	20	304
Future Vol, veh/h	120	9	289	143	20	304
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	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	11	332	164	23	349

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	973	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	828	-
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	-	-	1424	-	280	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	429	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	215	902
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	329	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	753	-	-	1424	-
HCM Lane V/C Ratio	0.495	-	-	0.233	-
HCM Control Delay (s)	14.4	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2.8	-	-	0.9	-

Queuing Reports

TRANSPORTATION
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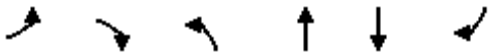


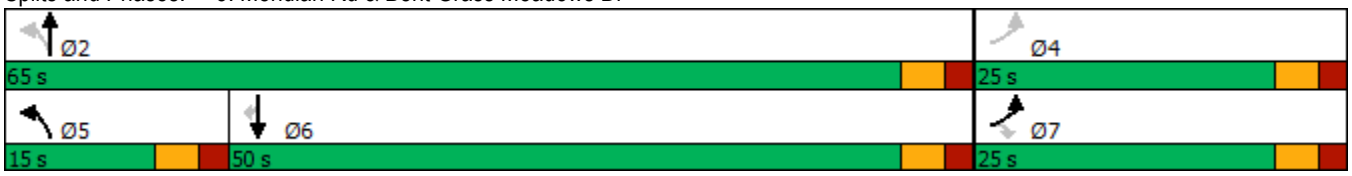
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	162	295	160	698	1639	268
Future Volume (vph)	162	295	160	698	1639	268
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.86	0.86	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	169	307	186	812	1863	305
Shared Lane Traffic (%)						
Lane Group Flow (vph)	169	307	186	812	1863	305

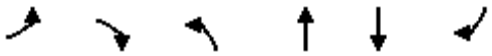
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø4
Lane Configurations							
Traffic Volume (vph)	162	295	160	698	1639	268	
Future Volume (vph)	162	295	160	698	1639	268	
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm	
Protected Phases	7		5	2	6		4
Permitted Phases	4	7	2			6	
Detector Phase	7	7	5	2	6	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0	25.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%	28%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag			Lead		Lag	Lag	
Lead-Lag Optimize?			Yes		Yes	Yes	
Recall Mode	None	None	None	Max	Max	Max	None
Act Effct Green (s)	12.1	12.1	60.2	60.2	46.6	46.6	
Actuated g/C Ratio	0.15	0.15	0.73	0.73	0.57	0.57	
v/c Ratio	0.34	0.76	0.68	0.31	0.93	0.30	
Control Delay	32.7	24.5	27.4	4.8	28.2	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.7	24.5	27.4	4.8	28.2	2.3	
LOS	C	C	C	A	C	A	
Approach Delay	27.4			9.0	24.5		
Approach LOS	C			A	C		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.3	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	

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

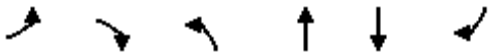




Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	169	307	186	812	1863	305
v/c Ratio	0.34	0.76	0.68	0.31	0.93	0.30
Control Delay	32.7	24.5	27.4	4.8	28.2	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	24.5	27.4	4.8	28.2	2.3
Queue Length 50th (ft)	40	50	38	59	429	0
Queue Length 95th (ft)	68	134	#116	114	#723	37
Internal Link Dist (ft)	297			1611	682	
Turn Bay Length (ft)			700			330
Base Capacity (vph)	837	539	304	2588	2004	1028
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.57	0.61	0.31	0.93	0.30

Intersection Summary

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



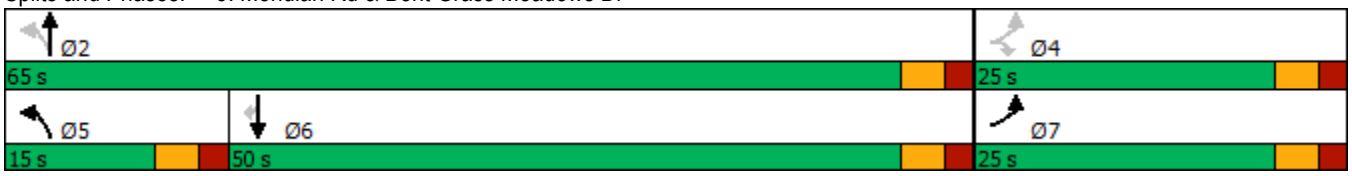
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	205	262	247	1427	921	248
Future Volume (vph)	205	262	247	1427	921	248
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.96	0.96	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	238	305	257	1486	921	248
Shared Lane Traffic (%)						
Lane Group Flow (vph)	238	305	257	1486	921	248

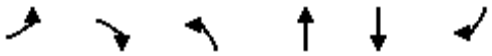
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	205	262	247	1427	921	248
Future Volume (vph)	205	262	247	1427	921	248
Turn Type	pm+pt	Perm	pm+pt	NA	NA	Perm
Protected Phases	7		5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	7	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0	15.0	65.0	50.0	50.0
Total Split (%)	27.8%	27.8%	16.7%	72.2%	55.6%	55.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
Act Effct Green (s)	11.3	11.3	60.1	60.1	46.4	46.4
Actuated g/C Ratio	0.14	0.14	0.74	0.74	0.57	0.57
v/c Ratio	0.50	0.67	0.56	0.57	0.46	0.25
Control Delay	36.0	13.8	8.5	6.2	11.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	13.8	8.5	6.2	11.7	2.1
LOS	D	B	A	A	B	A
Approach Delay	23.5			6.5	9.7	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.4	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

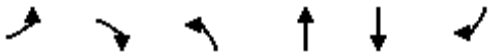
Splits and Phases: 3: Meridian Rd & Bent Grass Meadows Dr





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	238	305	257	1486	921	248
v/c Ratio	0.50	0.67	0.56	0.57	0.46	0.25
Control Delay	36.0	13.8	8.5	6.2	11.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	13.8	8.5	6.2	11.7	2.1
Queue Length 50th (ft)	58	13	31	140	131	0
Queue Length 95th (ft)	88	72	70	245	212	34
Internal Link Dist (ft)	297			1611	682	
Turn Bay Length (ft)			700			330
Base Capacity (vph)	844	597	483	2612	2015	1008
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.51	0.53	0.57	0.46	0.25

Intersection Summary



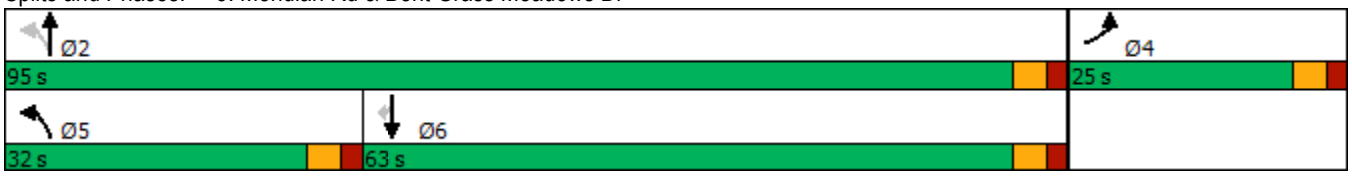
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	264	428	334	631	1680	373
Future Volume (vph)	264	428	334	631	1680	373
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	278	451	352	664	1768	393
Shared Lane Traffic (%)						
Lane Group Flow (vph)	278	451	352	664	1768	393

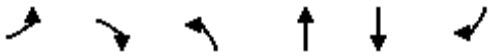
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	264	428	334	631	1680	373
Future Volume (vph)	264	428	334	631	1680	373
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		32.0	95.0	63.0	63.0
Total Split (%)	20.8%		26.7%	79.2%	52.5%	52.5%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None		None	Max	Max	Max
Act Effct Green (s)	14.5	114.6	90.1	90.1	63.0	63.0
Actuated g/C Ratio	0.13	1.00	0.79	0.79	0.55	0.55
v/c Ratio	0.64	0.28	0.87	0.24	0.91	0.38
Control Delay	54.6	0.5	53.4	3.7	33.0	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	0.5	53.4	3.7	33.0	3.9
LOS	D	A	D	A	C	A
Approach Delay	21.1			20.9	27.7	
Approach LOS	C			C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.6	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

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

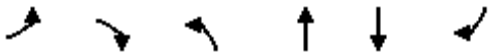




Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	278	451	352	664	1768	393
v/c Ratio	0.64	0.28	0.87	0.24	0.91	0.38
Control Delay	54.6	0.5	53.4	3.7	33.0	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.6	0.5	53.4	3.7	33.0	3.9
Queue Length 50th (ft)	102	0	196	55	606	15
Queue Length 95th (ft)	146	0	#335	87	#898	73
Internal Link Dist (ft)	373			1611	682	
Turn Bay Length (ft)	190		700			330
Base Capacity (vph)	599	1583	477	2782	1945	1026
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.28	0.74	0.24	0.91	0.38

Intersection Summary

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



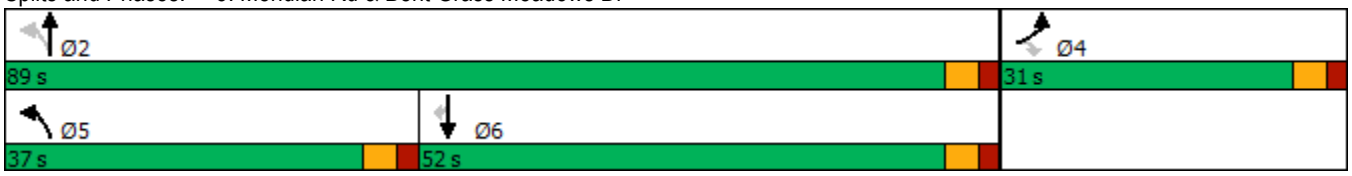
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Volume (vph)	503	414	412	1424	1114	287
Future Volume (vph)	503	414	412	1424	1114	287
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	529	436	434	1499	1173	302
Shared Lane Traffic (%)						
Lane Group Flow (vph)	529	436	434	1499	1173	302

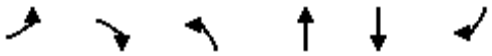
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	503	414	412	1424	1114	287
Future Volume (vph)	503	414	412	1424	1114	287
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 Effct Green (s)	22.8	22.8	84.1	84.1	51.8	51.8
Actuated g/C Ratio	0.20	0.20	0.72	0.72	0.44	0.44
v/c Ratio	0.79	0.66	0.87	0.59	0.75	0.35
Control Delay	54.0	9.1	46.1	9.5	32.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	9.1	46.1	9.5	32.5	3.9
LOS	D	A	D	A	C	A
Approach Delay	33.7			17.7	26.7	
Approach LOS	C			B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.9	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

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





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	529	436	434	1499	1173	302
v/c Ratio	0.79	0.66	0.87	0.59	0.75	0.35
Control Delay	54.0	9.1	46.1	9.5	32.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	9.1	46.1	9.5	32.5	3.9
Queue Length 50th (ft)	196	0	238	266	403	0
Queue Length 95th (ft)	258	91	#383	344	524	56
Internal Link Dist (ft)	373			1611	682	
Turn Bay Length (ft)	190		700			330
Base Capacity (vph)	764	691	565	2545	1567	869
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.63	0.77	0.59	0.75	0.35

Intersection Summary

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