LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
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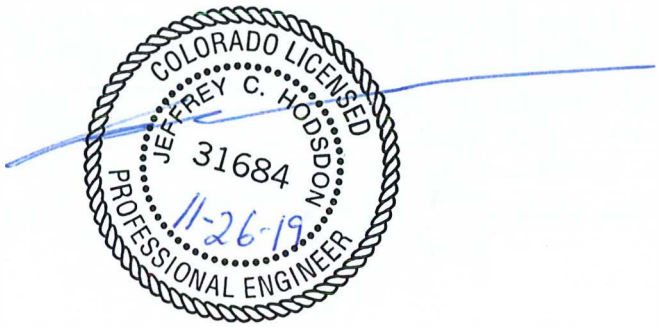
Claremont Business Park (Tract C, Filing 2)
Transportation Memorandum
(LSC #195040)
November 26, 2019

Add PCD File No. SP197

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.

11-27-19
Date

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November 26, 2019

Robert Green
Hammers Construction
1411 Woolsey Heights
Colorado Springs, CO 80915

Please provide traffic analysis for the entire property (+13 acres).

There are two points of access shown on the preliminary plan. Please revise.

RE: Claremont Business Park (Tract C, Filing 2)
El Paso County, Colorado
Transportation Memorandum
LSC #195040

Dear Mr. Green,

LSC Transportation Consultants, Inc. has prepared this transportation memorandum for the proposed development on Claremont Business Park Tract C, Filing 2 site in El Paso County, CO. Located generally southwest of the intersection of Marksheffel Road/Meadowbrook Parkway (El Paso County parcel ID 5408101054) within the Claremont Business Park, the 8.38-acre site is currently vacant. Access to the site is proposed to Meadowbrook Parkway only via one point. No direct access is proposed to US Highway 24 (US 24) or Marksheffel Road). This report has been prepared for submittal to El Paso County.

This site was studied previously in the report entitled "Claremont Commercial Filing No. 2 Updated Traffic Impact Study" dated July 6, 2018. The El Paso County PCD Project number is SP-17-004.

REPORT CONTENTS

The report contains the following:

- Description of the proposed land uses and access
- Comparison to the land use/access contained in the 2018 TIS report
- Access sight distance
- Description of Meadowbrook Parkway and current information
- Existing peak-hour link volumes on Meadowbrook Drive and a comparison to volumes in the 2018 TIS report
- Estimates of the proposed development's peak-hour and daily trip generation
- Estimated trip distribution and peak-hour access turning movement volumes
- Comparison to the access volumes shown in the 2018 TIS report
- Auxiliary right-/left-turn lane analysis at the site access

- Results of the evaluation of the proposed access point with respect to the criteria contained in El Paso County's *Engineering Criteria Manual (ECM)*

There is a second access shown on the preliminary plan. Include discussion regarding the 2nd access and indicate whether these access points meet County criteria.

PROPOSED LAND USE & ACCESS

Located generally southwest of the intersection of Marksheffel Road/Meadowbrook Parkway (El Paso County parcel ID 5408101054), the 8.38-acre parcel is currently vacant. The anticipated land use for this 8.38-acre site has not changed from the 2018 TIS report. Also, the abutting 5.35 acres to the north is still planned for future commercial.

The site access is planned to be located approximately 780 feet south of the existing gas station access to the north and about 450 feet northeast of Woolsey Heights/Meadowbrook Parkway intersection (centerline spacings). The site access would align with the recently constructed parcel access on the west side of Meadowbrook Parkway. This access point will be a stop sign-controlled, full-movement intersection. The site plan is attached for reference.

The 2018 TIS report showed a street connection between this industrial site and the abutting commercial site to the north. This street connection has been removed from the plan. However, the plan includes a 45-foot-wide right-of-way reservation between the proposed private access drive and the future commercial site to the north. It is anticipated that future plans for the commercial site to the north will also be required to show a matching/connecting right-of-way reservation on that site plan. The reservation is at the request of El Paso County and the purpose is to allow for a potential future vehicular connection between the commercial site and this industrial site's internal access street/drive and access point to Meadowbrook Parkway) if ever needed in the future.

Please analyze the 2nd access point. Indicate the County criteria for the two access points and whether they meet it.

ACCESS SIGHT DISTANCE

Access sight distance will be acceptable at the proposed site access point. Any remaining overgrown weeds on the site will be removed with the start of site work. Sight distances meeting county criteria need to be maintained in perpetuity by keeping signs, landscaping over 18 inches high, or any other obstructions out of the line-of-sight "triangles" along Meadowbrook Parkway.

ROW reservation has not been provided. An access easement is shown on the preliminary plan that extends to the 2nd access point. Please revise this paragraph accordingly per the proposed preliminary plan that has been submitted.

ROADWAYS AND TRAFFIC CONDITIONS

Meadowbrook Parkway

The adjacent **Meadowbrook Parkway** is a paved, Non-Residential Collector that extends through the Claremont Business Park from the US 24/SH 94 intersection to Marksheffel Road (generally parallel to US 24). Meadowbrook Parkway continues east from Marksheffel Road into Claremont Ranch to the east. Adjacent to the site, the posted speed limit is 35 miles per hour. The intersection of Meadowbrook Parkway/Marksheffel Road has recently been improved by El Paso

County and is planned to be signalized in the near future. These intersection improvements (including a center raised median on Meadowbrook Parkway) extend west from to the existing gas station access (the future abutting commercial site access is planned to align with this gas station access, which is on the north side of Meadowbrook Parkway).

Please update the narrative and your traffic analysis as the traffic signal was recently installed. The traffic behavior more likely has changed due to the new signal.

Existing Traffic Volumes

Recent vehicular turning-movement counts were conducted at the intersection of Marksheffel Road/Meadowbrook Parkway during morning and afternoon peak periods.

Existing morning and evening weekday peak-hour traffic volumes at this intersection are shown in Figure 3. Raw count reports are attached. Figure 3 also shows estimates by LSC of average weekday traffic for some key street segments expected to provide access to the site.

Table 1: Link Volumes

Meadowbrook Parkway just west of Marksheffel Road			
Direction	**Counts - 2017***	**Short Term Background***	**Counts - July 2019**
Eastbound AM Peak Volume	51	75	61
Eastbound PM Peak Volume	129	151	142
Westbound AM Peak Volume	149	171	124
Westbound PM Peak Volume	106	139	82
*From the 2018 TIS report			

As shown in Table 1 the current-year counts show some increases and some decreases from 2017. However, the current year peak-hour counts are below the "short-term background" volumes from the 2018 TIS report.

Analysis should be of the entire site not just the southern portion. please revise your analysis accordingly.

TRIP GENERATION

Updated estimates of the vehicle-trips projected to be generated by the proposed 8.38-acre development have been made using the nationally published trip generation rates from the current version of *Trip Generation (10th Edition, 2017)* by the Institute of Transportation Engineers (ITE). General Light Industrial, ITE Land Use 130, has been used to estimate the trip generation.

The proposed 8.38-acre development is expected to generate about 260 vehicle-trips on the average weekday (one-half entering and one-half exiting in a 24-hour period). During the morning peak hour, 32 vehicles are projected to enter the site, while 4 vehicles are projected to exit. Approximately 4 vehicles would enter and 29 vehicles would exit the site during the evening peak hour. The morning peak hour generally occurs for one hour between 6:30 and 8:30 a.m., and the afternoon peak hour occurs for one hour between 4:00 and 6:00 p.m. Table 2 shows a summary of the results of the trip

?

generation estimate. A detailed trip generation estimate for the development, including ITE rates for the proposed land use is presented in Table 4 (attached). Table 4 also includes a comparison to the trip generation estimate in the 2018 TIS for this 3.83-acre site. The land use is essentially the same as previously anticipated and the trip generation based on the current 10th Edition rates is expected to be comparable to the estimate in the 2018 TIS.

Table 2: Estimated Site Vehicle-Trip Generation

Analysis Period	In	Out	Total
Morning Peak Hour (vehicle-trips/hour)	32	4	37
Evening Peak Hour (vehicle-trips/hour)	4	29	33
Weekday – (vehicle-trips/day)	130	130	260
Note: Please refer to Table 4 (attached) for detailed trip generation table.			

Please update the narrative accordingly as the site will have two access points. Update the distribution analysis accordingly (make sure to account for the signal that was recently installed.)

TRIP DISTRIBUTION/CIRCULATION

All site-generated trips generated would utilize the proposed site access point (to be located about 450 feet northeast of Woolsey Heights/Meadowbrook Parkway intersection (centerline spacing) with the removal of the planned street connection between this site and the abutting commercial site to the north. As indicated above, right-of-way will be preserved for a future vehicular connection, if ever needed.

The directional distribution is not expected to change significantly from the 2018 TIS report. Given the access change described above, a minor distribution shift favoring travel to/from the west on Meadowbrook Parkway may occur with up to about 25 to 35 percent oriented to/from this direction. The balance would be oriented to/from the northeast on Meadowbrook with trips passing through the Meadowbrook/Marksheffel intersection.

Note: The abutting commercial parcel to the north (once developed) will utilize the planned access aligning with the existing gas station full-movement access. All commercial trips generated would utilize that access.

provide analysis of the second access point.

SITE-GENERATED TRAFFIC AT THE SITE ACCESS POINT

Updated projections of site-generated traffic volumes at the site access point on Meadowbrook Parkway are shown in Table 3. This table also includes a comparison to the volumes projected for this access point in the 2018 TIS report. As shown, the currently projected volumes would not exceed the turning volumes shown in the 2018 TIS.

Table 3: Site-Generated Traffic				
Projected Peak Turning Movement Volumes				
Meadowbrook Parkway/Site Access			**2018 Study**	
Turning Movement	**Volume(1)(2)**	**Time Period**	**(for comparison)**	
Northbound Right Turn	10-15 vph	AM Peak	8/14	AM/PM
Southbound Left Turn	20-25 vph	AM Peak	24/32	AM/PM
Westbound Right Turn (exiting)	20-25 vph	PM Peak	8/46	AM/PM
Westbound Left Turn (exiting)	10-15 vph	PM Peak	2/20	AM/PM
(1) vph=vehicles per hour (2) Note: volumes shown are the higher of the projected AM and PM volumes				

Provide analysis of the 2nd access point.

AUXILIARY TURN LANES AT THE SITE ACCESS

A northbound auxiliary right-turn lane would not be required at the proposed site access point on Meadowbrook Parkway based on projected site-generated traffic volumes and criteria in the ECM. The County standard Non-Residential Collector cross section incorporates width for a striped left-turn center median to accommodate the projected southbound left-turn volume.

SITE ACCESS DESIGN

Engineering Criteria Manual Section 2.4.1 access criteria, states the following five access design guidelines:

- Adequate spacing
- Proper alignments
- Clear sight distances
- Coordinated widths with its intended use
- Clearances from intersections

Based on the proposed plan, these criteria would be satisfied.

Please update your findings/conclusions section accordingly based on comments provided.

FINDINGS AND CONCLUSIONS

- The site is projected to generate about 260 vehicle-trips on the average weekday (24-hour period).
- During the weekday morning peak hour of adjacent street traffic, 32 vehicles would enter the site while 4 vehicles would exit.
- During the weekday evening peak hour of adjacent street traffic, 4 vehicles would enter the site while 29 vehicles would exit.
- The land use is essentially the same as previously anticipated and the trip generation based on the current 10th Edition rates is expected to be comparable to the estimate in the 2018 TIS.

- All site-generated trips generated would utilize the proposed site access point to be located about 450 feet northeast of Woolsey Heights/Meadowbrook Parkway intersection (centerline spacing) with the removal of the planned street connection between this site and the abutting commercial site to the north. As indicated above, right-of-way will be preserved for a future vehicular connection, if ever needed.
- At the proposed site access, the currently projected volumes would not exceed the turning volumes shown in the 2018 TIS.
  Note: The abutting commercial parcel to the north (once developed) will utilize the planned access aligning with the existing gas station full-movement access. All commercial trips generated would utilize that access.
- A northbound auxiliary right-turn lane would not be required at the proposed site access point on Meadowbrook Parkway based on projected site-generated traffic volumes and criteria in the ECM. The County standard Non-Residential Collector cross section incorporates width for a striped left-turn center median to accommodate the projected southbound left-turn volume.
- The site accesses would satisfy access design criteria from *ECM* Section 2.4.1 (adequate spacing, proper alignments, clear sight distances, coordinated widths with its intended use, and clearances from intersections).

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

what are the changes/discrepancies to your previous traffic analysis (july 2018) due to new signal at marksheffel/meadowbrook and the changes proposed in the preliminary plan? Are your previous recommendations/conclusions (i.e. LOS, queuing, intersection lane configuration, trip distribution/generation, auxiliary lanes etc.) still the same? Please address this in your narrative.

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

JCH:jas

Enclosures: Table 4
Site Plan Exhibit
Traffic Count Reports

Tables and Figures

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CONSULTANTS, INC.

Table 4: Trip Generation Estimate and Comparison

ITE		Value	Units [1]	Trip Generation Rates [2]					Total Trips Generated				
				Average	A.M.		P.M.		Average	A.M.		P.M.	
Code	Description			Weekday	In	Out	In	Out	Weekd	In	Out	In	Out
Current Trip Generation Estimate													
110	General Light Industrial	52.500	KSF	4.96	0.62	0.08	0.08	0.55	260	32	4	4	29
Previous Trip Generation Estimate from 2018 TIS													
130	Industrial Park	6.260	Acres	61.17	6.81	1.39	1.79	6.74	383	43	9	11	42
Difference in Trip Generation from 2018 TIS									**-123**	**-10**	**-4**	**-7**	**-13**

[1] KSF = 1,000 square feet of gross floor area

[2] Current Trip Generation Estimate based on rates in: *Trip Generation* , 10th Edition, 2017, by the Institute of Transportation Engineers (ITE)

Site Plan

Please update the site plan to what has been shown on the preliminary plan.

TRANSPORTATION
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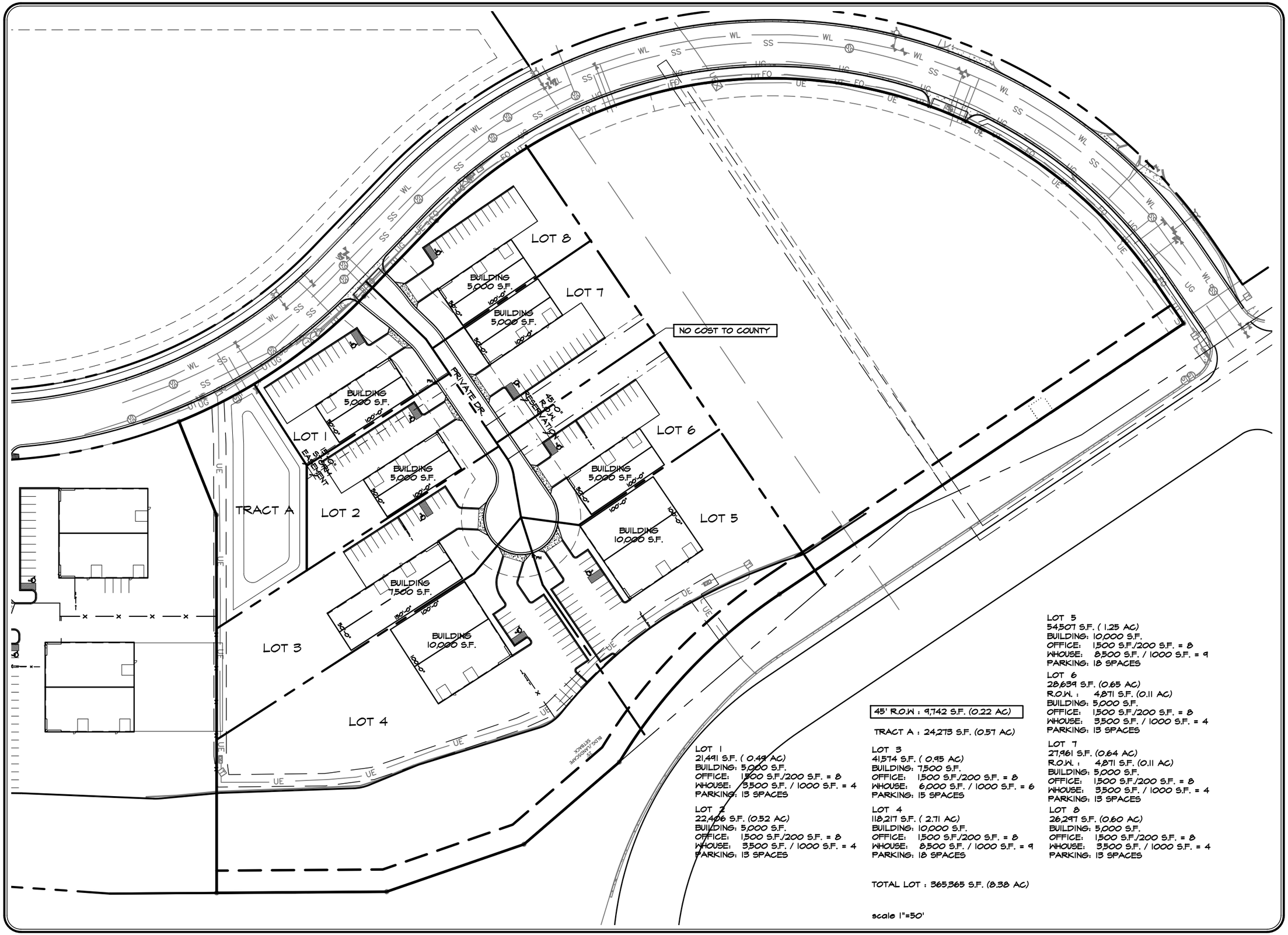

45' R.O.W : 9,742 S.F. (0.22 AC)

TRACT A : 24,273 S.F. (0.57 AC)

LOT 1
21,491 S.F. (0.49 AC)
BUILDING: 5,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 3,500 S.F. / 1000 S.F. = 4
PARKING: 13 SPACES

LOT 2
22,406 S.F. (0.52 AC)
BUILDING: 5,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 3,500 S.F. / 1000 S.F. = 4
PARKING: 13 SPACES

LOT 3
41,574 S.F. (0.95 AC)
BUILDING: 7,500 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 6,000 S.F. / 1000 S.F. = 6
PARKING: 15 SPACES

LOT 4
118,217 S.F. (2.71 AC)
BUILDING: 10,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 8,500 S.F. / 1000 S.F. = 9
PARKING: 18 SPACES

TOTAL LOT : 365,365 S.F. (8.38 AC)

scale 1"=50'

LOT 5
54,507 S.F. (1.25 AC)
BUILDING: 10,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 8,500 S.F. / 1000 S.F. = 9
PARKING: 18 SPACES

LOT 6
28,639 S.F. (0.65 AC)
R.O.W. : 4,871 S.F. (0.11 AC)
BUILDING: 5,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 3,500 S.F. / 1000 S.F. = 4
PARKING: 13 SPACES

LOT 7
27,961 S.F. (0.64 AC)
R.O.W. : 4,871 S.F. (0.11 AC)
BUILDING: 5,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 3,500 S.F. / 1000 S.F. = 4
PARKING: 13 SPACES

LOT 8
26,297 S.F. (0.60 AC)
BUILDING: 5,000 S.F.
OFFICE: 1,500 S.F./200 S.F. = 8
WHOUSE: 3,500 S.F. / 1000 S.F. = 4
PARKING: 13 SPACES

HAMMERS
CONSTRUCTION INC.
COMMERCIAL GENERAL CONTRACTORS SPECIALIZING IN DESIGN/BUILD
PRESIDENT: STEVE R. HAMMERS
VICE PRES: DAVID J. HAMMERS
1411 WOOLSY HEIGHTS
COLORADO SPRINGS, CO 80915
(719) 570-1599 FAX (719) 570-7008
www.hammersconstruction.com

GRUMPY TRUMPSTER
CONCEPT PLAN
MEADOWBROOK PKWY
COLORADO SPRINGS, CO 80915
EL PASO COUNTY, COLORADO

DATE: OCT 9, 2019
DRAWN BY: D. AQUINO
CHECKED BY:
APPROVED BY:
JOB NO: 1151

1 OF 1
CONCEPT PLAN

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

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

File Name : Marksheffel Rd - Meadowbrook Pkwy AM 7-19
Site Code : 174080
Start Date : 7/25/2019
Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd Southbound					Meadowbrook Pkwy Westbound					Marksheffel Rd Northbound					Meadowbrook Pkwy Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	1	355	18	0	374	2	1	9	0	12	6	121	2	0	129	5	0	4	0	9	524
06:45 AM	1	358	21	0	380	3	3	11	0	17	8	123	4	0	135	8	0	7	0	15	547
Total	2	713	39	0	754	5	4	20	0	29	14	244	6	0	264	13	0	11	0	24	1071
07:00 AM	2	365	26	1	394	8	0	12	0	20	5	127	3	0	135	4	0	4	0	8	557
07:15 AM	1	505	22	0	528	4	0	13	0	17	5	144	0	0	149	8	0	7	0	15	709
07:30 AM	1	362	31	0	394	3	1	8	0	12	2	155	1	0	158	17	1	5	0	23	587
07:45 AM	2	318	34	0	354	3	1	13	0	17	8	135	3	0	146	11	0	9	0	20	537
Total	6	1550	113	1	1670	18	2	46	0	66	20	561	7	0	588	40	1	25	0	66	2390
08:00 AM	1	226	20	1	248	4	1	7	0	12	5	111	4	0	120	16	0	4	0	20	400
08:15 AM	1	231	20	0	252	1	1	3	0	5	5	132	4	0	141	12	1	5	0	18	416
Grand Total	10	2720	192	2	2924	28	8	76	0	112	44	1048	21	0	1113	81	2	45	0	128	4277
Apprch %	0.3	93	6.6	0.1		25	7.1	67.9	0		4	94.2	1.9	0		63.3	1.6	35.2	0		
Total %	0.2	63.6	4.5	0	68.4	0.7	0.2	1.8	0	2.6	1	24.5	0.5	0	26	1.9	0	1.1	0	3	

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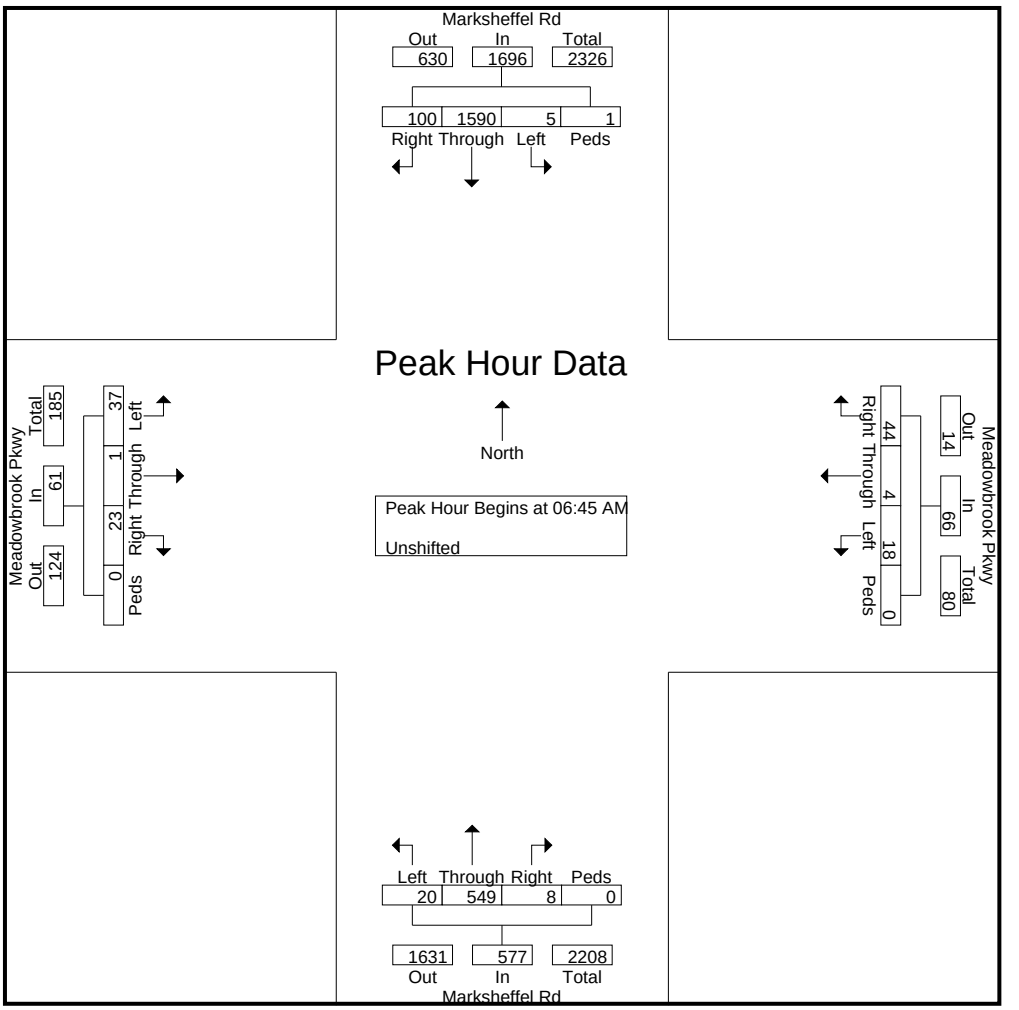
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	1	358	21	0	380	3	**3**	11	0	17	**8**	123	**4**	0	135	8	0	**7**	0	15	547
07:00 AM	**2**	365	26	**1**	394	**8**	0	12	0	**20**	5	127	3	0	135	4	0	4	0	8	557
07:15 AM	1	**505**	22	0	**528**	4	0	**13**	0	17	5	144	0	0	149	8	0	7	0	15	**709**
07:30 AM	1	362	**31**	0	394	3	1	8	0	12	2	**155**	1	0	**158**	**17**	**1**	5	0	**23**	587
Total Volume	5	1590	100	1	1696	18	4	44	0	66	20	549	8	0	577	37	1	23	0	61	2400
% App. Total	0.3	93.8	5.9	0.1		27.3	6.1	66.7	0		3.5	95.1	1.4	0		60.7	1.6	37.7	0		
PHF	.625	.787	.806	.250	.803	.563	.333	.846	.000	.825	.625	.885	.500	.000	.913	.544	.250	.821	.000	.663	.846



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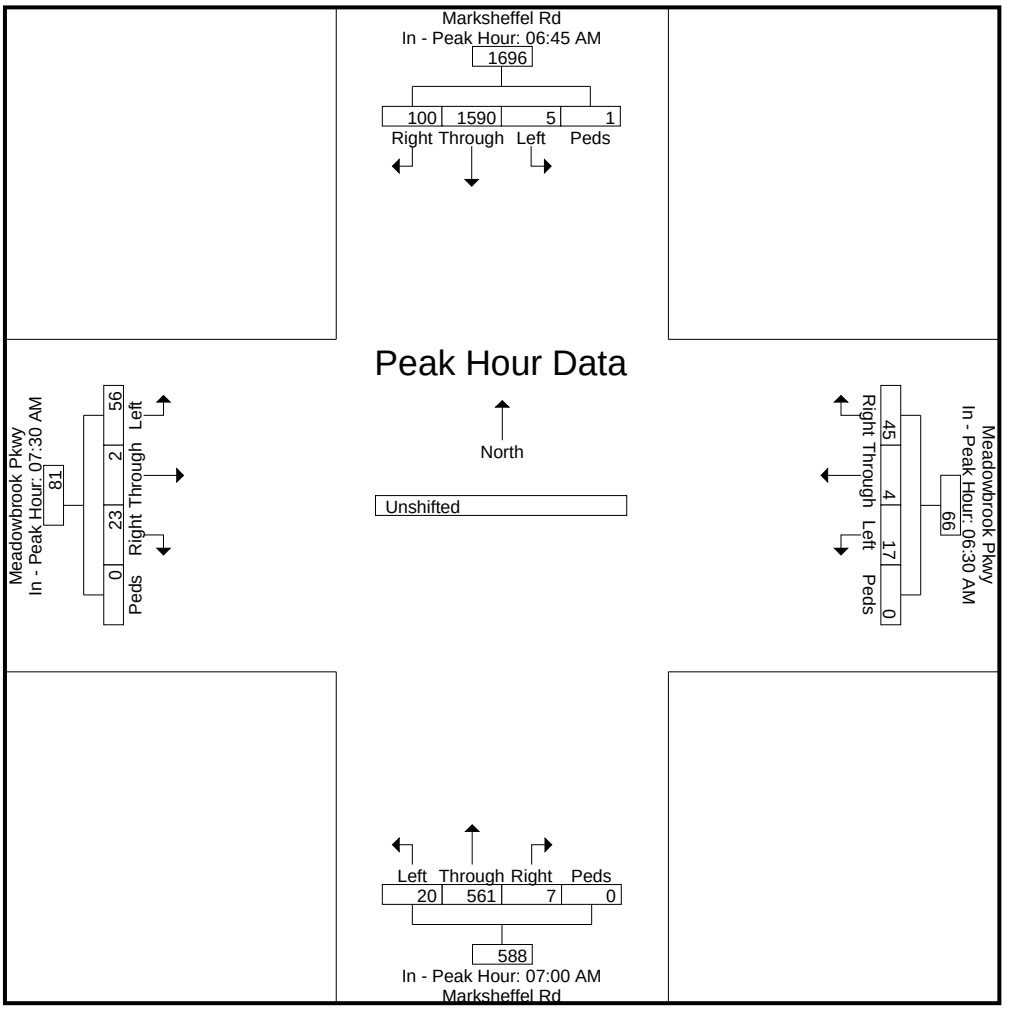
	Marksheffel Rd Southbound					Meadowbrook Pkwy Westbound					Marksheffel Rd Northbound					Meadowbrook Pkwy Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:45 AM					06:30 AM					07:00 AM					07:30 AM					
+0 mins.	1	358	21	0	380	2	1	9	0	12	5	127	**3**	0	135	**17**	**1**	5	0	**23**	
+15 mins.	**2**	365	26	**1**	394	3	**3**	11	0	17	5	144	0	0	149	11	0	**9**	0	20	
+30 mins.	1	**505**	22	0	**528**	**8**	0	12	0	**20**	2	**155**	1	0	**158**	16	0	4	0	20	
+45 mins.	1	362	**31**	0	394	4	0	**13**	0	17	**8**	135	3	0	146	12	1	5	0	18	
Total Volume	5	1590	100	1	1696	17	4	45	0	66	20	561	7	0	588	56	2	23	0	81	
% App. Total	0.3	93.8	5.9	0.1		25.8	6.1	68.2	0		3.4	95.4	1.2	0		69.1	2.5	28.4	0		
PHF	.625	.787	.806	.250	.803	.531	.333	.865	.000	.825	.625	.905	.583	.000	.930	.824	.500	.639	.000	.880	



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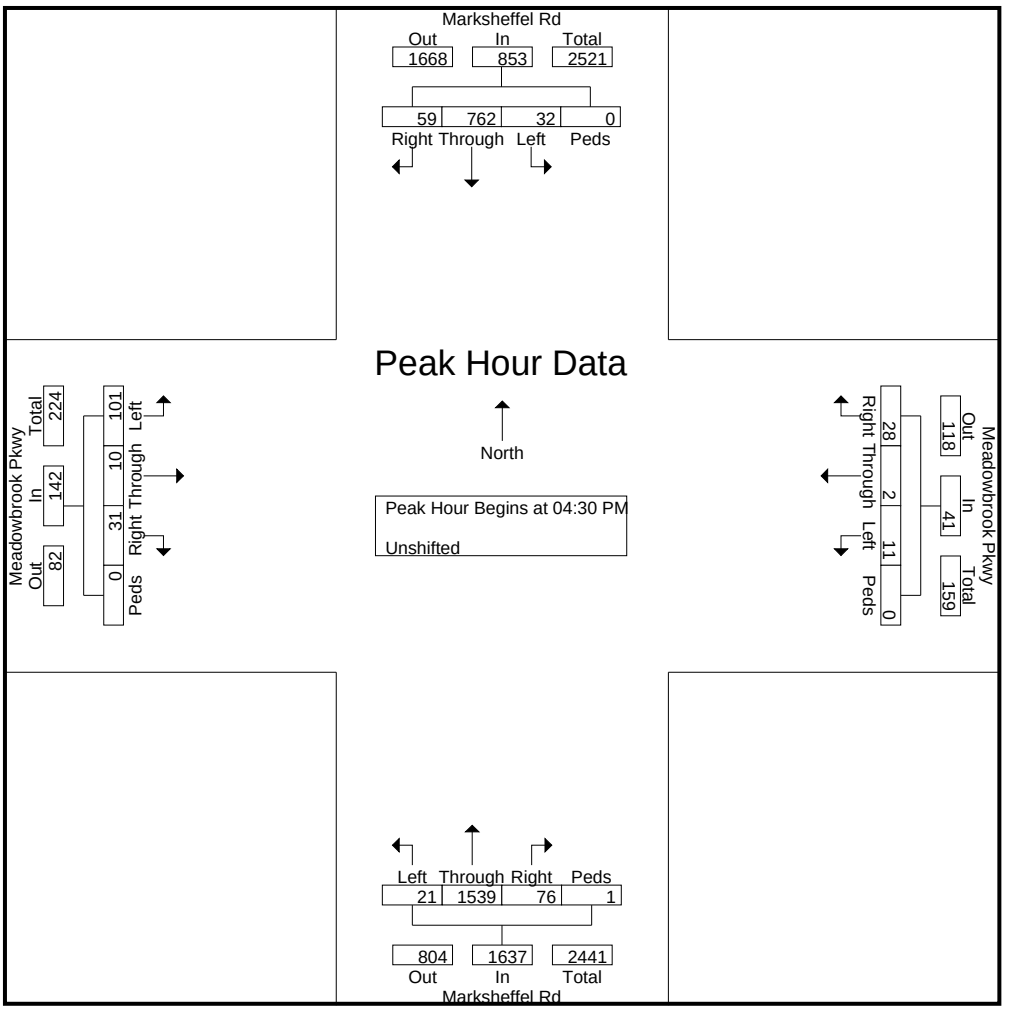
04:00 PM	8	190	17	0	215	6	2	10	0	18	4	333	17	0	354	22	2	5	0	29	616
04:15 PM	7	168	15	0	190	2	1	2	0	5	5	320	18	0	343	16	0	8	0	24	562
04:30 PM	8	181	15	0	204	3	1	3	0	7	8	409	15	0	432	21	4	4	0	29	672
04:45 PM	6	174	15	0	195	2	0	6	0	8	4	432	16	0	452	15	2	6	0	23	678
Total	29	713	62	0	804	13	4	21	0	38	21	1494	66	0	1581	74	8	23	0	105	2528
05:00 PM	7	226	20	0	253	2	0	8	0	10	4	378	28	1	411	35	1	14	0	50	724
05:15 PM	11	181	9	0	201	4	1	11	0	16	5	320	17	0	342	30	3	7	0	40	599
05:30 PM	14	171	7	0	192	4	1	6	0	11	3	327	15	1	346	14	2	10	0	26	575
05:45 PM	8	179	21	0	208	5	0	6	0	11	5	278	17	0	300	8	2	7	0	17	536
Total	40	757	57	0	854	15	2	31	0	48	17	1303	77	2	1399	87	8	38	0	133	2434
Grand Total	69	1470	119	0	1658	28	6	52	0	86	38	2797	143	2	2980	161	16	61	0	238	4962
Apprch %	4.2	88.7	7.2	0		32.6	7	60.5	0		1.3	93.9	4.8	0.1		67.6	6.7	25.6	0		
Total %	1.4	29.6	2.4	0	33.4	0.6	0.1	1	0	1.7	0.8	56.4	2.9	0	60.1	3.2	0.3	1.2	0	4.8	

LSC Transportation Consultants, Inc.

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

File Name : Marksheffel Rd - Meadowbrook Pkwy PM 7-19
Site Code : 174080
Start Date : 7/25/2019
Page No : 2

	Marksheffel Rd Southbound					Meadowbrook Pkwy Westbound					Marksheffel Rd Northbound					Meadowbrook Pkwy Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	8	181	15	0	204	3	**1**	3	0	7	**8**	409	15	0	432	21	**4**	4	0	29	672
04:45 PM	6	174	15	0	195	2	0	6	0	8	4	**432**	16	0	**452**	15	2	6	0	23	678
05:00 PM	7	**226**	**20**	0	**253**	2	0	8	0	10	4	378	**28**	**1**	411	**35**	1	**14**	0	**50**	**724**
05:15 PM	**11**	181	9	0	201	**4**	1	**11**	0	**16**	5	320	17	0	342	30	3	7	0	40	599
Total Volume	32	762	59	0	853	11	2	28	0	41	21	1539	76	1	1637	101	10	31	0	142	2673
% App. Total	3.8	89.3	6.9	0		26.8	4.9	68.3	0		1.3	94	4.6	0.1		71.1	7	21.8	0		
PHF	.727	.843	.738	.000	.843	.688	.500	.636	.000	.641	.656	.891	.679	.250	.905	.721	.625	.554	.000	.710	.923



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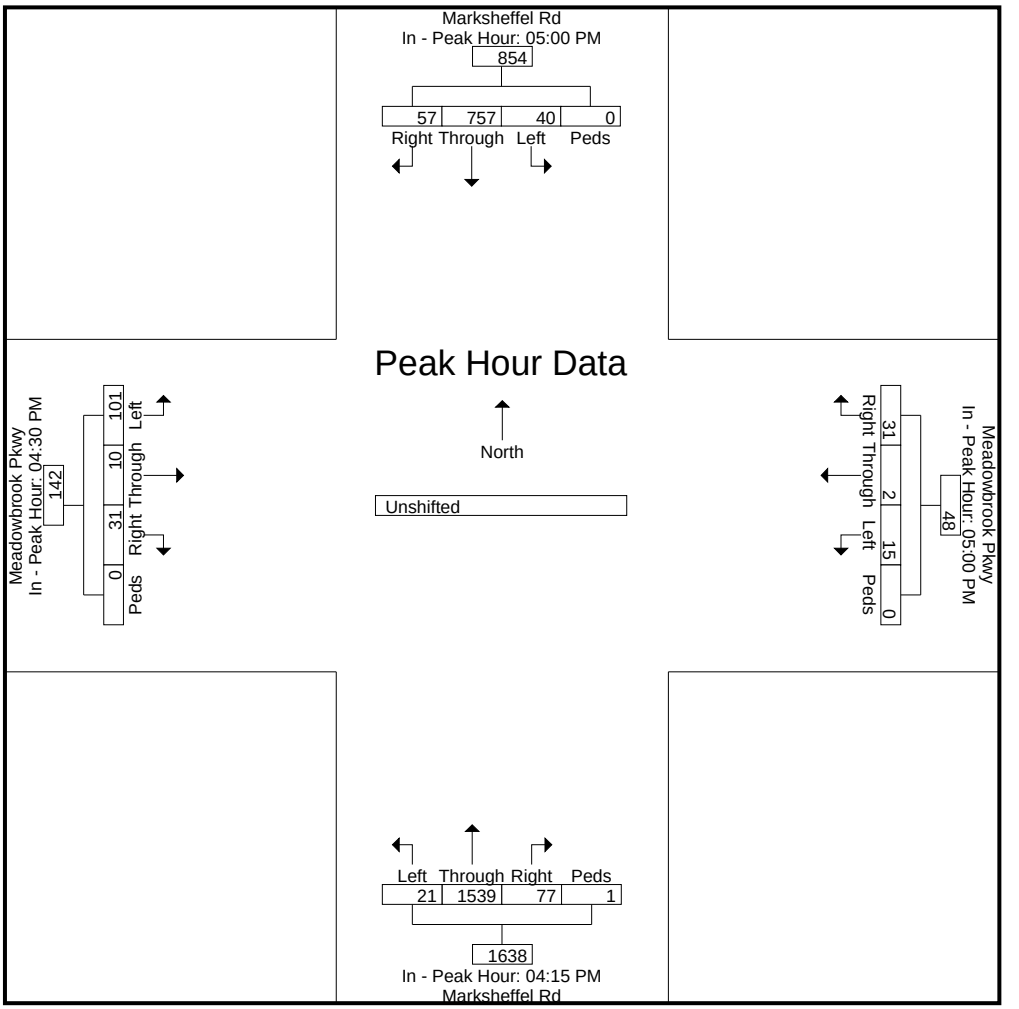
File Name : Marksheffel Rd - Meadowbrook Pkwy PM 7-19
Site Code : 174080
Start Date : 7/25/2019
Page No : 3

	Marksheffel Rd Southbound					Meadowbrook Pkwy Westbound					Marksheffel Rd Northbound					Meadowbrook Pkwy Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					05:00 PM					04:15 PM					04:30 PM					
+0 mins.	7	**226**	20	0	**253**	2	0	8	0	10	5	320	18	0	343	21	**4**	4	0	29	
+15 mins.	11	181	9	0	201	4	**1**	**11**	0	**16**	**8**	409	15	0	432	15	2	6	0	23	
+30 mins.	**14**	171	7	0	192	4	1	6	0	11	4	**432**	16	0	**452**	**35**	1	**14**	0	**50**	
+45 mins.	8	179	**21**	0	208	**5**	0	6	0	11	4	378	**28**	**1**	411	30	3	7	0	40	
Total Volume	40	757	57	0	854	15	2	31	0	48	21	1539	77	1	1638	101	10	31	0	142	
% App. Total	4.7	88.6	6.7	0		31.2	4.2	64.6	0		1.3	94	4.7	0.1		71.1	7	21.8	0		
PHF	.714	.837	.679	.000	.844	.750	.500	.705	.000	.750	.656	.891	.688	.250	.906	.721	.625	.554	.000	.710	



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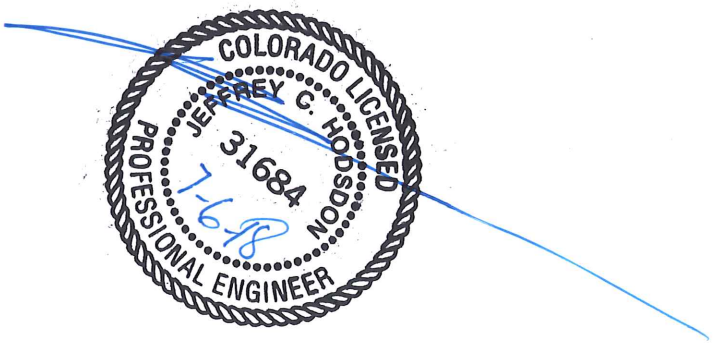
Claremont Commercial Filing No. 2
Updated Traffic Impact Study
(LSC #164840)
PCD Project No. SP-17-004
July 6, 2018

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.

7/6/18
Date

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July 6, 2018

Mr. Ron Waldthausen
Land First, Inc.
1378 Promontory Bluff View
Colorado Springs, CO 80921

RE: Claremont Commercial Filing No. 2
El Paso County, CO
Updated Traffic Impact Study
LSC #164840

Dear Ron:

LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the proposed Claremont Commercial Filing No. 2 development. The site is located northwest of US Highway (US) 24 and Marksheffel Road in El Paso County, Colorado. Access to the site is to Meadowbrook Parkway only via two proposed access points. The area is shown in Figure 1.

REPORT CONTENTS

The report contains the following:

- Existing street and traffic conditions in the vicinity of the site, including the intersection lane geometries, traffic controls, posted speed limits, functional classifications, intersection spacing and alignment, sight distances, etc.
- Existing peak-hour turning movement traffic counts and estimates of future background traffic volumes at the intersections of:
- Marksheffel Road/Meadowbrook Parkway
- Marksheffel Road/US 24
- Meadowbrook Parkway/US 24/SH 94
- Meadowbrook Parkway/north and south site accesses
- Description of the proposed land use.
- Estimates of the average weekday and peak-hour vehicle-trips to be generated by the site.
- Assignment of projected peak-hour site-generated traffic volumes at the study area and access point intersections.
- Resulting traffic impacts of the proposed development expressed in terms of intersection levels of service and vehicle queuing.
- Traffic signal warrant analysis.
- Findings and recommendations.

LAND USE AND ACCESS

Proposed Land Use

Claremont Commercial Filing No. 2 is a proposed replat of Tract C, Claremont Business Park Filing No. 2. This proposed 16-lot commercial and industrial subdivision is located northwest of the intersection of US 24 and Marksheffel Road. Site access to Meadowbrook Parkway would be via two proposed accesses, both of which would be stop-controlled full-movement intersections.

Access to the east site driveway is approximately 490 feet west of Marksheffel Road and aligns with the existing commercial full-movement access on the north side of Meadowbrook Parkway. West access is approximately 780 feet south of the east access. The site plan is shown in Figure 2. Anticipated land use is a mix of commercial and industrial park uses, with the northernmost five lots (lots 1, 2, 3, 15, and 16) expected to be developed as commercial and the remaining lots expected to be developed with industrial park uses. Future building square footage of the five lots expected to be commercial has been estimated using a 0.2 floor area ratio – 29,750 square feet.

Access sight distance will be acceptable at the proposed site access points. Overgrown weeds on the site will be removed with the start of site work. Figure 1 shows the site location and the adjacent roadways. A diagram of the internal site layout is attached in Figure 2.

Adjacent Future Development Parcels

A residential townhome development, The Villas at Claremont Ranch is proposed adjacent to the intersection of Marksheffel/Meadowbrook on the northeast corner. Other area development anticipated in the short term includes a Circle K gas station and the Meadowbrook Crossing single-family residential development—both located to the southwest adjacent to the intersection of Meadowbrook Parkway and the Meadowbrook Parkway connection to the US Highway 24/SH 94 intersection. The long-term analysis includes the remaining buildout of the Claremont Business Park and the commercial parcel northeast of US Highway 24 and Marksheffel Road.

CURRENT ROADWAY AND TRAFFIC CONDITIONS

Study Area Roadway System

Major roadways in the vicinity of the site are summarized below:

US Highway 24 (US 24) is a state highway extending locally from the City of Colorado Springs to Peyton in a northeasterly direction and then continuing east. US 24 is classified as an Expressway by the Colorado Department of Transportation (CDOT) in the vicinity of the site and is shown as an Expressway on the El Paso County *Major Transportation Corridors Plan (MTCP)*.

Marksheffel Road extends north from C&S Road to just north of Woodmen Road. The section of Marksheffel Road adjacent to the site is classified as Principal Arterial. The Marksheffel Road/US 24 intersection is currently signalized. Marksheffel Road has been upgraded to a four-lane Modified Urban Minor Arterial south of US Highway 24.

Meadowbrook Parkway is a paved, Non-Residential Collector that extends through the Claremont Business Park from the US 24/SH 94 intersection to Marksheffel Road (generally parallel to US 24). Meadowbrook Parkway continues east from Marksheffel Road into Claremont Ranch to the east. The posted speed limit is 35 miles per hour.

Existing intersection lane geometry and traffic control is shown in Figure 3.

Existing Traffic Volumes

Turning movement counts were conducted on at the intersection of Marksheffel Road/ Meadowbrook Parkway at the following times:

- Tuesday, May 18, 2017 – 6:30 to 8:30 a.m.
- Wednesday, May 19, 2017 – 11:30 a.m. to 1:30 p.m.
- Tuesday, October 10, 2017 – 2:00 to 6:00 p.m.

Existing morning (6:45-7:45 a.m.) and evening (4:30-5:30 p.m.) weekday peak-hour traffic volumes at this intersection are shown in Figure 3. Count reports are attached. Figure 3 also shows the results of turning movement counts at the commercial access points north of the site, the Meadowbrook/Highway 24 intersection, and the Highway 24/Marksheffel intersection.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 1 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 1: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C(1)	Average Control Delay (seconds per vehicle)(2)
A	≤ 10.0	< 0.60	≤ 10.0
B	10.1 – 20.0	0.60 – 0.69	10.1 – 15.0
C	20.1 – 35.0	0.70 – 0.79	15.1 – 25.0
D	35.1 – 55.0	0.80 – 0.89	25.1 – 35.0
E	55.1 – 80.0	0.90 – 0.99	35.1 – 50.0
F	≥ 80.1	≥ 1.00	≥ 50.1

(1) Source: *Transportation Research Circular 212*
(2) For unsignalized intersections, if V/C is > 1.00, then LOS is LOS F regardless of the projected average control delay per vehicle

The following existing intersections have been analyzed to determine the current levels of service: Marksheffel/Meadowbrook, US Highway 24/Marksheffel, US Highway 24/SH 94/Meadowbrook

Parkway, and Meadowbrook Parkway/full-movement access intersection to the Mobil gas station north of the site. The results of the LOS analysis are included in Table 10 (attached).

Traffic Signal Warrant Analysis

The intersection of Marksheffel/Meadowbrook has been analyzed to determine if a warrant(s) for a traffic control signal is currently met at this intersection based on the traffic data collected. The combinations of major street approach volumes (includes the sum of eastbound and westbound approach volumes) and minor street volumes (northbound left turn) were analyzed to determine **if** the combination exceeds the threshold criteria for Four-Hour and/or Eight-Hour Vehicular Volume Traffic Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices (MUTCD)*. Warrant No 7 – Crash Experience has also been evaluated.

MUTCD Warrants Analyzed

Warrant No. 2 - Four-Hour Vehicular Warrant

The MUTCD Warrant 2 (Four-Hour Vehicular Volume) contains a graph with threshold curves based on major and minor street traffic volumes, the number of intersection approach lanes on the major and minor streets and the speed of the major street. This graph is shown in MUTCD Figure 4C-1.

Warrant No. 1 - Eight-Hour Vehicular Warrant

According to "Warrant 1, Eight-Hour Vehicular Warrant", as described in Section 4C.02 of the 2009 MUTCD:

> *Standard:*
> *07 The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:*
> *A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection;* ***and***
> *B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.*

Section 4C.02 contains an option, which states that when, "*the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph… the traffic volumes in the 70-percent columns in Table 4C-1 may be used in place of the 100-percent columns*." Table 4C-1 of the MUTCD contains the minimum vehicular volumes (Condition A) and the interruption of continuous traffic volumes (Condition B) required to satisfy "Warrant 1, Eight-Hour Vehicular Volume."

Marksheffel Road has a posted speed limit of 50 mph, so the 70-percent columns in Table 4C-1 were used in place of the 100-percent columns. The intersection of Marksheffel/Meadowbrook has two major street lanes and two minor street lanes for each approach. A minimum of 630 vehicles on the major street (total of both approaches) and 70 vehicles (higher-volume minor street approach, one direction only) are required during each of the eight hours analyzed.

Warrant No. 7 - Crash Experience

According to "Warrant 7, Crash Experience", as described in Section 4C.08 of the 2009 MUTCD:

> *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 (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.*

Warrant Analysis – Marksheffel/Meadowbrook

Two one-hour periods during the morning peak period, two one-hour mid-day periods, and four one-hour periods during the afternoon have been analyzed:

- 6:30 – 8:30 a.m.
- 11:30 a.m. – 1:30 p.m.
- 2:00 – 6:00 p.m.

<u>Four-Hour Vehicular Volume Warrant</u>

Based on existing background traffic volumes only, the intersection of Marksheffel/Meadowbrook does **not** currently satisfy Four-Hour Vehicular Volume Warrant thresholds. Only three (four needed) of the eight separate one-hour periods analyzed fall above the minimum threshold curve for an intersection with two or more lanes for both the major approaches and the minor (eastbound) approach, as shown in Figure 11.

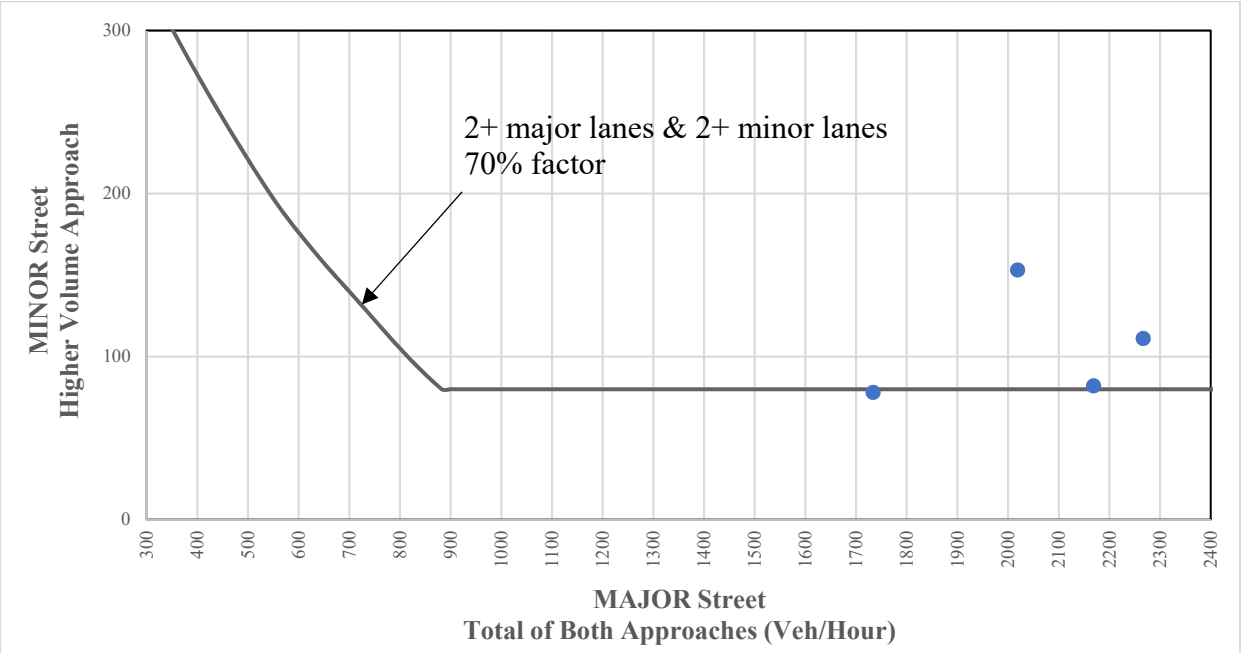


Figure 11: Four-Hour Traffic Signal Warrant Analysis Results (2017 Existing)

Table 2 shows the major/minor street volume combinations plotted in Figure 11.

Table 2: Major/Minor Street Volumes for 4-Hour Volume Signal Warrants (2017 Existing)

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
6:45 a.m.	7:45 p.m.	2169	82	Yes
3:00 p.m.	4:00 p.m.	1734	78	No
4:00 p.m.	5:00 p.m.	2267	111	Yes
5:00 p.m.	6:00 p.m.	2019	153	Yes
# of hours meeting warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				***3 / 4 (No)***

Eight-Hour Vehicular Volume Warrant

Only six of the eight one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for the existing background traffic only condition (when considering all minor street turning movement volumes). A minimum of 630 vehicles on the major street (total of both approaches) and 70 vehicles (higher-volume minor street approach, one direction only) are required during each of the eight hours analyzed. Refer to Table 3 for the major/minor street volume combinations used for the Eight-Hour Vehicular Volume Warrant analysis during the 2017 existing traffic condition.

Table 3: Major/Minor Street Volumes for 8-Hour Volume Signal Warrants (2017 Existing)

Start	End	Major Street Volume	Left Turns Only		All Turns	
			Minor Street Volume	8-Hour Warrant Threshold Met?	Minor Street Volume	8-Hour Warrant Threshold Met?
6:30	7:30	2074	30	No	77	Yes
7:30	8:30	1797	48	No	77	Yes
11:30	12:30	917	39	No	54	Yes
12:30	1:30	937	48	No	67	No
2:00	3:00	1129	52	No	75	No
3:00	4:00	1734	44	No	78	Yes
4:00	5:00	2267	77	Yes	111	Yes
5:00	6:00	2019	93	Yes	153	Yes
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				***2 / 8 (No)***	***--***	***6 / 8 (No)***

Warrant No. 7 – Crash Experience

A crash analysis was completed with the most recently available accident data (through July 2017) from the Colorado State Patrol. Detailed crash type data (i.e., property or bodily injury type, high-speed, left-turn, involving pedestrians/cyclists, etc.) was included in the crash reports. There were four total crashes at the intersection of Marksheffel/Meadowbrook in the 12 months prior to July 2017, and none of the crashes were fatal. Criteria B above, requiring five or more reported crashes, was not met in the prior 12 months. Thus, Warrant 7 is not satisfied.

SITE-GENERATED TRIP GENERATION, DISTRIBUTION, AND ASSIGNMENT

Estimates for the traffic volumes expected to be generated by the site were made using the nationally published trip generation rates from *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Land use 820 – Shopping Center has been used to estimate the trip generation for the northernmost five lots, while land use 130 – Industrial Park has been used to estimate the trip generation for the remaining lots to the south. Table 4 presents a summary of the site trip generation and a detailed estimate of trip generation is presented in Table 9 (attached).

Pass-By and Diverted Trips

The total number of trips generated by the site has also been adjusted to account for the pass-by phenomenon. A pass-by trip is one made by a motorist who would already be on an adjacent street regardless of the proposed development, but who stops in at the site while passing by. The pass-by motorist would then continue on his or her way to a final destination in the original direction. Table 9 (attached) shows the percent of the trips generated by each use that were assumed to be pass-by trips. The pass-by percentage has been based on data from the *Trip Generation Handbook – An ITE Proposed*

Recommended Practice, 3rd Edition, 2014 by ITE. LSC has adjusted the average ITE percentage as pass-by trips for this site to only include trips from adjacent Meadowbrook Parkway.

Diverted trips from adjacent US Highway 24 and Marksheffel Road are considered non-pass-by trips. These trips would be added to Meadowbrook Parkway and would result in altered turning movements at the nearby major intersections but in general would not add "new impact" trips to US Highway 24 or Marksheffel Road.

Average Daily Non-Pass-By Trips

ITE *Trip Generation* estimated that the proposed 16-lot commercial/industrial development is projected to generate about 2,924 total non-pass-by vehicle-trips on the average weekday during a 24-hour period, with about half entering the site and half exiting the site during the evening peak hour.

Peak-Hour "Driveway" Trips

During the morning peak hour, 85 vehicles are projected to enter the site while 33 are projected to exit. Approximately 128 vehicles would enter, and 169 vehicles would exit the site during the evening peak hour. The morning peak hour generally occurs for one hour between 6:30 and 8:30 a.m., and the afternoon peak hour occurs for one hour between 4:00 and 6:00 p.m. ITE totals were reduced assuming that approximately four percent of site-generated trips are projected to be internal. Table 4 shows a summary of the results of the trip generation estimate.

Table 4: Estimated Site Vehicle Trip Generation

Analysis Period	In	Out	Total
Morning Peak Hour (vehicle trips/hour)	85	35	120
Evening Peak Hour (vehicle trips/hour)	128	169	297
Weekday – Non-pass-by (vehicle trips/day)	1,462	1,462	2,924
* Please refer to Table 9 (attached) for detailed trip generation table			

Trip Distribution

Distribution of the site-generated trips to the adjacent streets and key off-site intersections is a necessary step in the process of determining the site's traffic impacts. Figure 4 shows the directional distribution estimate for the site-generated trips. The distribution shown represents estimates of percentages of site-generated vehicle-trips oriented to and from the major roadway approaches. The non-pass-by trips, including destination (primary) trips as well as trips diverted from US 24 and Marksheffel Road, have been distributed according to the percentages shown in the figure.

Separate distributions have been estimated for the commercial and industrial park land uses. These estimated percentages have been based on the following factors: the site's proposed land uses, existing and planned other development in the general area, the area roadway system, and the existing and projected peak-hour traffic volumes. The pass-by trips (from Meadowbrook Parkway) have been distributed separately based on the magnitude and direction of projected future traffic on Meadowbrook Parkway.

Trip Assignment and Site-Generated Traffic Volumes

When the directional distribution percentages (from Figure 4) were applied to the trip generation estimates (from Table 9), the site-generated traffic volumes on the adjacent streets were determined. Figure 5 shows the projected site-generated traffic volumes.

PROJECTED FUTURE BASELINE ROADWAY NETWORK AND TRAFFIC VOLUMES

The total traffic volumes on Marksheffel Road (north of Meadowbrook) represents annual growth rate of about 2.4 percent. The CDOT 20-year factor (1.77) was used to calculate the projected total traffic volumes on US Highway 24 west of Marksheffel Road.

Note: CDOT is in the process of preparing a US 24 Planning and Environmental Linkage (PEL) study. The projected daily traffic volumes presented as part of project public meetings indicate significantly higher volumes than those calculated based on the CDOT 20-year factor.

Projected lane geometry and traffic control modifications are shown in the attached Synchro reports.

US 24/Marksheffel

It is anticipated that the intersection of US 24/Marksheffel will be widened from four through lanes to six through lanes in the long term. Additionally, once funding becomes available, the intersection may be upgraded to a grade-separated interchange. The CDOT US 24 Planning and Environmental Linkage (PEL) study is in the process of identifying future lane and intersection needs.

Marksheffel/Meadowbrook

Traffic signal warrant thresholds are projected to be satisfied at the intersection of Marksheffel/ Meadowbrook in the short term (as discussed later in this report). As such, the intersection's traffic control would be converted from two-way stop-sign-controlled to signalized.

Existing Plus Site-Generated Traffic Volumes

Figure 6 shows the short-term total weekday traffic volumes, which are the sum of the site-generated weekday traffic volumes (from Figure 5) and the 2017 existing background weekday traffic volumes (from Figure 3).

Short-Term Background and Short-Term Background Plus Site-Generated Traffic Volumes

Figure 7 shows the projected short-term background (baseline) traffic volumes. These estimates have been based on the existing turning movement counts (from Figure 3) and the assumed project completion for the nearby Circle K gas station, Meadowbrook Crossing, and The Villas at Claremont. Projected short-term background plus site-generated weekday traffic volumes are shown in Figure 8.

Figure 8 shows the short-term total weekday traffic volumes, which are the sum of the site-generated weekday traffic volumes (from Figure 5) and the short-term background weekday traffic volumes (from Figure 7). Short-term traffic scenarios assume buildout of the nearby Circle K gas station, the Meadowbrook Crossing single-family residential development, and The Villas at Claremont Ranch townhome development before completion of this project.

2040 Background and 2040 Background Plus Site-Generated Traffic Volumes

Figure 9 shows the projected 2040 background traffic volumes. These have been estimated based on existing turning movement counts (from Figure 3), the *Marksheffel South Corridor Preservation Plan*, and expected future nearby development. Projected 2040 background plus site-generated weekday traffic volumes are shown in Figure 10.

Figure 10 shows the year 2040 total weekday traffic volumes, which are the sum of the site-generated weekday traffic volumes (from Figure 5) and the 2040 background weekday traffic volumes (from Figure 9).

A summary of 2040 background and background plus site-generated LOS and control delays for the study area signalized intersections and for individual turning movements during both peak hours is described below. Refer to Table 11 (attached) for a detailed table summary of each intersection.

LINK ADT VOLUME ANALYSIS/GENERAL ROADWAY LINK CAPACITY

Projected average daily traffic (ADT) volumes are within the County's design ADT threshold for the classification for streets in the vicinity of the site. For example, the County's design ADT threshold for an Urban Non-Residential Collector is 20,000 vehicles per day (vpd), which Meadowbrook Parkway is not projected to exceed in the 2040 background plus site-generated traffic scenario.

INTERSECTION LEVELS OF SERVICE

The following intersections were analyzed in Synchro and SimTraffic using the signalized method of analysis procedures from the *Highway Capacity Manual, 2010 Edition*:

- Marksheffel Road/US 24
- Marksheffel Road/Meadowbrook Parkway
- US 24/SH 94/Meadowbrook Parkway

The following intersections were analyzed in Synchro using the unsignalized method of analysis procedures from the *Highway Capacity Manual, 2010 Edition*:

- Meadowbrook Parkway/full-movement gas station/northern site access
- Meadowbrook Parkway/southern site access

A summary of projected short-term background and short-term background plus site-generated LOS and control delays during both peak hours is shown in Table 10 (attached).

Short Term

Marksheffel Road at Meadowbrook Parkway

Once signalized, this intersection is projected to operate at LOS B during both the morning and evening peak hours based on short-term background plus site-generated traffic conditions.

Meadowbrook Parkway/Site Access Points

All projected levels of service for the side street approaches and the major street left-turn movements operate at LOS B or better at both site access point intersections during both the short- and long-term scenarios. Should Marksheffel/Meadowbrook remain unsignalized, the LOS for some side street turning movements at the north site access intersection are projected to be below D during peak hours – these are based on delays estimated in the SimTraffic simulation and would be due to queue spillback from the Marksheffel intersection. Traffic turning right from the south side or left from the north side would not be able to enter Meadowbrook Parkway if the left-turn queue at the Marksheffel/Meadowbrook intersection extends back to this intersection.

Marksheffel Road/US 24

The intersection of Marksheffel Road/US 24 is projected to operate at LOS E and LOS C overall during both the morning and evening short-term peak hours, respectively. Southeast left-, northwest through-, and northwest left-turning movements are projected to operate at LOS E or worse before and after considering site-generated traffic during both peak hours. All other turning movements at this intersection are projected to operate at LOS D or better during the short term upon site buildout.

US 24/SH 94

Overall, this intersection is projected to operate at LOS C during both the short-term morning and evening peak hours. The southeast- and northwest left-turning movements at this intersection besides southwest-left are projected to operate at LOS E or worse during both peak hours based on projected short-term plus site-generated traffic conditions.

Long Term

Marksheffel Road/Meadowbrook Parkway

Overall, this intersection is projected to operate at LOS B during the 2040 morning peak hour and LOS C during the 2040 evening peak hour, both before and after considering site-generated traffic. Traffic modeling analysis assumed a traffic signal would be installed at the intersection of Marksheffel Road/Meadowbrook Parkway by 2040 and that the signal timings would be coordinated with the intersection of US 24/Marksheffel further to the south. Analysis shows several side street approaches operating at LOS E. Levels of service in the E range are due to the

assumed long cycle length and minimum phase splits for eastbound/westbound to maximize green time and signal progression for northbound Marksheffel Road.

Meadowbrook Parkway/Site Access Points

All projected long-term levels of service for side street approaches and major street left-turn movements operate at LOS C or better at both site access point intersections.

Marksheffel Road/US 24

The intersection of Marksheffel Road/US 24 is projected to operate at LOS F overall during the 2040 morning peak hour and LOS E during the 2040 evening peak hour, with and without considering site-generated traffic. All left-turning movements are projected to operate at LOS E or worse before and after considering site-generated traffic during the morning peak hour. High through volumes on US 24 and a high eastbound to northbound left-turn volume (background traffic) are projected to result in LOS E overall operational performance during the 2040 evening peak hour.

US 24/SH 94

Due to high through volumes on US 24 and a high left-turn volume from westbound SH 94 to westbound US 24 (background traffic), the intersection of US 24/SH 94/Meadowbrook Parkway is projected to operate at LOS F overall during the 2040 morning peak hour and LOS E overall during the 2040 evening peak hour. All left-turning movements besides southwest-left are projected to operate at LOS E or worse during both 2040 peak hours. All other approaches are projected to operate at LOS D or better.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of Marksheffel/Meadowbrook has the potential to meet (a) warrant(s) for a traffic control signal in the future. The combinations of projected major street approach volumes (includes the sum of eastbound and westbound approach volumes) and minor street volumes (northbound left turn) were analyzed to determine **if** the combination would exceed the threshold criteria for Four-Hour and/or Eight-Hour Vehicular Volume Traffic Signal Warrants in the *2009 Manual on Uniform Traffic Control Devices (MUTCD)*.

Projected volumes for two one-hour periods during the morning peak period, two one-hour midday periods, and four one-hour periods during the afternoon have been analyzed:

- 6:30 – 8:30 a.m.
- 11:30 a.m. – 1:30 p.m.
- 2:00 – 6:00 p.m.

The Four-Hour Volume and Eight-Hour Volume Warrant criteria have been presented earlier in the Existing Conditions section of this report.

Short-Term Background Conditions

Based on the short-term background traffic condition, an eight-hour warrant would be met based on the side street left turn movements only using the two-or-more lanes and one-lane criteria.

Short-Term Background Plus Site Conditions

The need for a traffic signal at the intersection of Marksheffel/Meadowbrook was assessed for the short-term background condition. Turning movement counts for this scenario (shown in Figure 7) assumed project completion for the nearby Circle K gas station, Meadowbrook Crossing, and The Villas at Claremont Ranch townhomes. Site-generated traffic volumes associated with this project were not considered in this scenario.

Four-Hour Vehicular Volume Warrant

Results from the four-hour traffic signal warrant analysis for the short-term background plus site traffic scenario are shown in the Warrant 2, Four-Hour Vehicular Volume (MUTCD Figure 4C-1) signal warrant chart in Figure 12. Projected combined major/minor street volumes for four separate one-hour periods during the afternoon peak **would** be above the minimum threshold curve for an intersection with two or more lanes for the major approaches and one lane for the minor approach. Thus, a Four-Hour Vehicular Volume warrant would be satisfied.

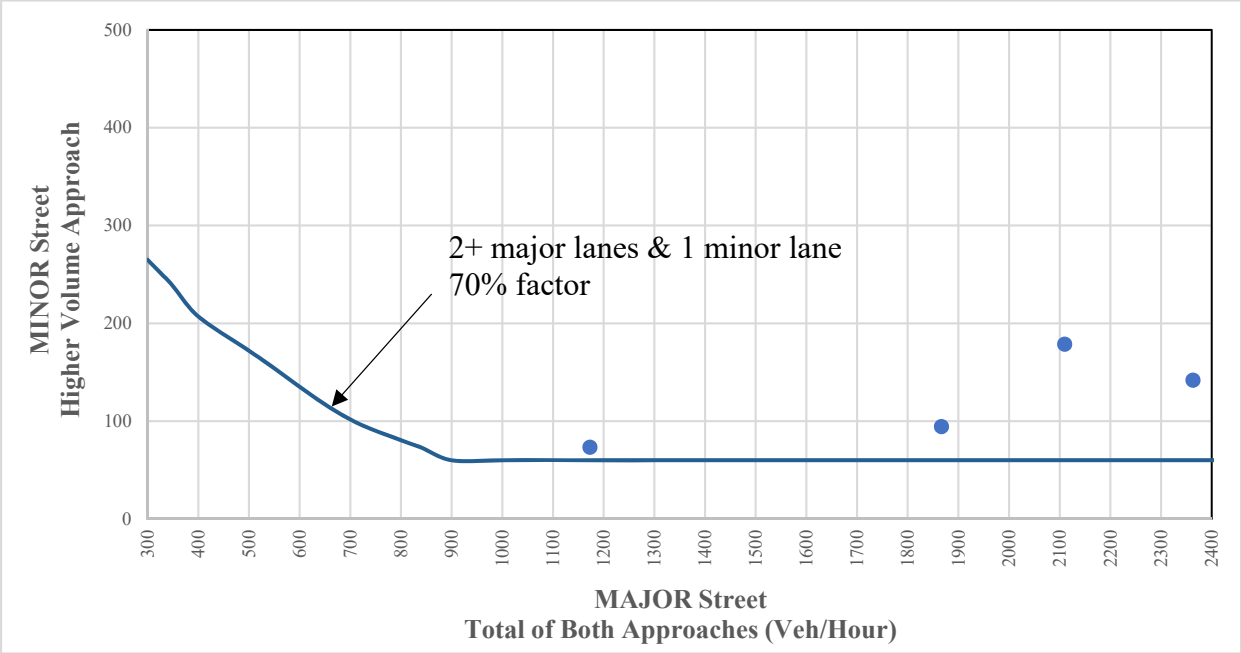


Figure 12: Four-Hour Traffic Signal Warrant Analysis Results

Table 5 shows the major/minor street volume combinations plotted in Figure 12.

Table 5: Major/Minor Street Volumes for Four-Hour Volume Signal Warrant (Short-Term Background Plus Site Traffic Condition)

Start	End	Major Street Volume	Minor Street Volume	4-Hour Warrant Threshold Met?
7:30	8:30	1867	94	Yes
3:00	4:00	1173	73	Yes
4:00	5:00	2363	142	Yes
5:00	6:00	2110	179	Yes
# of hours meeting warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				***4 / 4 (Yes)***

Eight-Hour Vehicular Volume Warrant

All eight one-hour analysis periods are projected to meet eight-hour vehicular volume criteria for the short-term background plus site-generated traffic condition (when evaluating left-turning volumes only from the minor street). A minimum of 630 vehicles on the major street (total of both approaches) and 70 vehicles (higher-volume minor street approach, one direction only) are required during each of the eight hours analyzed. Refer to Table 6 for the major/minor street volume combinations used for the Eight-Hour Vehicular Volume Warrant analysis.

Table 6: Major/Minor Street Volumes for Eight-Hour Signal Warrants (Short-Term Background Plus Site Traffic Condition)

Start	End	Major Street Volume	Left Turns Only		All Turns	
			Minor Street Volume	8-Hour Warrant Threshold Met?	Minor Street Volume	8-Hour Warrant Threshold Met?
6:30	7:30	2148	63	Yes	80	Yes
7:30	8:30	1867	94	Yes	98	Yes
11:30	12:30	944	60	Yes	62	No
12:30	1:30	983	80	Yes	82	Yes
2:00	3:00	1173	84	Yes	89	Yes
3:00	4:00	1787	73	Yes	75	Yes
4:00	5:00	2363	142	Yes	146	Yes
5:00	6:00	2110	179	Yes	195	Yes
# of hours meeting respective warrant thresholds/hours required to satisfy the warrant (warrant satisfied?)				***8 / 8 (Yes)***	***-***	***7 / 8 (No)***

VEHICLE QUEUING ANALYSIS

A queuing analysis was performed for the eastbound approach at the intersection of Meadowbrook Road/Marksheffel Road and for the westbound left turn at the east site access. Queue lengths have

also been projected for other key turning movements at this intersection. Table 7 and Table 8 present the results of the analysis.

Both tables show the anticipated available back-to-back left-turn vehicle storage lengths and the available stacking distance between the two intersections for the eastbound through/right lane. These left-turn stacking lengths have been based on the short- and long-term striping plans for Meadowbrook Parkway. The latter distance is a function of the intersection spacing.

The short-term and long-term analyses assume restriping for dual left-turn lanes and the addition of an eastbound right turn lane on this same approach. These analyses have been run utilizing the projected short-term background plus site-generated and 2040 background plus site-generated traffic volumes.

Figure 14 contains a visual of the key turning movements analyzed with respect to queuing in Table 7 and Table 8 at the intersection of Marksheffel/Meadowbrook and the proposed north site access on Meadowbrook Parkway.

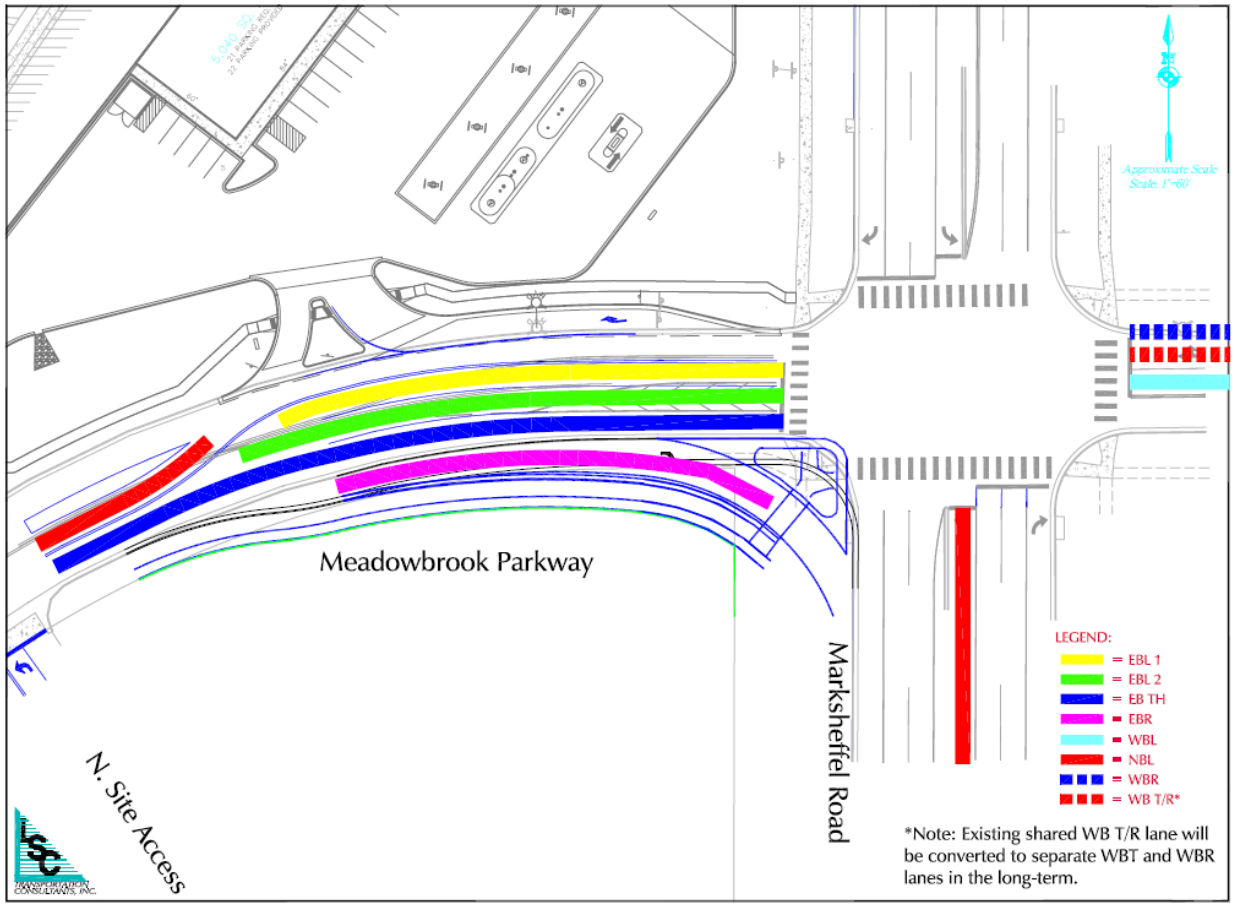


Figure 14: Queuing Analysis Lane Configurations

Short-Term Background Plus Site-Generated Buildout Queuing

Table 7 summarizes queueing analysis results assuming short-term site buildout traffic is added to the projected short-term background traffic volumes and that an exclusive eastbound right-turn lane be added. The effective left-turn lane stacking length for this eastbound approach will be about 235 feet based on the proposed lane exhibit. Simulations indicated that if the intersection were to **remain stop-sign-controlled**, the queue would exceed the stacking length 100 percent of the time during the morning peak hour and 60 percent of the time during the evening peak hour. If a traffic signal is installed, the eastbound left-turn lane queue is **not** projected to exceed the available stacking distance during either peak hour.

Table 7: Queuing Analysis Results (Short-Term Background Plus Site-generated Traffic)

Intersection	Lane	Storage	Max Queue (ft)		Storage Block Time (%)	
		Length (ft)	AM	PM	AM	PM
Traffic Control: Assuming Current Two-Way Stop-Control						
Marksheffel @ Meadowbrook	EBL 1	225'	398'	372'	100%	60%
	EBL 2	N/A -- TWSC not allowed for approaches w/ 2 left turn lanes				
	EBT	375'	441'	339'	0%	0%
	EBR	235'	121'	276'	0%	0%
	WBL	400'	50'	46'	0%	0%
	WB T/R	---	137'	89'	0%	0%
	NBL	425 '	109'	62'	0%	0%
N Access	WBL	85'	25'	35’	0%	0%
Traffic Control: w/ Traffic Signal						
Marksheffel @ Meadowbrook	EBL 1	235'	88'	138'	0%	0%
	EBL 2	235'	98'	167'	0%	0%
	EBT	375'	24'	56'	0%	0%
	EBR	235'	38'	74'	0%	0%
	WBL	400'	45'	71'	0%	0%
	WB T/R	---	97'	84'	0%	0%
	NBL	425 '	86'	86'	0%	0%
N Access	WBL	85'	31'	43'	0%	0%

Regarding the northbound left-turn lane on Marksheffel Road approaching Meadowbrook Parkway, the available stacking distance of 425 feet would provide adequate storage capacity for projected queues.

The proposed westbound left-turn lane into the north site access point from Meadowbrook Parkway is 85 feet long plus taper. This available stacking distance would provide adequate storage capacity for projected site driveway volumes.

2040 Background Plus Site-Generated Queuing

Assuming restriping for future dual eastbound left-turn lanes, the addition of an exclusive eastbound right-turn lane on the Meadowbrook Parkway approach to Marksheffel Road and based on projected 2040 projected total volumes, the maximum eastbound left-turn queue is projected to be about 147 and 291 feet upon site buildout during the morning and evening peak hours, respectively, for the inner and outer left-turn lanes. The effective left-turn storage length of the outside left-turn lane will be about 235 feet, as shown on the Meadowbrook Parkway lane exhibit. Simulation indicated no eastbound left-turn storage block time during the morning peak hour. The percentages of upstream block times by the inner and outer left-turn lanes are projected to be 1 and 4 percent of the evening peak hour, respectively.

Table 8: Queuing Analysis Results (2040 Background Plus Site-generated Traffic)

Intersection	Lane	Storage	Max Queue (ft)		Storage Block Time (%)	
		Length (ft)	AM	PM	AM	PM
2040 Background + Site (Signal)						
Marksheffel @ Meadowbrook	EBL 1	225'	134'	257'	0%	1%
	EBL 2	225'	147'	291'	0%	4%
	EBT	375'	32'	156'	0%	0%
	EBR	235'	127'	125'	0%	0%
	WBL	400'	223'	216'	0%	0%
	WBT	---	70'	71'	0%	0%
	WBR	400'	78'	130'	0%	0%
	NBL	425'	202'	99'	0%	0%
N Access	WBL	85'	57'	52'	0%	0%

The maximum projected northbound left-turn queue on Marksheffel Road approaching Meadowbrook Parkway is projected to be about 202 feet and 99 feet long during the 2040 morning and evening peak hours, respectively. These queue lengths are based on the projected long-term total traffic volumes, assuming traffic signal control at this intersection. The full-width lane length not including taper is about 425 feet.

The proposed westbound left-turn lane into the north driveway from Meadowbrook Parkway is 85 feet long plus taper. The queuing analysis indicates the projected maximum queue for this turn lane would reach a length of 52 feet.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

Anticipated site land uses consisting of commercial uses on the north portion and industrial park uses on the south portion of the site are projected to generate about 2,924 external, non-pass-by vehicle-trips on the average weekday, with about half entering and half exiting the site. Projected morning **peak-hour** trip generation for the site (total "driveway" trips) is 85 entering and 35 exiting

trips. Projected evening **peak-hour** trip generation for the site (total "driveway" trips) is 128 entering and 169 exiting trips. Both estimates assume that about four percent of the commercial site-generated trips to be internal.

Level of Service Analysis

The intersection of Marksheffel/Meadowbrook is projected to operate at LOS B during both the morning and evening peak hours upon site buildout, assuming a traffic signal is installed. If the intersection were to remain two-way stop sign-controlled, all eastbound and westbound turn lanes are projected to operate at LOS F with significant control delay. Overall, this intersection is projected to operate at LOS B during the 2040 morning peak hour and LOS C during the 2040 evening peak hour if signalized, both before and after considering site-generated traffic. All proposed site access points are projected to operate at satisfactory levels of service, assuming the intersection of Marksheffel/Meadowbrook is signalized. Please refer to the Level of Service section above for the complete and detailed intersection LOS analysis.

Traffic Signal Warrant Analysis

The intersection of Marksheffel/Meadowbrook is projected to meet the MUTCD thresholds for both a Four-Hour and Eight-Hour Vehicular Volume Traffic Signal Warrant in the **short-term background traffic scenario** based on the eight hours analyzed. This scenario assumes buildout of the nearby planned Circle K gas station, Meadowbrook Crossing subdivision, and The Villas at Claremont Ranch proposed townhome project. Signal warrants are guidelines and a decision to install this traffic signal and the timing of installation rests with El Paso County. The traffic signal at Meadowbrook/Marksheffel will likely need to be coordinated with the signal at US Highway 24/ Marksheffel.

Queuing Analysis

A queuing analysis was performed for the Meadowbrook/Marksheffel intersection. Short-term scenario simulations indicate that if the intersection were to remain **stop-sign-controlled**, the left-turn lane queue would exceed the available stacking length 100 percent of the time during the peak 15-minute interval of the morning peak hour. If a **traffic signal** were to be installed, the queue would not exceed the stacking length during either the morning and evening peak hours.

Long-term simulations indicated that the eastbound left-turn queue is projected to exceed this lane length 19 percent of the time during the peak 15-minute interval during the evening peak hour.

Please refer to the Queuing Analysis section above for the complete queuing analysis and queue length results.

Intersection Lane Configuration and Traffic Control Recommendations

Current and recommended intersection lane configurations are shown in the attached Meadowbrook Parkway lane exhibit. As discussed in the Traffic Signal Warrant Analysis section earlier in this

report, it is recommended that a traffic signal be installed at the intersection of Marksheffel/ Meadowbrook in the short term.

The following intersection lane configuration modifications are recommended, by intersection:

- Marksheffel/Meadowbrook:
  - Eastbound – restripe for dual left-turn lanes (once needed); the attached lane exhibit shows a concept for the future eastbound exclusive right turn lane. The dimensions/horizontal geometry of this future turn lane represent an LSC concept only and are subject to change with the future design to be prepared by the County. The applicant will dedicate 17-feet of right-of-way to accommodate this future right turn lane.
  - Westbound – A separate westbound right-turn lane on Meadowbrook Parkway may need to be added with the future commercial development on the southeast corner of the intersection. It is our understanding that sufficient land will be provided by the proposed townhome development on the northeast corner to accommodate a future exclusive right turn lane.
- Meadowbrook/site accesses:
  - Westbound – auxiliary left-turn bays for entering vehicles – accomplished through restriping.
- Marksheffel/US 24 and US 24/Meadowbrook:
  - The CDOT PEL study is currently evaluating the options for expansion of US Highway 24. The Marksheffel widening project was recently completed.

Auxiliary Turn Lane Recommendations

According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive left-turn lanes shall be provided for any access on a Minor Arterial or Collector with a projected peak-hour ingress turning volume of 25 vehicles per hour (vph) or greater. The projected left turn volumes at both site access points are expected to exceed the minimum left-turn volume thresholds outlined in the *ECM* upon site buildout.

Please refer to the Meadowbrook Parkway lane exhibit (reduced copy attached), which shows the proposed long-term configuration of the back-to-back left-turn lanes on Meadowbrook Parkway between the northeast site access and Marksheffel Road and between the north and south access points for this project. The outside eastbound left-turn lane at Marksheffel/Meadowbrook may be striped-out until operation with dual left-turn lanes is necessary. Per comments from El Paso County and follow-up discussions, the applicant will dedicate an additional 17 feet of right-of-way on the south side of Meadowbrook Parkway between Marksheffel and the northeast access point. This will be to accommodate a future exclusive eastbound right-turn lane at the intersection of Meadowbrook/Marksheffel. NOTE: The lane exhibit shows a future eastbound right turn lane and this report includes the future right turn lane in the traffic operations analysis. However, the dimensions/horizontal geometry of this future turn lane represent an LSC concept only and are subject to change with the future design to be prepared by the County.

The applicant agrees to ROW preservation on Lots 3 and 4 - between the two proposed access points- such that if additional ROW is needed by El Paso County for future improvements, this additional

land will be made available to the County to accommodate improvements as needed (to be determined with the future design to be prepared by the County).

Northeast-bound right-turn deceleration lanes would not be needed at either of the two site access points.

Traffic Signal Cost-Sharing/Participation

This project has no direct responsibility/obligation for funding the planned traffic signal at Marksheffel/Meadowbrook. This property is part of the Central Marksheffel Metropolitan District, which is responsible for funding the planned signal. However, in lieu of an escrow amount toward the future signal, the applicant will dedicate the 17 feet of additional right-of-way needed on the south side of Meadowbrook Parkway between Marksheffel and the northeast site access. Also, the applicant agrees to ROW preservation on Lots 3 and 4 – between the two proposed access points - such that if additional ROW is needed by El Paso County for future improvements, this additional land will be made available to the County to accommodate improvements as needed (to be determined with the future design to be prepared by the County).

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH:JAB:bjwb

Enclosures: Table 9 – Table 11
Figure 1 – Figure 10
Meadowbrook Parkway Lane Exhibit
Traffic Count Reports
Level of Service Reports
Queuing Analysis Reports

Table 9: Trip Generation Estimate and Comparison

ITE				Trip Generation Rates [1]						Driveway Trips				
Code	Description	Value	Units	Avg Weekday Traffic	A.M.		P.M.		% Internal Trips	Avg Weekday Traffic	A.M.		P.M.	
					In	Out	In	Out			In	Out	In	Out
820	Shopping Center	27.80	KSF[2]	106.30	1.53	0.83	4.21	4.57	4%	2837	42	23	117	127
130	Industrial Park	6.26	Acres[3]	61.17	6.81	1.39	1.79	6.74	0%	383	43	9	11	42
									Total	**3220**	**85**	**32**	**128**	**169**

ITE			Pass-by Trips						Non-Pass-by Trips					
Code	Description	% Pass-by Trips	Avg Weekday Traffic	A.M.		P.M.		% Non-Pass-by Trips	Avg Weekday Traffic	A.M.		P.M.	
				In	Out	In	Out			In	Out	In	Out
820	Shopping Center	10%	296	4	2	12	13	90%	2541	38	21	105	114
130	Industrial Park	0%	0	0	0	0	0	100%	383	43	9	11	42
		Total	**296**	**4**	**2**	**12**	**13**	**Total**	**2924**	**81**	**29**	**117**	**156**

(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers (ITE)
(2) KSF = 1,000 square feet of floor space
(3) Note: “Acres” refers to developable acres

Table 10: Comparison of Projected Peak-Hour LOS and Control Delays by Intersection (A.M.)

Scenario	US 24 @ Marksheffel										Marksheffel @ Meadowbrook Pkwy										US 24 @ SH 94/Meadowbrook Pkwy										Meadowbrook			South Access				North Access/Mobil				
	Control	Overall	SEL	SET	NWL	NWT	NEL	NET	SWL	SWT	Control	Overall	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Control	Overall	SEL	SET	NWL	NWT	NEL	NET	SWL	SWT	Control	NER	SWL	Control	WBL	WBR	SBL	Control	NBL	NBR	WBL	SBL
LOS																																									
Short-Term Background	Signal	E	F	C	E	C	F	C	F	D	TWSC	F	F	F	F	F	B	A	A	A	Signal	C	E	D	E	D	D	B	A	C	Two-Way Stop Sign Control	A	A	Two-Way Stop Sign Control	-	-	-	Two-Way Stop Sign Control	-	-	-	-
Short-Term Background		E	F	C	E	C	F	C	F	D	Signal	B	D	C	D	C	B	B	A	A		C	E	D	E	D	D	B	A	C		A	A		-	-	-		-	-	-	-
Short-Term Background + Site		E	F	C	E	C	F	C	F	D	TWSC	F	F	F	F	F	C	A	A	A		C	E	D	E	D	D	B	A	C		A	A		B	A	A		F	F	A	F
Short-Term Background + Site		E	F	C	E	C	F	C	F	D		B	D	E	D	C	B	B	A	A		C	E	D	E	D	D	B	A	C		A	A		B	A	A		A	A	A	B
2040 Background		F	F	C	E	D	F	C	F	D	Signal	B	D	D	E	E	D	B	A	B		F	E	D	F	D	E	B	A	F		C	C		-	-	-		-	-	-	-
2040 Background + Site		F	F	C	E	D	F	C	F	D		B	D	E	E	E	E	B	A	B		F	E	D	F	D	F	B	A	F		C	C		B	A	A		C	A	A	B

Table 11: Comparison of Projected Peak-Hour LOS and Control Delays by Intersection (P.M.)

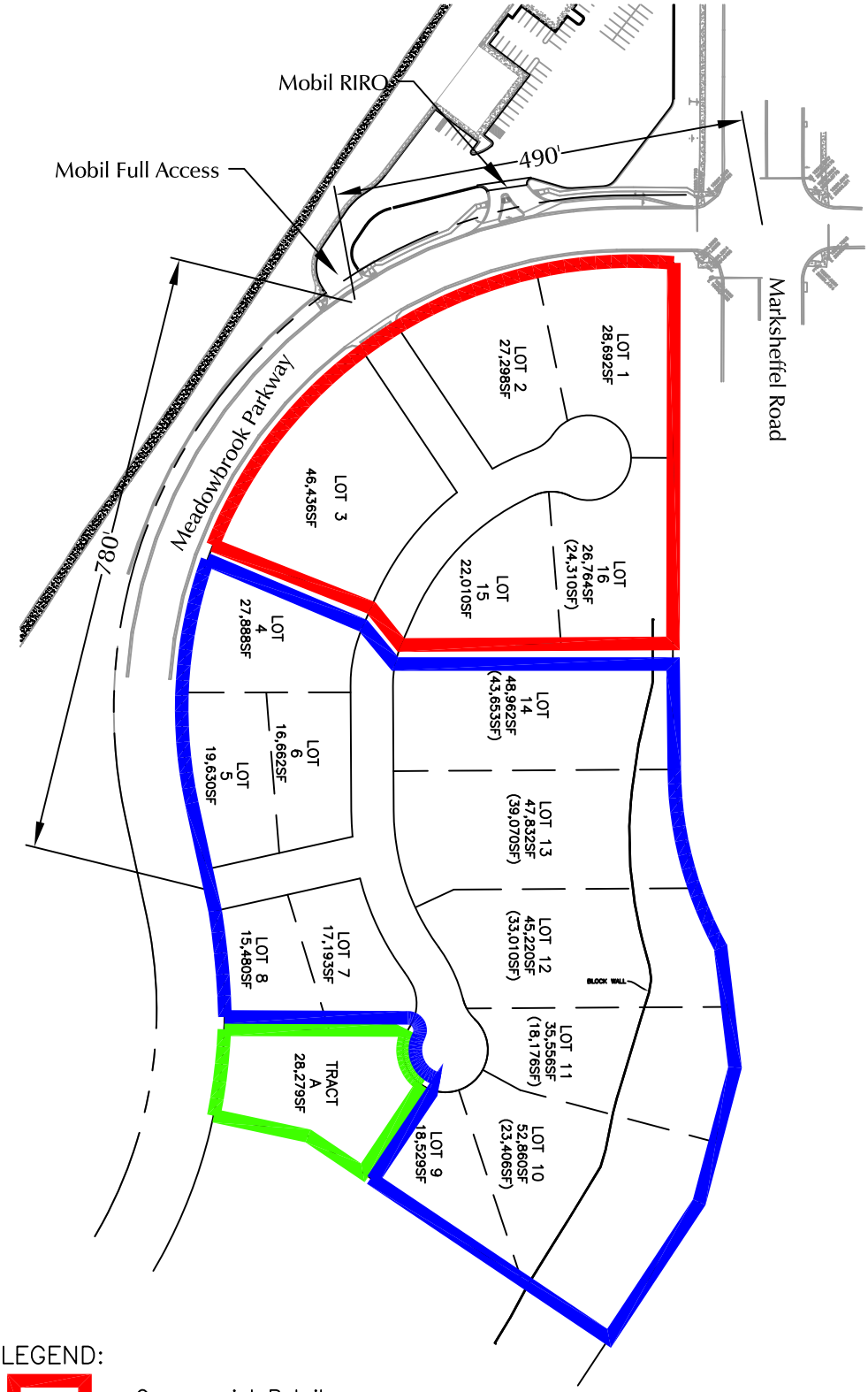
Scenario	US 24 @ Marksheffel										Marksheffel @ Meadowbrook Pkwy										US 24 @ SH 94/Meadowbrook Pkwy										Meadowbrook			South Access				North Access/Mobil				
	Control	Overall	SEL	SET	NWL	NWT	NEL	NET	SWL	SWT	Control	Overall	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Control	Overall	SEL	SET	NWL	NWT	NEL	NET	SWL	SWT	Control	NER	SWL	Control	WBL	WBR	SBL	Control	NBL	NBR	WBL	SBL
LOS																																									
Short-Term Background	Signal	C	F	C	E	D	D	B	E	D	TWSC	F	F	F	F	F	A	A	A	A	Signal	C	E	D	F	D	B	B	A	B	Two-Way Stop Sign Control	A	A	Two-Way Stop Sign Control	-	-	-	Two-Way Stop Sign Control	-	-	-	-
Short-Term Background		C	F	C	E	D	D	B	E	D	Signal	A	D	D	D	C	A	A	A	A		C	E	D	F	D	B	B	A	B		A	A		-	-	-		-	-	-	-
Short-Term Background + Site		C	F	C	E	D	D	C	E	D	TWSC	F	F	E	E	B	A	A	A	A		C	E	D	F	D	B	B	A	B		A	A		B	A	A		**C**	**E**	A	**C**
Short-Term Background + Site		C	F	C	E	D	D	C	E	D		B	D	E	D	C	A	A	A	B		C	E	D	F	D	B	B	A	B		A	A		B	A	A		A	A	A	A
2040 Background		E	F	C	E	E	F	D	F	D	Signal	C	E	D	E	E	A	C	D	B		E	F	E	F	D	F	C	A	B		A	F		-	-	-		-	-	-	-
2040 Background + Site		E	F	C	E	E	F	D	F	D		C	E	E	D	E	A	C	D	B		E	F	E	F	D	F	C	A	B		A	F		C	B	A		B	B	A	C

Approximate Scale
Scale: 1"= 1,200'

Figure 1

Vicinity Map

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Approximate Scale
Scale: 1"= 200'

LEGEND:

= Commercial Retail

= Industrial Park

= Drainage Area

Figure 2

Site Plan

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)

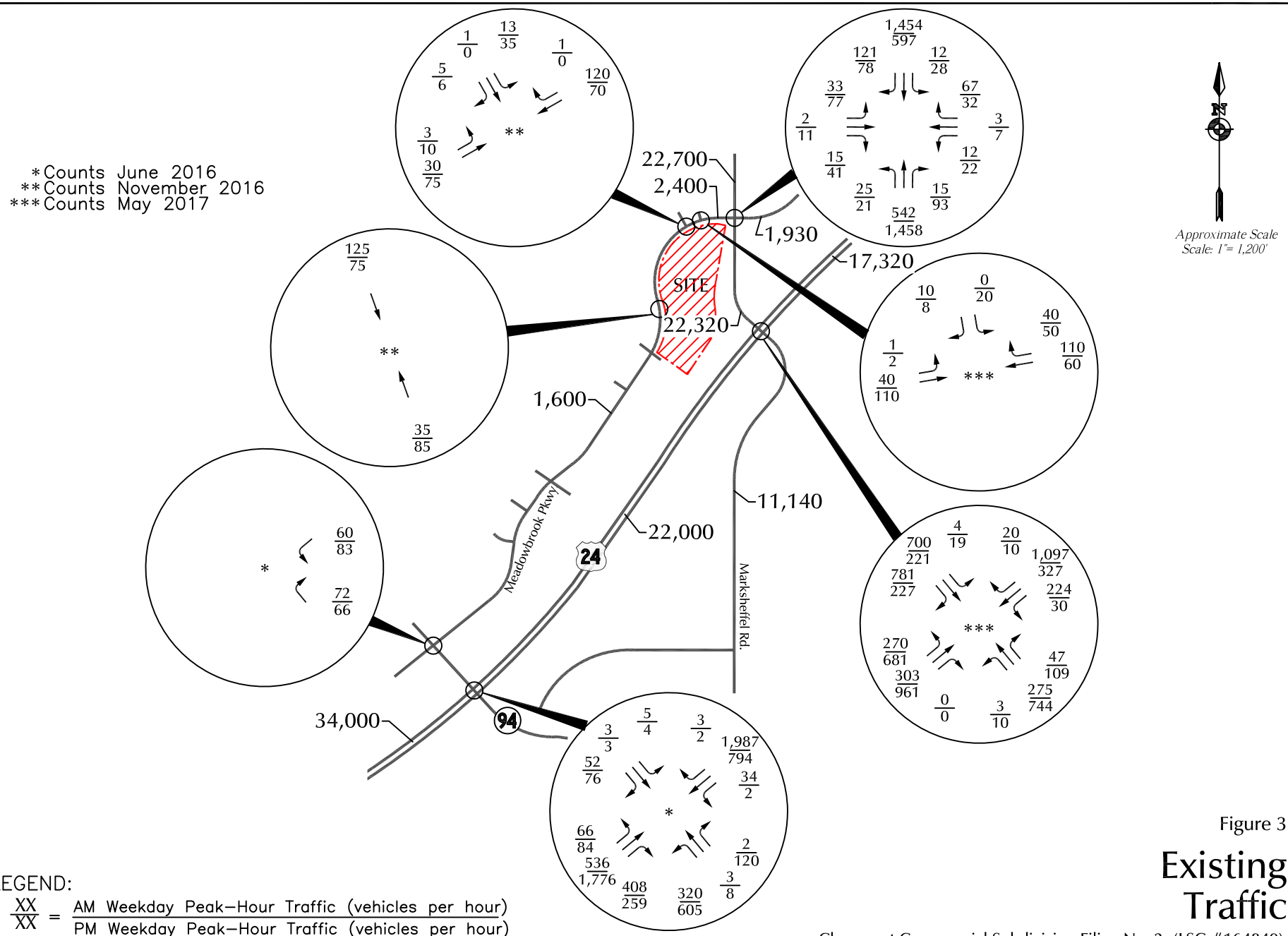
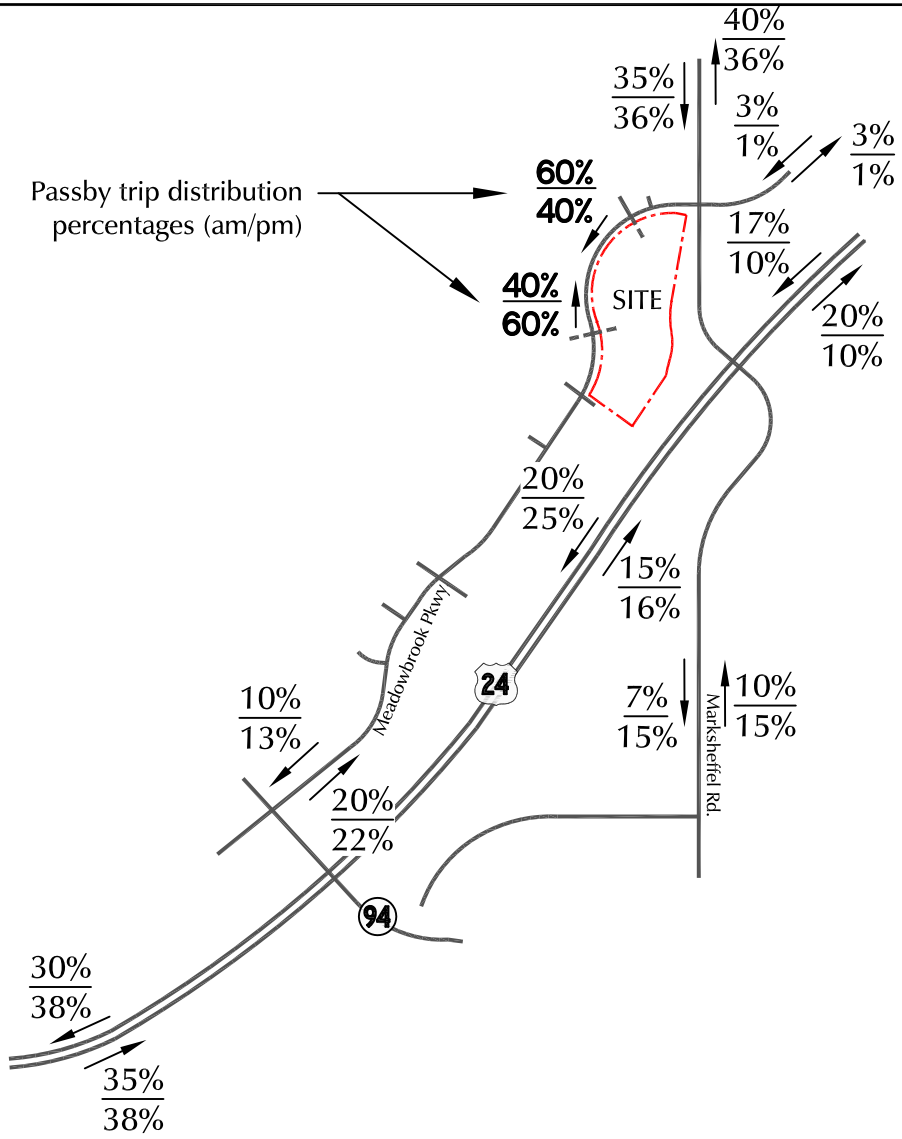


Figure 3

Existing Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Approximate Scale
Scale: 1"= 1,200'

LEGEND:

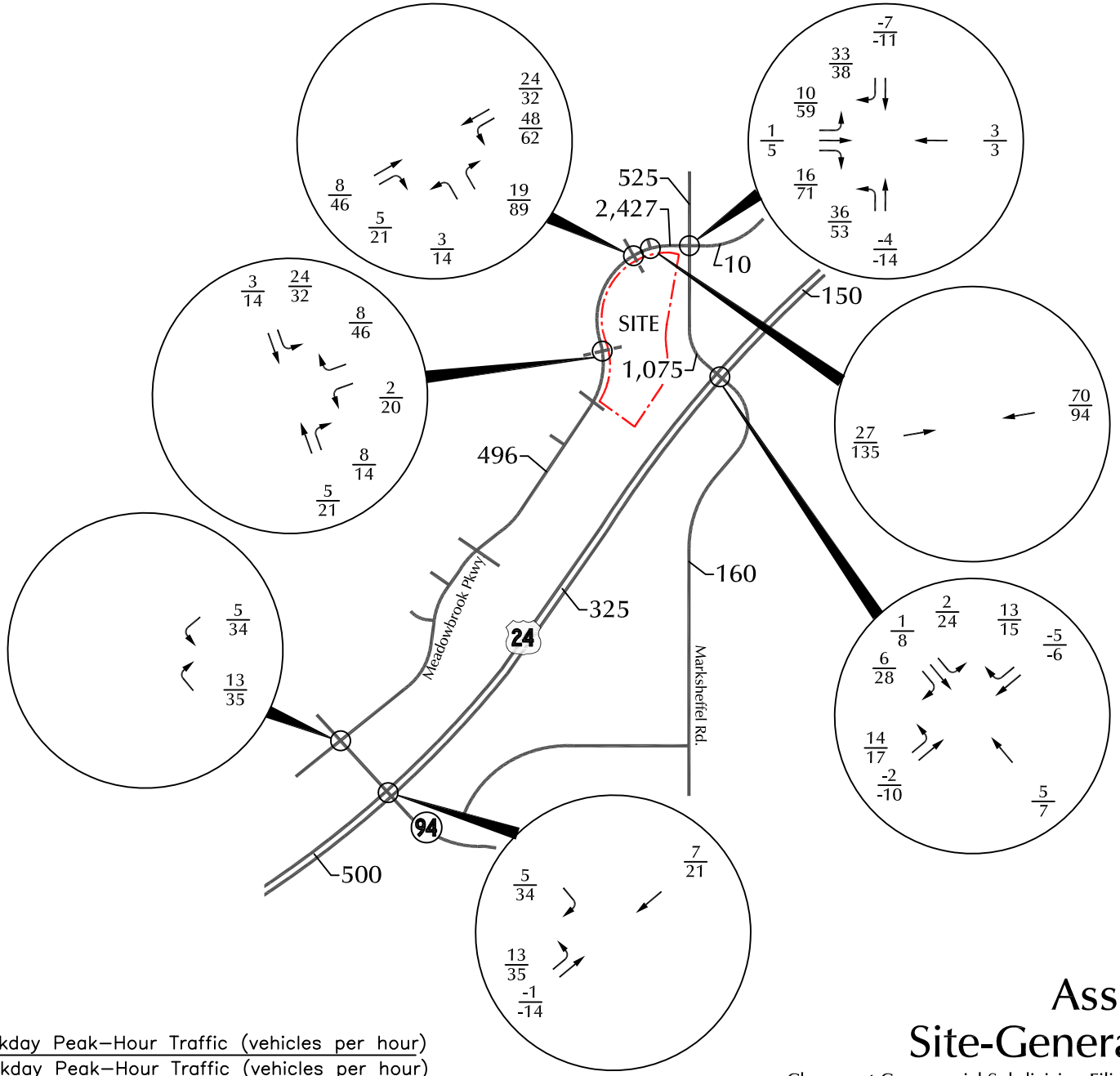
$\frac{35\%}{25\%}$ = $\frac{\text{Percent Directional Distribution (Commercial)}}{\text{Percent Non–Passby* Trip Directional Distribution (Industrial Park)}}$

*Blended percentages of primary + diverted trips distribution

Figure 4

Directional Distribution of Site-Generated Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



LEGEND:

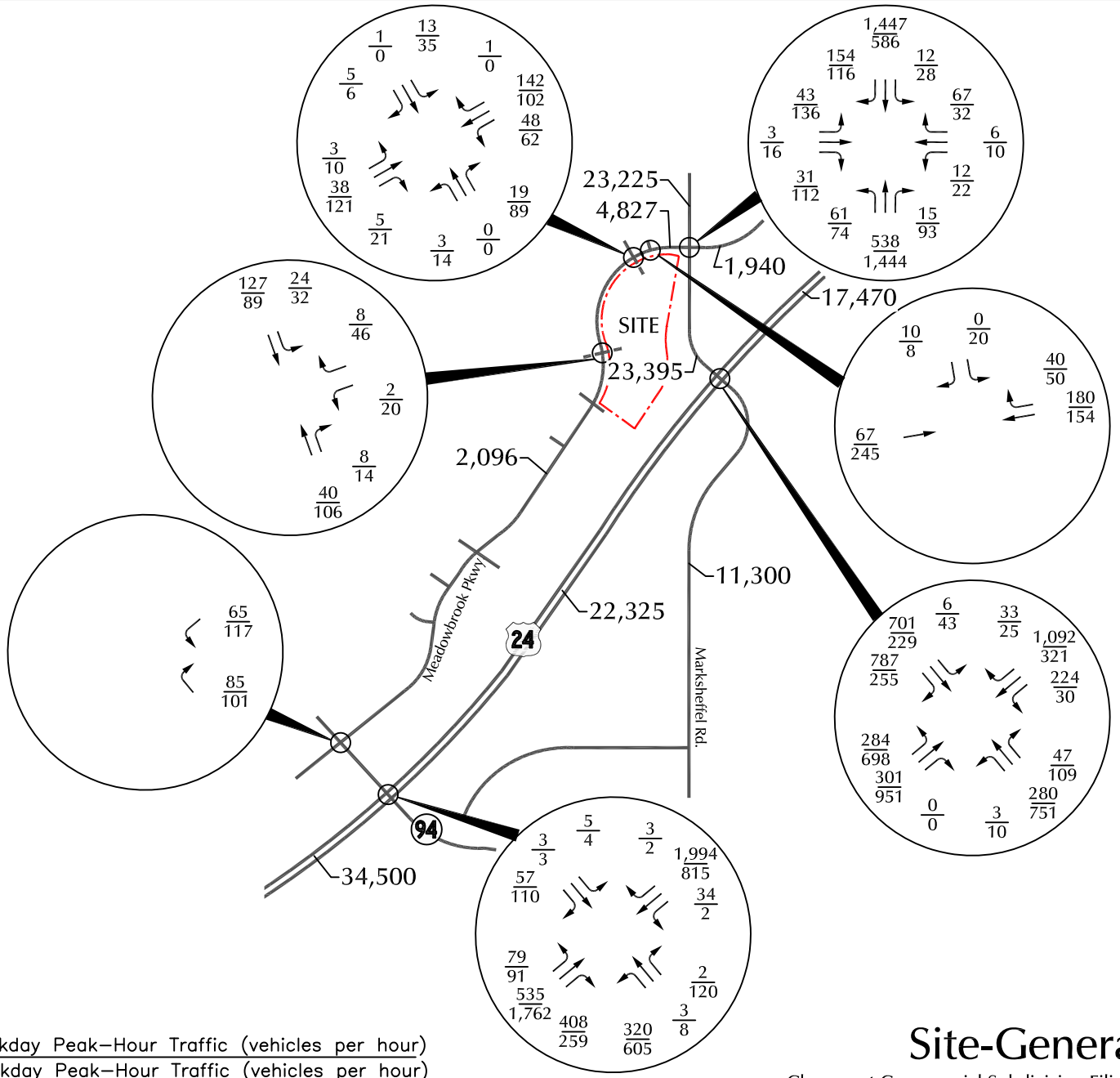
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 5

Assignment of Site-Generated Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Approximate Scale
Scale: 1"= 1,200'

LEGEND:

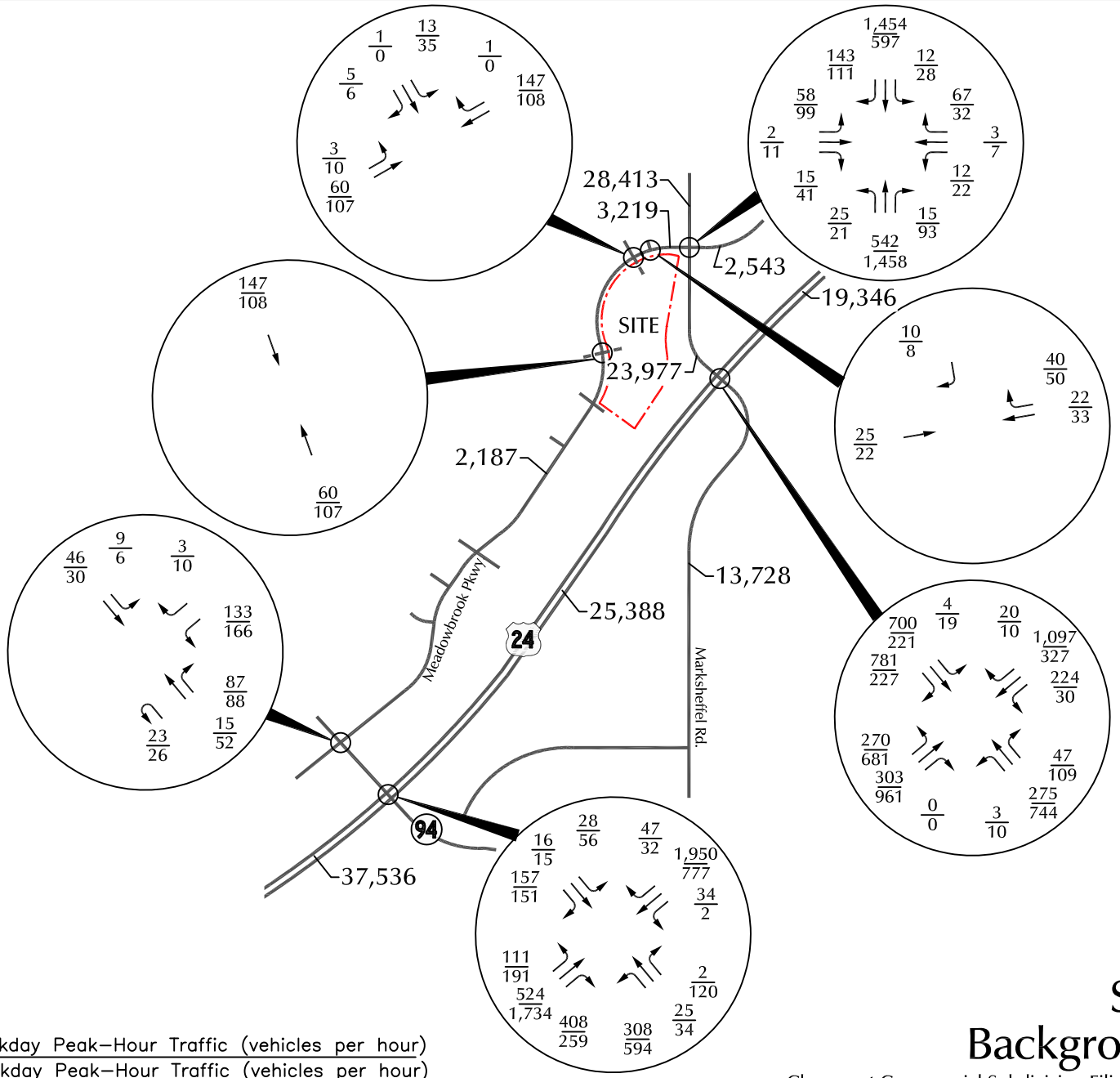
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 6

Existing + Site-Generated Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Approximate Scale
Scale: 1"= 1,200'

LEGEND:

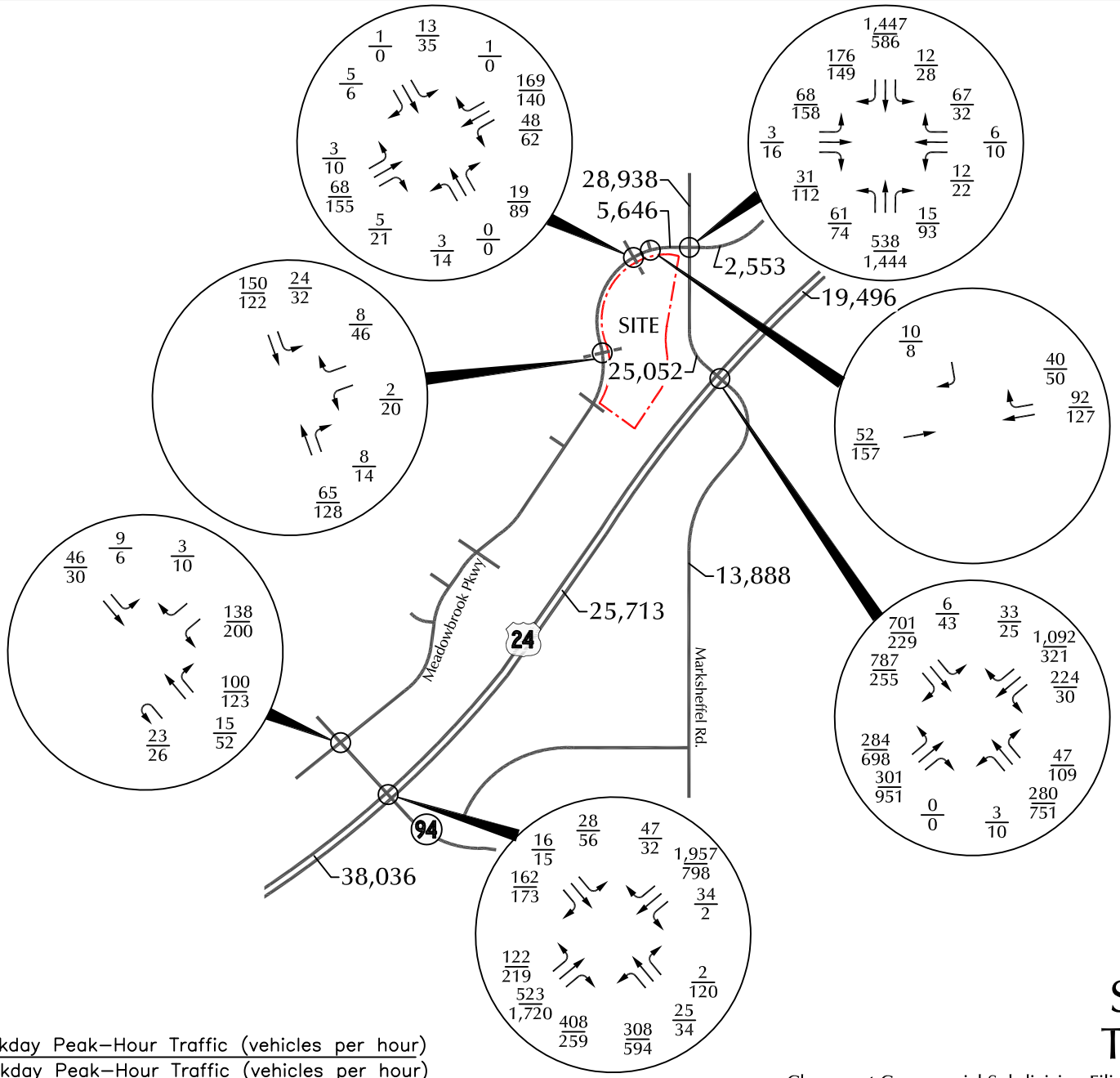
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 7

Short-Term Background Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Approximate Scale
Scale: 1"= 1,200'

LEGEND:

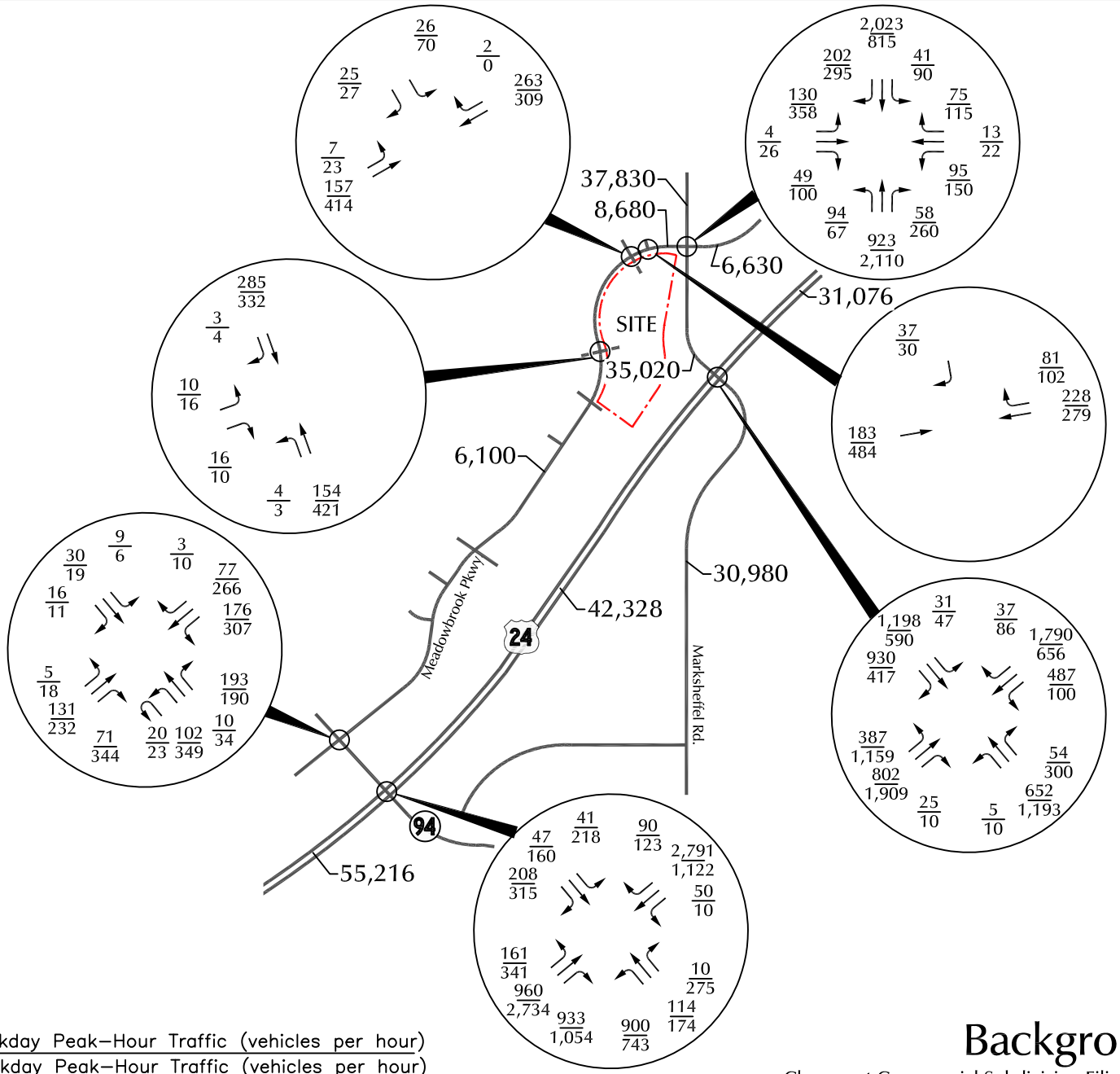
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 8

Short-Term Total Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



LEGEND:

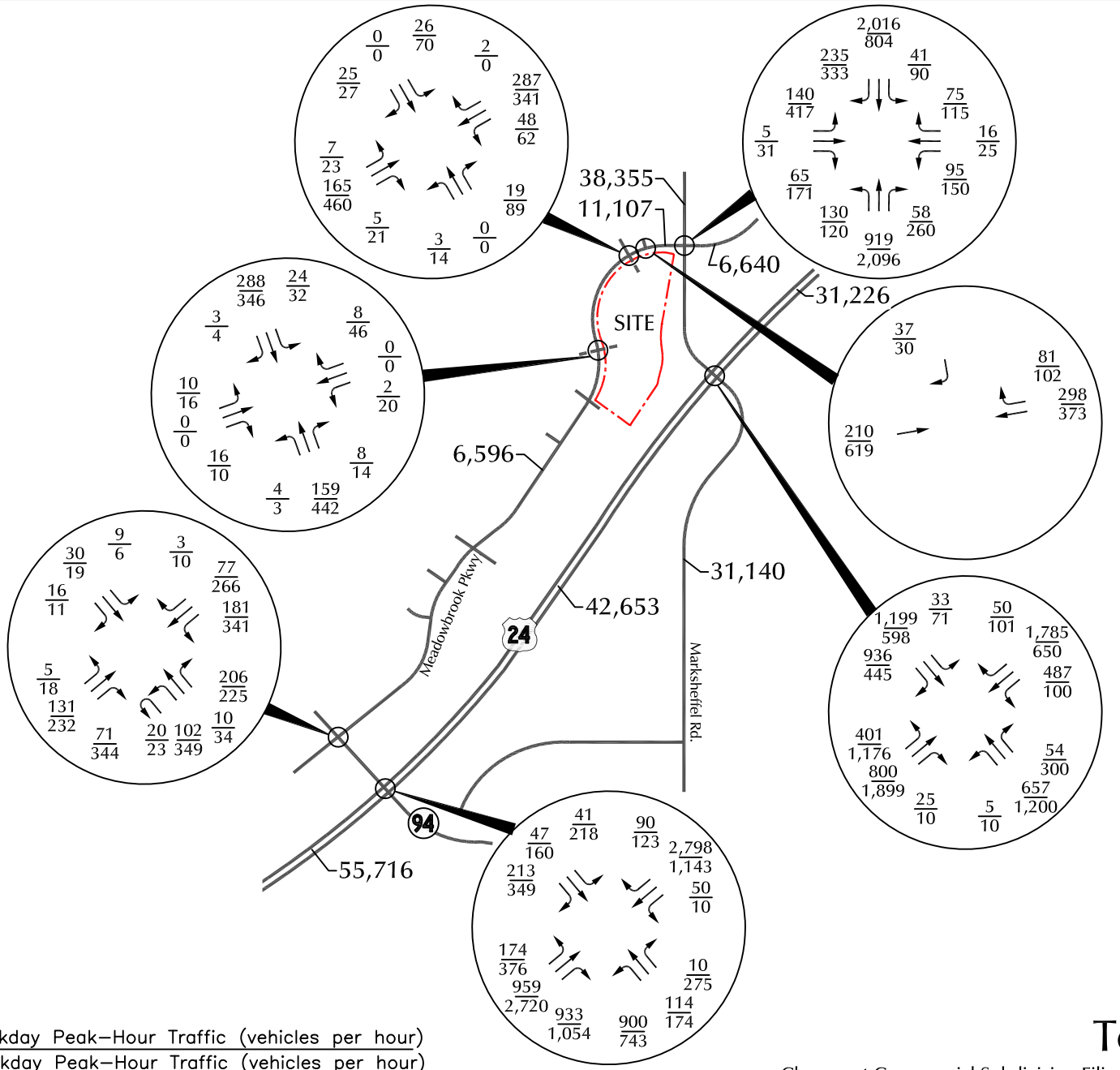
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 9

Year 2040 Background Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



LEGEND:

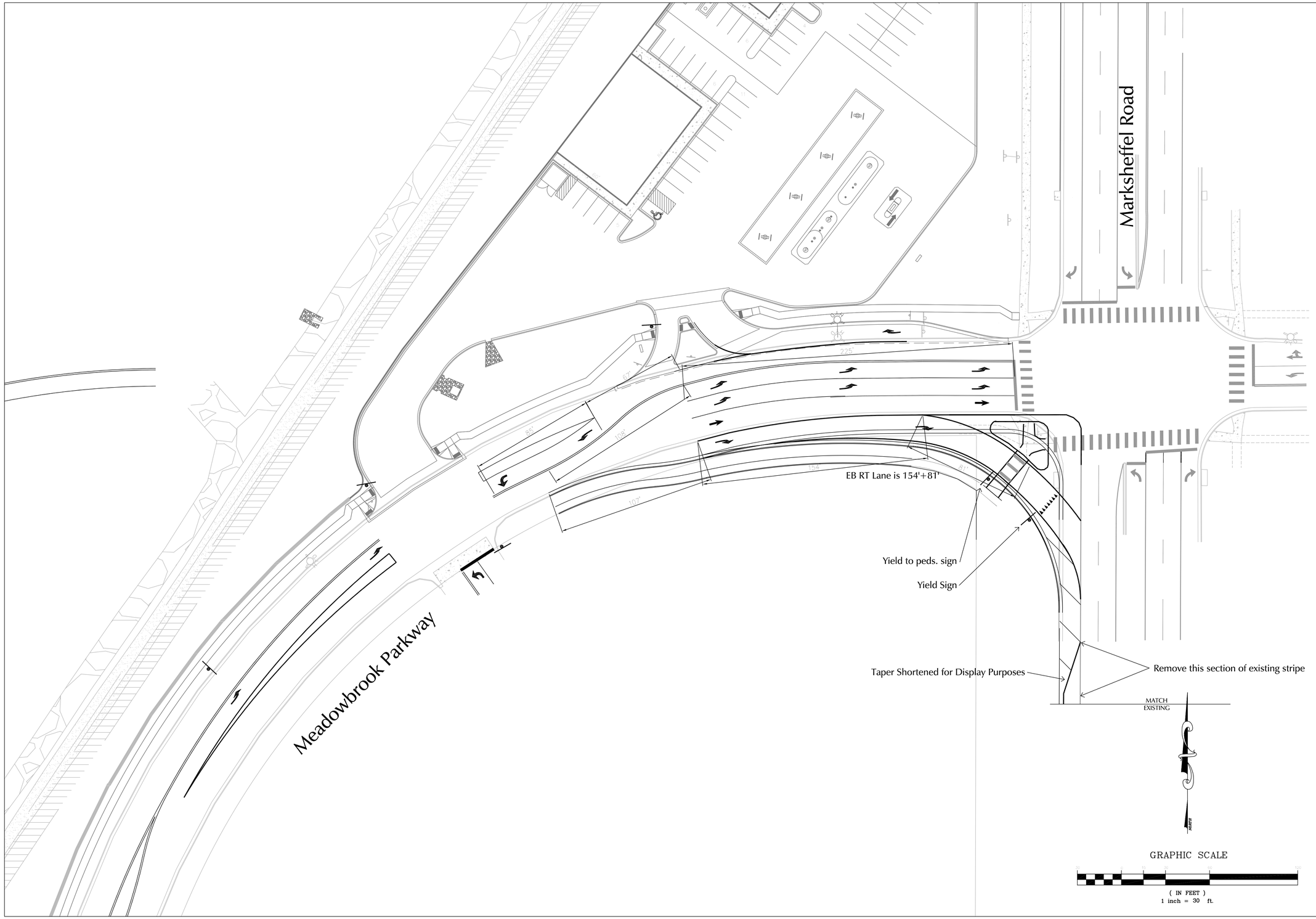
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Daily Traffic

Figure 10

Year 2040 Total Traffic

Claremont Commercial Subdivision Filing No. 2 (LSC #164840)



Auxiliary Lane Length Exhibit
Meadowbrook Parkway Deviation Request
Meadowbrook Parkway @ Markshеffel Road

LSC TRANSPORTATION CONSULTANTS
LSC TRANSPORTATION CONSULTANTS, INC.
545 E. Pikes Peak Ave, Suite 210 Colorado Springs, Co, 80903
TELEPHONE: 719.633.2868 FAX: 719.633.5430

Project Manager
JEFFREY C. HODSDON, PE, PTOE

REVISIONS	DATE

DATE: 4/30/2018
SCALE: 1" = 30'
DRAWN BY: JCH
JOB NO.: 144671
DWG: 144671_6.dwg

SHT NO. : 1

OF 1

Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel - Meadowbrook Pkwy AM
Site Code : 00174080
Start Date : 05/17/2017
Page No : 1

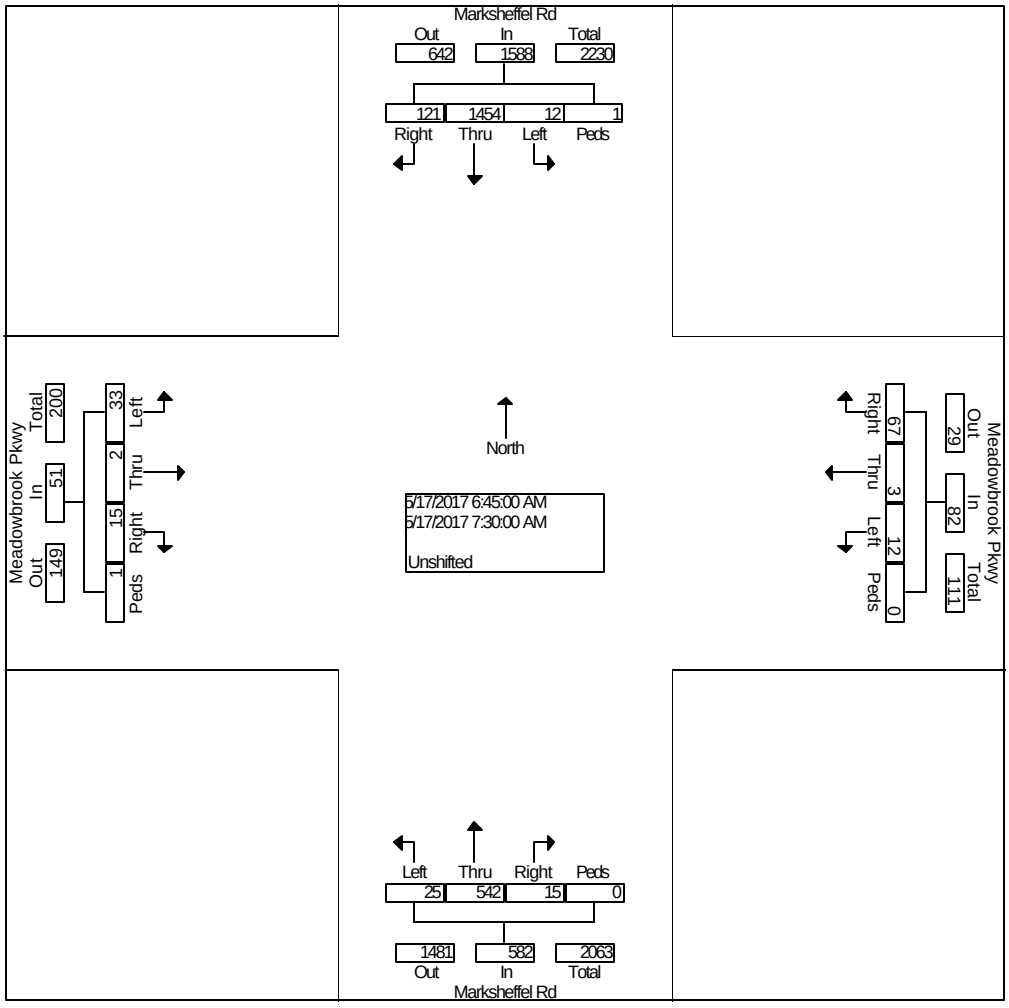
Groups Printed- Unshifted

	Marksheffel Rd From North				Meadowbrook Pkwy From East				Marksheffel Rd From South				Meadowbrook Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	16	318	1	0	10	1	6	0	2	120	2	0	4	0	8	0	488
06:45 AM	32	336	1	0	13	0	4	0	2	143	11	0	3	1	8	0	554
Total	48	654	2	0	23	1	10	0	4	263	13	0	7	1	16	0	1042
07:00 AM	24	377	3	1	21	1	6	0	4	124	5	0	7	1	8	0	582
07:15 AM	32	370	4	0	12	2	1	0	2	140	5	0	1	0	6	1	576
07:30 AM	33	371	4	0	21	0	1	0	7	135	4	0	4	0	11	0	591
07:45 AM	19	300	6	0	9	2	6	0	11	132	8	0	4	1	11	0	509
Total	108	1418	17	1	63	5	14	0	24	531	22	0	16	2	36	1	2258
08:00 AM	14	279	8	0	14	3	5	0	3	99	3	0	5	1	13	0	447
08:15 AM	16	219	4	0	8	0	8	0	7	110	5	0	7	2	13	0	399
Grand Total	186	2570	31	1	108	9	37	0	38	1003	43	0	35	6	78	1	4146
Apprch %	6.7	92.2	1.1	0.0	70.1	5.8	24.0	0.0	3.5	92.5	4.0	0.0	29.2	5.0	65.0	0.8	
Total %	4.5	62.0	0.7	0.0	2.6	0.2	0.9	0.0	0.9	24.2	1.0	0.0	0.8	0.1	1.9	0.0	

Counts by LSC

File Name : Marksheffel - Meadowbrook Pkwy AM
Site Code : 00174080
Start Date : 05/17/2017
Page No : 2

	Marksheffel Rd From North					Meadowbrook Pkwy From East					Marksheffel Rd From South					Meadowbrook Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	121	1454	12	1	1588	67	3	12	0	82	15	542	25	0	582	15	2	33	1	51	2303
Percent	7.6	91.6	0.8	0.1		81.7	3.7	14.6	0.0		2.6	93.1	4.3	0.0		29.4	3.9	64.7	2.0		
07:30 Volume	33	371	4	0	408	21	0	1	0	22	7	135	4	0	146	4	0	11	0	15	591
Peak Factor																					0.974
High Int.	07:30 AM					07:00 AM					06:45 AM					07:00 AM					
Volume	33	371	4	0	408	21	1	6	0	28	2	143	11	0	156	7	1	8	0	16	
Peak Factor					0.973					0.732					0.933					0.797	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Meadowbrook 10-10 Noon
Site Code : 00164840
Start Date : 10/10/2017
Page No : 1

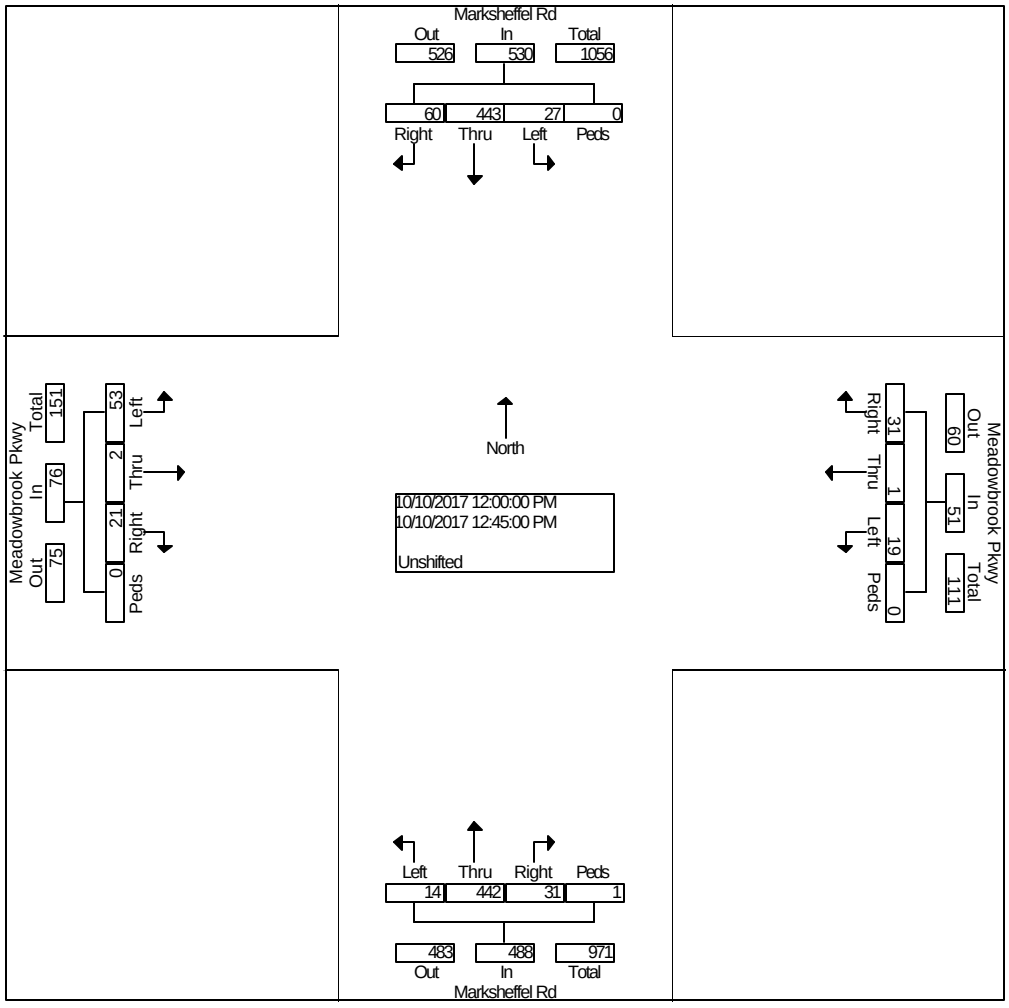
Groups Printed- Unshifted

	Marksheffel Rd From North				Meadowbrook Pkwy From East				Marksheffel Rd From South				Meadowbrook Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:30 AM	12	89	3	0	0	1	4	0	9	88	3	0	2	1	7	0	219
11:45 AM	13	91	4	0	13	1	5	0	10	91	5	0	2	0	8	0	243
Total	25	180	7	0	13	2	9	0	19	179	8	0	4	1	15	0	462
12:00 PM	12	96	3	0	10	0	6	0	10	99	1	0	4	1	13	0	255
12:15 PM	15	108	11	0	8	1	2	0	12	128	4	0	5	0	11	0	305
12:30 PM	15	129	5	0	8	0	7	0	4	114	4	0	6	1	12	0	305
12:45 PM	18	110	8	0	5	0	4	0	5	101	5	1	6	0	17	0	280
Total	60	443	27	0	31	1	19	0	31	442	14	1	21	2	53	0	1145
01:00 PM	16	100	4	0	6	1	1	0	9	78	3	1	4	0	9	0	232
01:15 PM	15	98	4	0	3	1	2	0	6	84	2	0	1	1	10	0	227
Grand Total	116	821	42	0	53	5	31	0	65	783	27	2	30	4	87	0	2066
Apprch %	11.8	83.9	4.3	0.0	59.6	5.6	34.8	0.0	7.4	89.3	3.1	0.2	24.8	3.3	71.9	0.0	
Total %	5.6	39.7	2.0	0.0	2.6	0.2	1.5	0.0	3.1	37.9	1.3	0.1	1.5	0.2	4.2	0.0	

Counts by LSC

File Name : Marksheffel Rd - Meadowbrook 10-10 Noon
Site Code : 00164840
Start Date : 10/10/2017
Page No : 2

	Marksheffel Rd From North					Meadowbrook Pkwy From East					Marksheffel Rd From South					Meadowbrook Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 11:30 AM to 01:15 PM - Peak 1 of 1																					
Intersection	12:00 PM																				
Volume	60	443	27	0	530	31	1	19	0	51	31	442	14	1	488	21	2	53	0	76	1145
Percent	11.3	83.6	5.1	0.0		60.8	2.0	37.3	0.0		6.4	90.6	2.9	0.2		27.6	2.6	69.7	0.0		
12:30 Volume	15	129	5	0	149	8	0	7	0	15	4	114	4	0	122	6	1	12	0	19	305
Peak Factor																					0.939
High Int.	12:30 PM					12:00 PM					12:15 PM					12:45 PM					
Volume	15	129	5	0	149	10	0	6	0	16	12	128	4	0	144	6	0	17	0	23	
Peak Factor					0.889					0.797					0.847					0.826	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel Rd - Meadowbrook 10-10 Mid
Site Code : 00164840
Start Date : 10/10/2017
Page No : 1

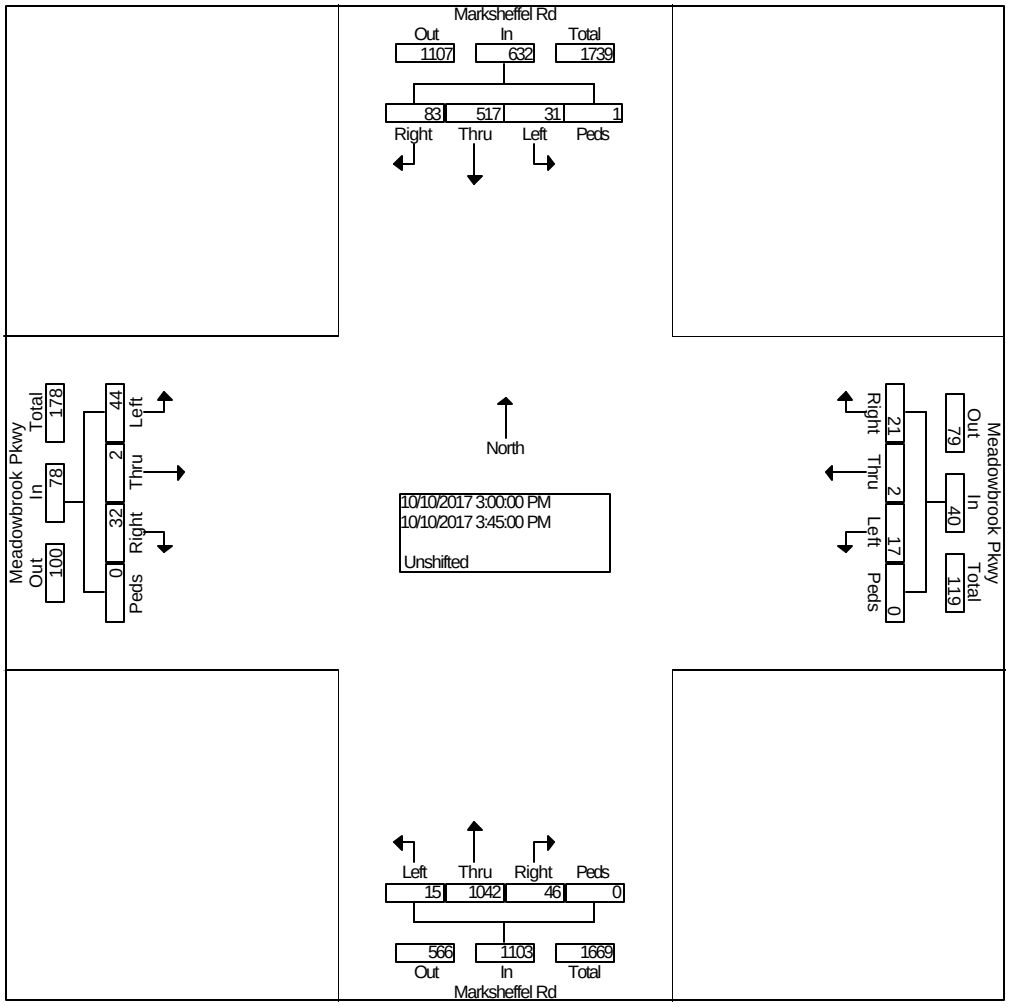
Groups Printed- Unshifted

	Marksheffel Rd From North				Meadowbrook Pkwy From East				Marksheffel Rd From South				Meadowbrook Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
02:00 PM	10	118	2	0	1	0	4	0	6	112	4	0	5	0	16	0	278
02:15 PM	20	118	4	1	5	1	1	0	3	117	3	0	3	3	16	0	295
02:30 PM	14	104	5	0	4	0	1	0	8	170	4	0	5	2	11	0	328
02:45 PM	18	100	4	0	5	0	0	0	3	177	5	0	5	0	9	0	326
Total	62	440	15	1	15	1	6	0	20	576	16	0	18	5	52	0	1227
03:00 PM	17	111	6	0	4	0	4	0	10	218	1	0	7	1	14	0	393
03:15 PM	19	143	10	0	5	0	5	0	8	237	4	0	6	0	5	0	442
03:30 PM	20	134	6	0	6	1	6	0	15	298	5	0	10	1	11	0	513
03:45 PM	27	129	9	1	6	1	2	0	13	289	5	0	9	0	14	0	505
Total	83	517	31	1	21	2	17	0	46	1042	15	0	32	2	44	0	1853
Grand Total	145	957	46	2	36	3	23	0	66	1618	31	0	50	7	96	0	3080
Apprch %	12.6	83.2	4.0	0.2	58.1	4.8	37.1	0.0	3.8	94.3	1.8	0.0	32.7	4.6	62.7	0.0	
Total %	4.7	31.1	1.5	0.1	1.2	0.1	0.7	0.0	2.1	52.5	1.0	0.0	1.6	0.2	3.1	0.0	

Counts by LSC

File Name : Marksheffel Rd - Meadowbrook 10-10 Mid
Site Code : 00164840
Start Date : 10/10/2017
Page No : 2

	Marksheffel Rd From North					Meadowbrook Pkwy From East					Marksheffel Rd From South					Meadowbrook Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Intersection	03:00 PM																				
Volume	83	517	31	1	632	21	2	17	0	40	46	1042	15	0	1103	32	2	44	0	78	1853
Percent	13.1	81.8	4.9	0.2		52.5	5.0	42.5	0.0		4.2	94.5	1.4	0.0		41.0	2.6	56.4	0.0		
03:30 Volume	20	134	6	0	160	6	1	6	0	13	15	298	5	0	318	10	1	11	0	22	513
Peak Factor																					0.903
High Int.	03:15 PM					03:30 PM					03:30 PM					03:45 PM					
Volume	19	143	10	0	172	6	1	6	0	13	15	298	5	0	318	9	0	14	0	23	
Peak Factor					0.919					0.769					0.867					0.848	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Marksheffel - Meadowbrook Pkwy PM
Site Code : 00174080
Start Date : 05/17/2017
Page No : 1

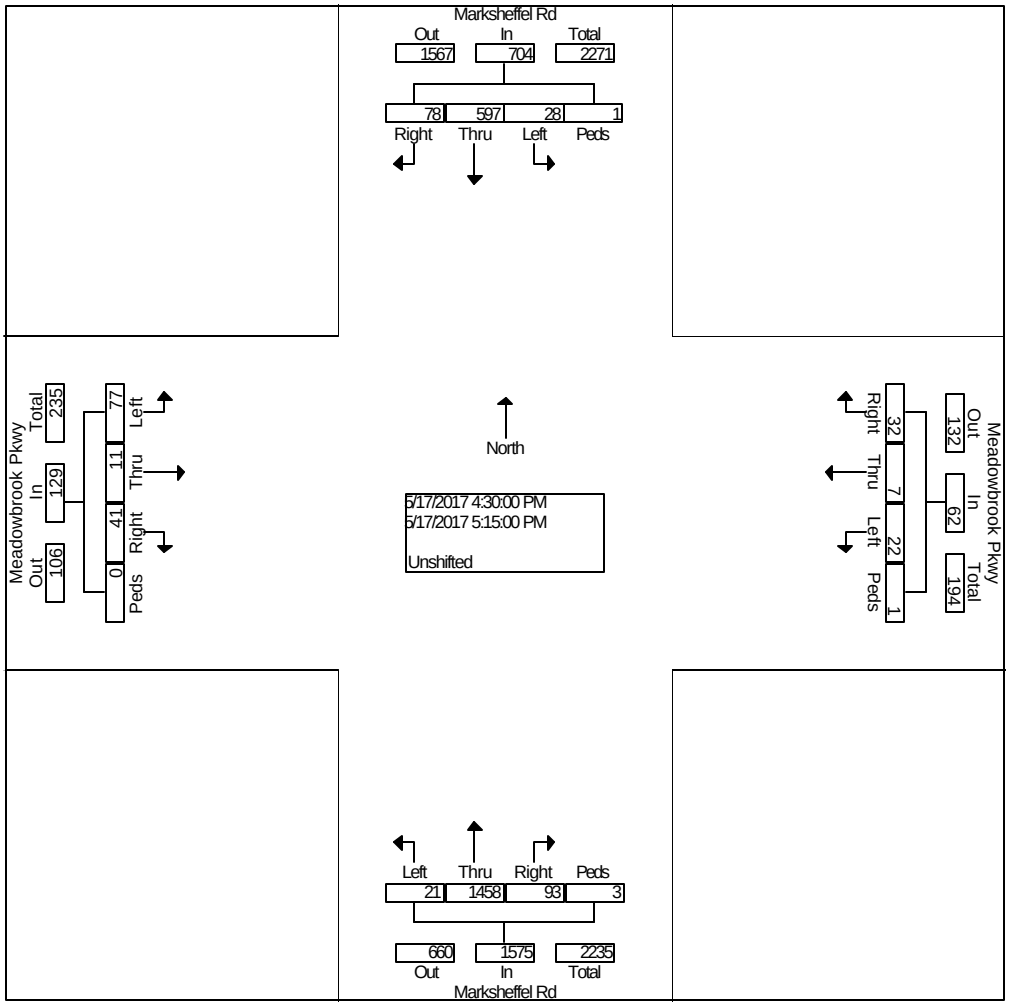
Groups Printed- Unshifted

	Marksheffel Rd From North				Meadowbrook Pkwy From East				Marksheffel Rd From South				Meadowbrook Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	13	148	13	1	6	2	5	0	13	347	7	1	8	1	23	0	588
04:15 PM	28	121	8	0	7	2	1	0	19	365	6	0	7	1	29	0	594
04:30 PM	13	157	4	0	4	2	8	0	15	374	2	1	8	2	13	0	603
04:45 PM	25	132	5	0	6	0	7	1	26	419	7	0	7	0	12	0	647
Total	79	558	30	1	23	6	21	1	73	1505	22	2	30	4	77	0	2432
05:00 PM	18	156	8	1	10	2	3	0	24	322	8	1	13	5	39	0	610
05:15 PM	22	152	11	0	12	3	4	0	28	343	4	1	13	4	13	0	610
05:30 PM	23	121	16	0	10	2	5	0	19	296	3	0	13	5	32	0	545
05:45 PM	20	125	6	0	8	0	3	0	18	267	9	0	5	2	9	0	472
Total	83	554	41	1	40	7	15	0	89	1228	24	2	44	16	93	0	2237
Grand Total	162	1112	71	2	63	13	36	1	162	2733	46	4	74	20	170	0	4669
Apprch %	12.0	82.6	5.3	0.1	55.8	11.5	31.9	0.9	5.5	92.8	1.6	0.1	28.0	7.6	64.4	0.0	
Total %	3.5	23.8	1.5	0.0	1.3	0.3	0.8	0.0	3.5	58.5	1.0	0.1	1.6	0.4	3.6	0.0	

Counts by LSC

File Name : Marksheffel - Meadowbrook Pkwy PM
Site Code : 00174080
Start Date : 05/17/2017
Page No : 2

	Marksheffel Rd From North					Meadowbrook Pkwy From East					Marksheffel Rd From South					Meadowbrook Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	78	597	28	1	704	32	7	22	1	62	93	1458	21	3	1575	41	11	77	0	129	2470
Percent	11.1	84.8	4.0	0.1		51.6	11.3	35.5	1.6		5.9	92.6	1.3	0.2		31.8	8.5	59.7	0.0		
04:45 Volume	25	132	5	0	162	6	0	7	1	14	26	419	7	0	452	7	0	12	0	19	647
Peak Factor																					0.954
High Int.	05:15 PM					05:15 PM					04:45 PM					05:00 PM					
Volume	22	152	11	0	185	12	3	4	0	19	26	419	7	0	452	13	5	39	0	57	
Peak Factor					0.951					0.816					0.871					0.566	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : marksheffel rd - us hwy 24 am
Site Code : 00174080
Start Date : 05/18/2017
Page No : 1

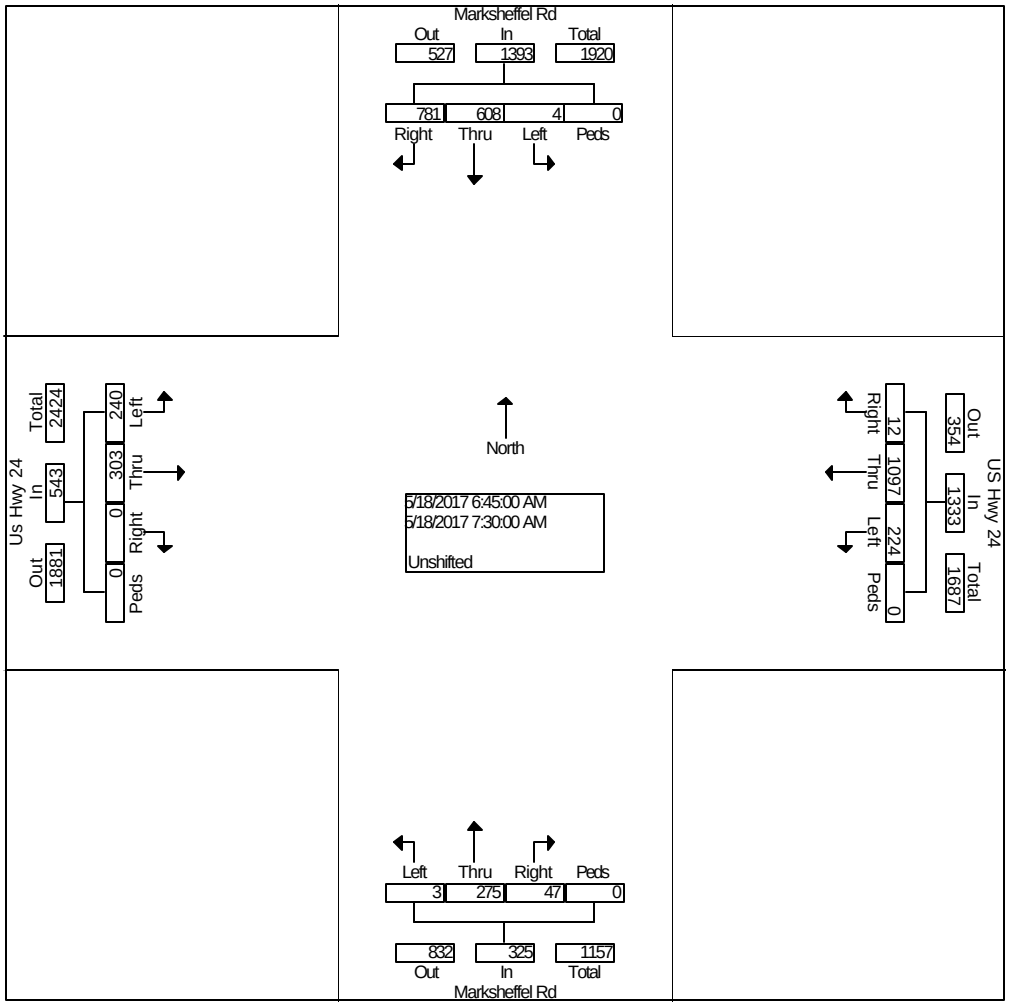
Groups Printed- Unshifted

	Marksheffel Rd From North				US Hwy 24 From East				Marksheffel Rd From South				Us Hwy 24 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	145	148	2	0	3	264	41	0	5	45	1	0	0	71	73	0	798
06:45 AM	169	143	1	0	1	276	53	0	9	55	1	0	0	84	80	0	872
Total	314	291	3	0	4	540	94	0	14	100	2	0	0	155	153	0	1670
07:00 AM	182	149	1	0	7	285	68	0	11	78	1	0	0	64	49	0	895
07:15 AM	232	159	2	0	2	233	52	0	16	69	0	0	0	79	58	0	902
07:30 AM	198	157	0	0	2	303	51	0	11	73	1	0	0	76	53	0	925
07:45 AM	172	116	1	0	2	181	38	0	9	58	0	0	0	91	69	0	737
Total	784	581	4	0	13	1002	209	0	47	278	2	0	0	310	229	0	3459
08:00 AM	141	100	1	0	3	183	30	0	6	43	0	0	0	73	45	0	625
08:15 AM	128	89	5	0	4	147	9	0	4	54	0	0	2	91	54	0	587
Grand Total	1367	1061	13	0	24	1872	342	0	71	475	4	0	2	629	481	0	6341
Apprch %	56.0	43.5	0.5	0.0	1.1	83.6	15.3	0.0	12.9	86.4	0.7	0.0	0.2	56.6	43.3	0.0	
Total %	21.6	16.7	0.2	0.0	0.4	29.5	5.4	0.0	1.1	7.5	0.1	0.0	0.0	9.9	7.6	0.0	

Counts by LSC

File Name : marksheffel rd - us hwy 24 am
Site Code : 00174080
Start Date : 05/18/2017
Page No : 2

	Marksheffel Rd From North					US Hwy 24 From East					Marksheffel Rd From South					Us Hwy 24 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	781	608	4	0	1393	12	1097	224	0	1333	47	275	3	0	325	0	303	240	0	543	3594
Percent	56.1	43.6	0.3	0.0		0.9	82.3	16.8	0.0		14.5	84.6	0.9	0.0		0.0	55.8	44.2	0.0		
07:30 Volume	198	157	0	0	355	2	303	51	0	356	11	73	1	0	85	0	76	53	0	129	925
Peak Factor																					0.971
High Int.	07:15 AM					07:00 AM					07:00 AM					06:45 AM					
Volume	232	159	2	0	393	7	285	68	0	360	11	78	1	0	90	0	84	80	0	164	
Peak Factor					0.886					0.926					0.903					0.828	



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : marksheffel rd - us hwy 24 PM
Site Code : 00174080
Start Date : 05/18/2017
Page No : 1

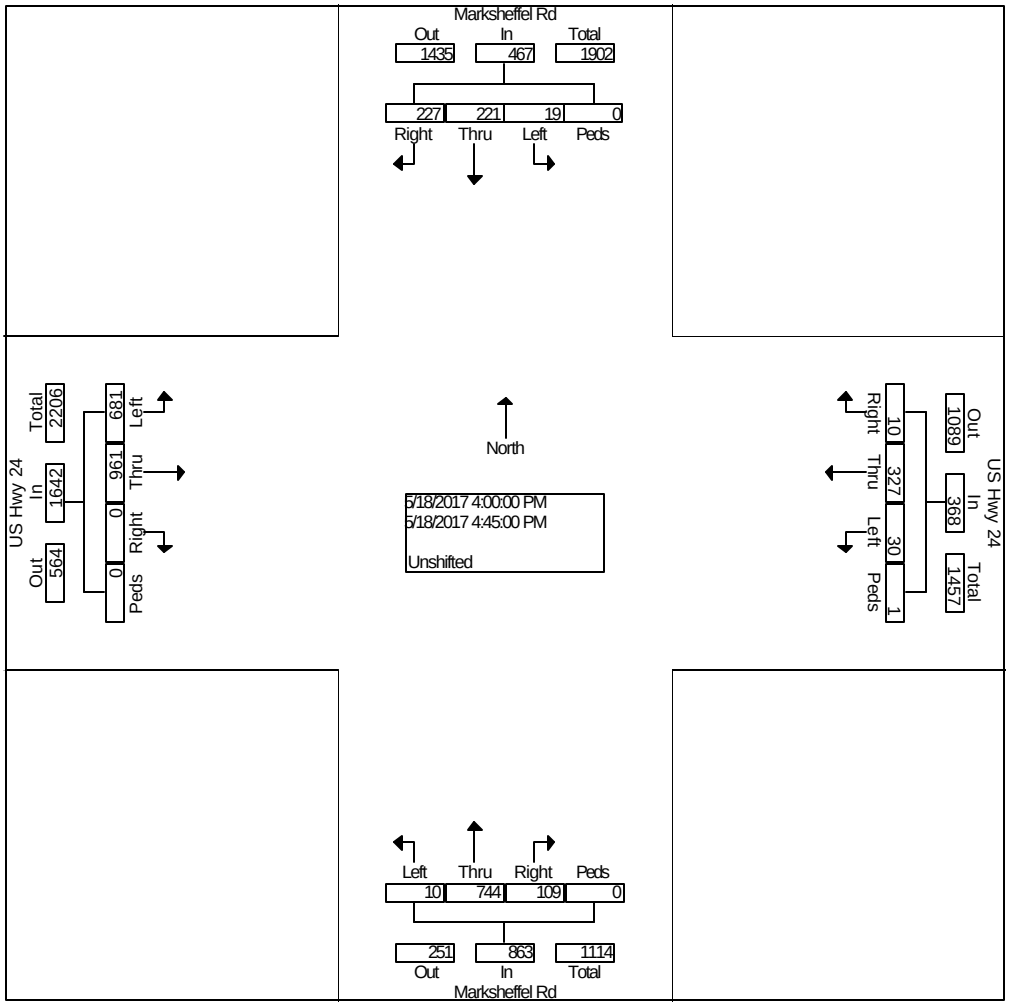
Groups Printed- Unshifted

	Marksheffel Rd From North				US Hwy 24 From East				Marksheffel Rd From South				US Hwy 24 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	64	65	4	0	4	80	7	0	28	201	3	0	0	220	153	0	829
04:15 PM	57	56	5	0	3	73	8	0	31	177	4	0	0	231	175	0	820
04:30 PM	55	54	9	0	1	93	6	1	21	200	2	0	0	245	161	0	848
04:45 PM	51	46	1	0	2	81	9	0	29	166	1	0	0	265	192	0	843
Total	227	221	19	0	10	327	30	1	109	744	10	0	0	961	681	0	3340
05:00 PM	51	81	8	0	1	79	10	0	17	174	1	0	0	202	120	0	744
05:15 PM	42	54	5	0	1	97	10	0	25	130	1	0	0	250	197	0	812
05:30 PM	49	67	1	0	6	93	7	0	23	141	4	0	0	187	135	0	713
05:45 PM	60	54	2	1	3	61	8	0	18	97	0	0	1	151	139	0	595
Total	202	256	16	1	11	330	35	0	83	542	6	0	1	790	591	0	2864
Grand Total	429	477	35	1	21	657	65	1	192	1286	16	0	1	1751	1272	0	6204
Apprch %	45.5	50.6	3.7	0.1	2.8	88.3	8.7	0.1	12.9	86.1	1.1	0.0	0.0	57.9	42.1	0.0	
Total %	6.9	7.7	0.6	0.0	0.3	10.6	1.0	0.0	3.1	20.7	0.3	0.0	0.0	28.2	20.5	0.0	

Counts by LSC

File Name : marksheffel rd - us hwy 24 PM
Site Code : 00174080
Start Date : 05/18/2017
Page No : 2

	Marksheffel Rd From North					US Hwy 24 From East					Marksheffel Rd From South					US Hwy 24 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	227	221	19	0	467	10	327	30	1	368	109	744	10	0	863	0	961	681	0	1642	3340
Percent	48.6	47.3	4.1	0.0		2.7	88.9	8.2	0.3		12.6	86.2	1.2	0.0		0.0	58.5	41.5	0.0		
04:30 Volume	55	54	9	0	118	1	93	6	1	101	21	200	2	0	223	0	245	161	0	406	848
Peak Factor																					0.985
High Int.	04:00 PM					04:30 PM					04:00 PM					04:45 PM					
Volume	64	65	4	0	133	1	93	6	1	101	28	201	3	0	232	0	265	192	0	457	
Peak Factor					0.878					0.911					0.930					0.898	



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LSC Transportation Consultants, Inc.

File Name : 00164840 Meadowbrook Pkwy - Mobile RIRO Access AM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 1

Groups Printed- Unshifted

	Mobile RIRO Access From North				Meadowbrook Pkwy From East				From South				Meadow Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	0	1	0	8	18	0	0	0	0	0	0	0	1	0	0	29
06:45 AM	2	0	4	0	10	26	0	0	0	0	0	0	0	2	0	0	44
Total	3	0	5	0	18	44	0	0	0	0	0	0	0	3	0	0	73
07:00 AM	1	0	0	0	5	18	0	0	0	0	0	0	0	9	0	0	33
07:15 AM	4	0	2	0	7	17	0	0	0	0	0	0	0	7	0	0	37
07:30 AM	3	0	3	0	15	12	0	0	0	0	0	0	0	12	0	0	45
07:45 AM	0	0	3	0	10	13	0	0	0	0	0	0	0	19	0	0	45
Total	8	0	8	0	37	60	0	0	0	0	0	0	0	47	0	0	160
08:00 AM	0	0	5	0	11	18	0	0	0	0	0	0	0	15	1	0	50
08:15 AM	1	0	3	0	10	14	0	0	0	0	0	0	0	13	0	0	41
Grand Total	12	0	21	0	76	136	0	0	0	0	0	0	0	78	1	0	324
Apprch %	36.4	0.0	63.6	0.0	35.8	64.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.7	1.3	0.0	
Total %	3.7	0.0	6.5	0.0	23.5	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.3	0.0	

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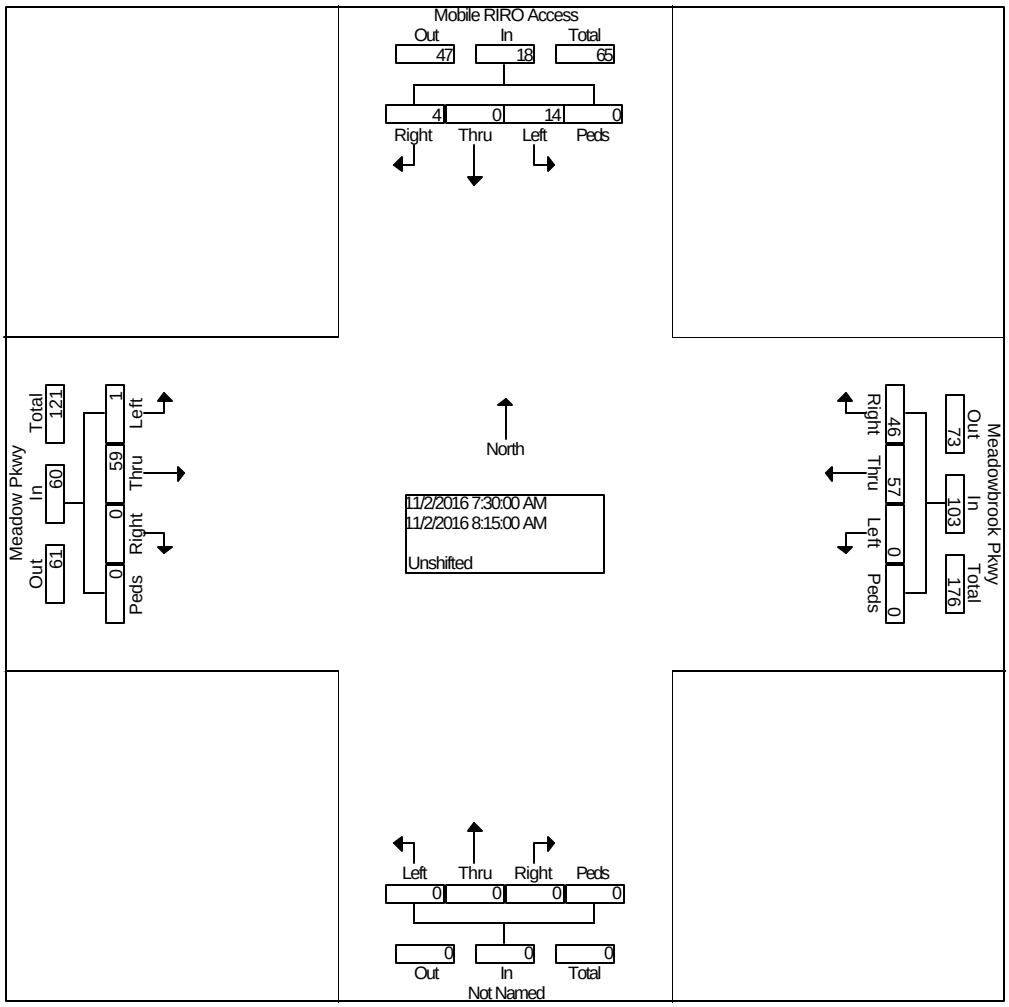
File Name : Meadowbrook Pkwy - Mobile RIRO Access AM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 2

	Mobile RIRO Access From North					Meadowbrook Pkwy From East					From South					Meadow Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	4	0	14	0	18	46	57	0	0	103	0	0	0	0	0	0	59	1	0	60	181
Percent	22.2	0.0	77.8	0.0		44.7	55.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.3	1.7	0.0		
08:00 Volume	0	0	5	0	5	11	18	0	0	29	0	0	0	0	0	0	15	1	0	16	50
Peak Factor																					0.905
High Int.	07:30 AM					08:00 AM					6:15:00 AM					07:45 AM					
Volume	3	0	3	0	6	11	18	0	0	29	0	0	0	0	0	0	19	0	0	19	
Peak Factor					0.750					0.888										0.789	



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LSC Transportation Consultants, Inc.

File Name : SMeadowbrook Pkwy - Mobile RIRO Access PM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 1

Groups Printed- Unshifted

	Mobile RIRO Access PM From North				Meadowbrook Pkwy From East				From South				Meadowbrook Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	0	6	0	19	19	0	0	0	0	0	0	0	25	0	0	69
04:15 PM	1	0	7	0	12	18	0	0	0	0	0	0	0	23	1	0	62
04:30 PM	3	0	4	0	16	11	0	0	0	0	0	0	0	28	1	0	63
04:45 PM	2	0	5	0	10	15	0	0	0	0	0	0	0	16	0	0	48
Total	6	0	22	0	57	63	0	0	0	0	0	0	0	92	2	0	242
05:00 PM	1	0	6	0	13	10	0	0	0	0	0	0	0	33	0	0	63
05:15 PM	2	0	4	0	16	15	0	0	0	0	0	0	0	18	0	0	55
05:30 PM	3	0	4	0	10	16	0	0	0	0	0	0	0	26	1	0	60
05:45 PM	2	0	3	0	9	14	0	0	0	0	0	0	0	23	0	0	51
Total	8	0	17	0	48	55	0	0	0	0	0	0	0	100	1	0	229
Grand Total	14	0	39	0	105	118	0	0	0	0	0	0	0	192	3	0	471
Apprch %	26.4	0.0	73.6	0.0	47.1	52.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.5	1.5	0.0	
Total %	3.0	0.0	8.3	0.0	22.3	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.8	0.6	0.0	

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File Name : Meadowbrook Pkwy - Mobile RIRO Access PM
Site Code : 00164840
Start Date : 11/02/2016
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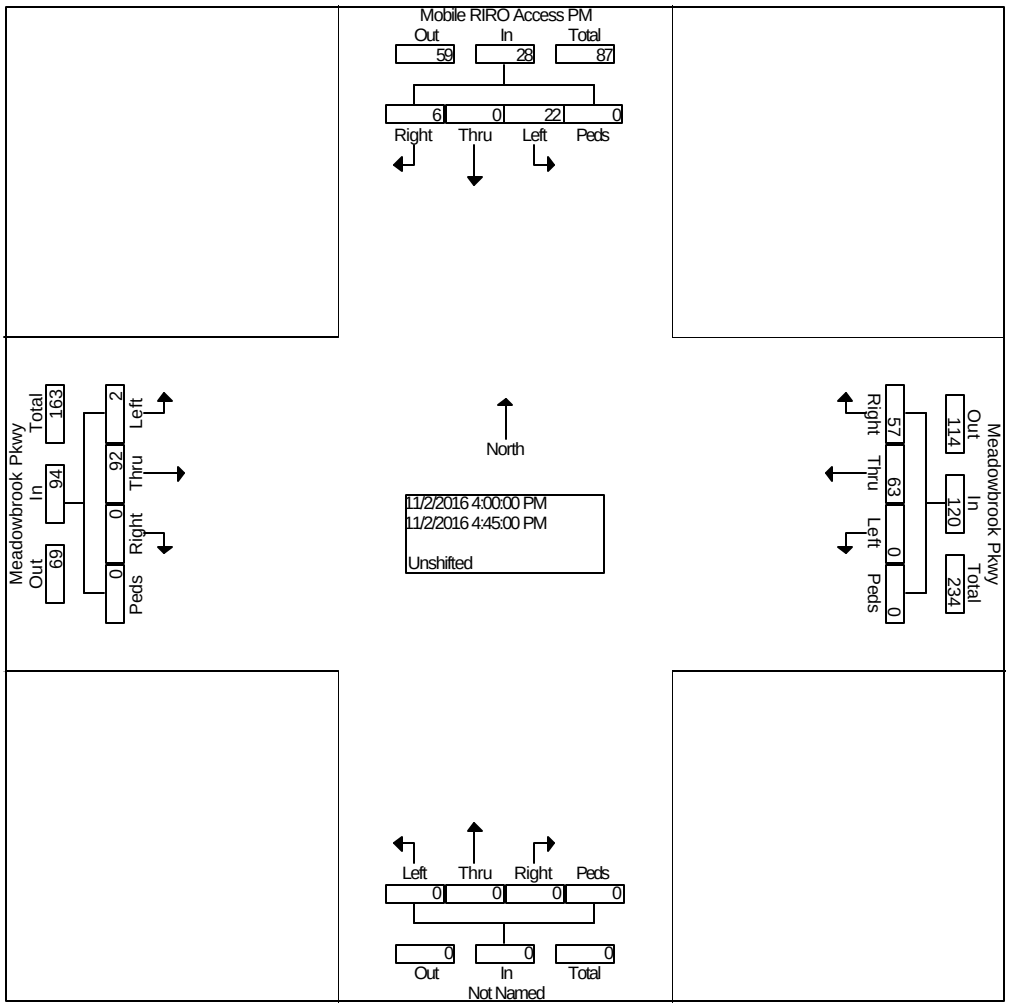
	Mobile RIRO Access PM From North					Meadowbrook Pkwy From East					From South					Meadowbrook Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	6	0	22	0	28	57	63	0	0	120	0	0	0	0	0	0	92	2	0	94	242
Percent	21.4	0.0	78.6	0.0		47.5	52.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.9	2.1	0.0		
04:00 Volume	0	0	6	0	6	19	19	0	0	38	0	0	0	0	0	0	25	0	0	25	69
Peak Factor																					0.877
High Int.	04:15 PM					04:00 PM					3:45:00 PM					04:30 PM					
Volume	1	0	7	0	8	19	19	0	0	38	0	0	0	0	0	0	28	1	0	29	
Peak Factor					0.875					0.789										0.810	



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File Name : Meadowbrook Pkwy - Mobile Full Access AM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 1

Groups Printed- Bank 1

	Mobile Full Access From North				Meadowbrook Pkwy From East				From South				Meadow Pkwy From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	4	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	9
06:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	4
Total	4	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	13
07:00 AM	2	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	7
07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	3
07:30 AM	2	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0	9
07:45 AM	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	5	0	18	0	0	0	0	0	0	0	0	0	0	0	5	0	28
08:00 AM	1	1	7	0	1	0	0	0	0	0	0	0	0	0	1	0	11
08:15 AM	1	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	7
Grand Total	11	1	38	0	1	0	0	0	0	0	0	0	0	0	8	0	59
Apprch %	22.0	2.0	76.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
Total %	18.6	1.7	64.4	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	0.0	

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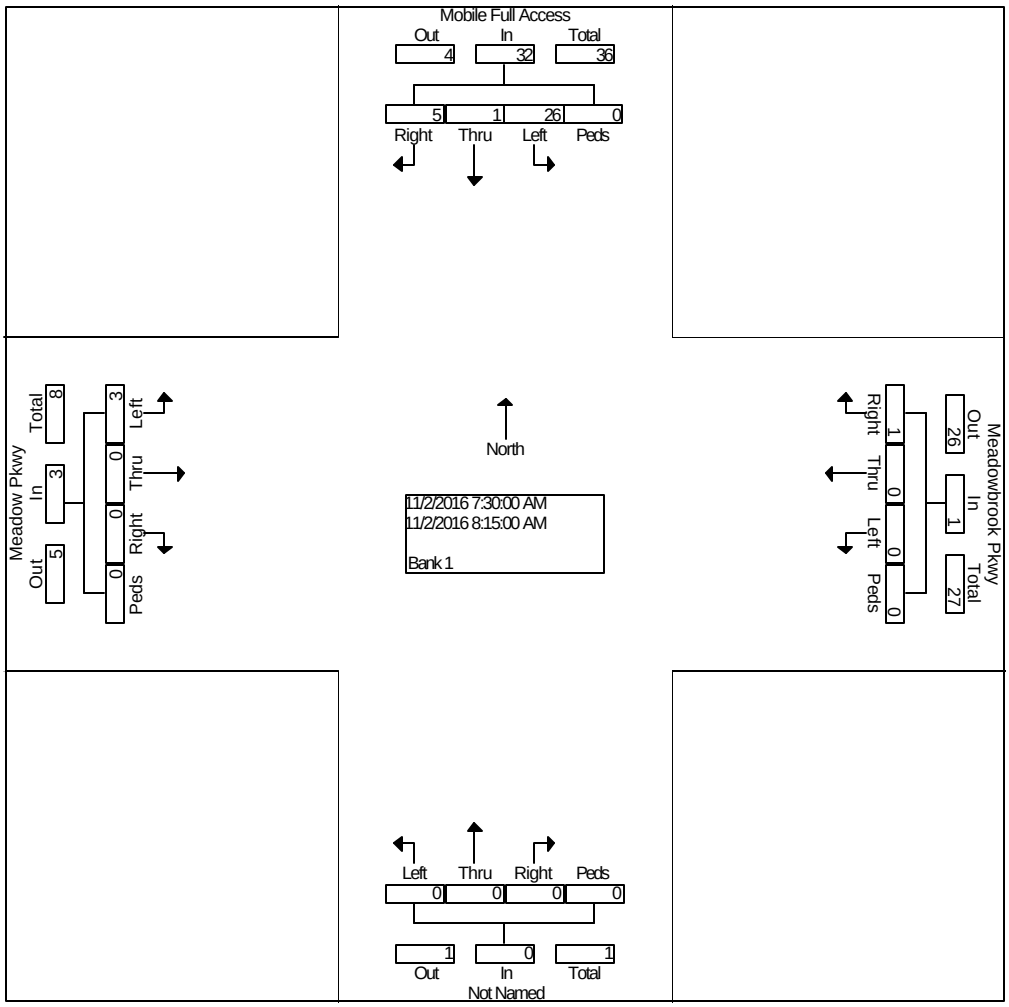
File Name : Meadowbrook Pkwy - Mobile Full Access AM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 2

	Mobile Full Access From North					Meadowbrook Pkwy From East					From South					Meadow Pkwy From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	5	1	26	0	32	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	36
Percent	15.6	3.1	81.3	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
08:00 Volume	1	1	7	0	9	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	11
Peak Factor																					0.818
High Int.	07:45 AM					08:00 AM					6:15:00 AM					07:30 AM					
Volume	1	0	8	0	9	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	
Peak Factor					0.889					0.250										0.750	



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LSC Transportation Consultants, Inc.

File Name : Meadowbrook Pkwy - Mobile Access PM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 1

Groups Printed- Bank 1

	Meadowbrook Pkwy From North				Mobile RIRO Access From East				From South				Mobile Full Access From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	3	0	9	0	0	0	0	0	0	0	0	0	0	0	2	0	14
04:15 PM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	2	0	10
04:30 PM	2	0	14	0	0	0	0	0	0	0	0	0	0	0	2	0	18
04:45 PM	1	0	5	0	0	0	0	0	0	0	0	0	0	0	2	0	8
Total	6	0	36	0	0	0	0	0	0	0	0	0	0	0	8	0	50
05:00 PM	0	0	8	0	0	0	0	0	0	0	0	0	0	0	3	0	11
05:15 PM	3	0	8	0	0	0	0	0	0	0	0	0	0	0	3	0	14
05:30 PM	0	0	9	0	0	0	0	0	0	0	0	0	0	0	4	0	13
05:45 PM	1	0	7	0	0	0	0	0	0	0	0	0	0	0	3	0	11
Total	4	0	32	0	0	0	0	0	0	0	0	0	0	0	13	0	49
Grand Total	10	0	68	0	0	0	0	0	0	0	0	0	0	0	21	0	99
Apprch %	12.8	0.0	87.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
Total %	10.1	0.0	68.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.2	0.0	

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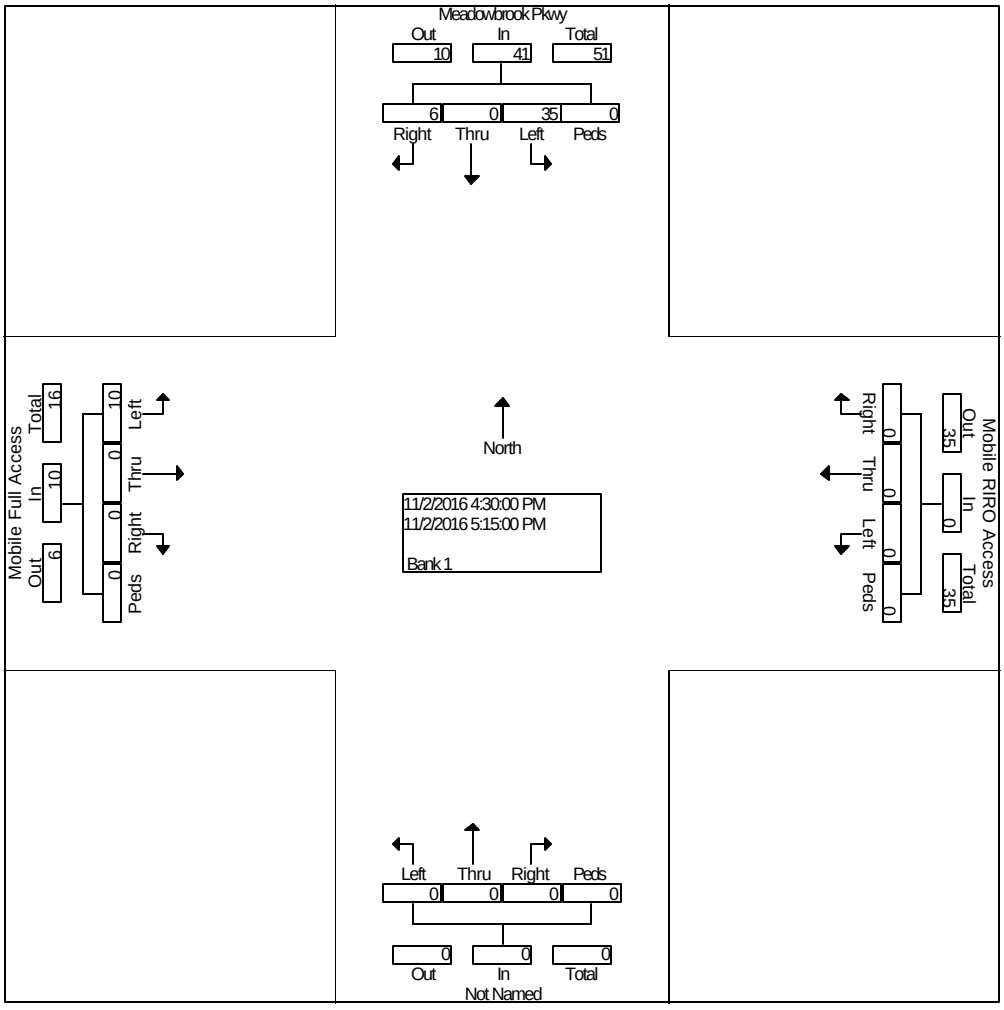
File Name : Meadowbrook Pkwy - Mobile Access PM
Site Code : 00164840
Start Date : 11/02/2016
Page No : 2

	Meadowbrook Pkwy From North					Mobile RIRO Access From East					From South					Mobile Full Access From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	6	0	35	0	41	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	51
Percent	14.6	0.0	85.4	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
04:30 Volume	2	0	14	0	16	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	18
Peak Factor																					0.708
High Int.	04:30 PM					3:45:00 PM					3:45:00 PM					05:00 PM					
Volume	2	0	14	0	16	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
Peak Factor					0.641															0.833	



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545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

LSC Transportation Consultants, Inc.

Site Name : Marksheffel Rd - Hwy 94 AM
Site Code : 00164430
Start Date : 06/21/2016
Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd From North				Hwy 94 From East				Marksheffel Rd From South				Hwy 94 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	91	118	0	34	65	4	0	1	2	0	0	7	91	1	0	414
06:45 AM	0	85	104	0	26	78	3	0	1	4	1	0	15	117	2	0	436
Total	0	176	222	0	60	143	7	0	2	6	1	0	22	208	3	0	850
07:00 AM	0	106	156	0	26	49	1	0	4	9	1	0	11	115	1	0	479
07:15 AM	2	114	94	0	24	71	2	0	0	7	1	0	12	96	4	0	427
07:30 AM	0	91	89	0	26	97	3	0	0	5	3	0	13	95	3	0	425
07:45 AM	1	84	59	0	18	73	2	0	2	12	2	0	11	50	2	0	316
Total	3	395	398	0	94	290	8	0	6	33	7	0	47	356	10	0	1647
08:00 AM	0	53	49	0	18	67	2	0	1	13	4	0	5	41	0	0	253
08:15 AM	0	54	42	0	20	54	3	0	0	7	2	0	4	37	1	0	224
Grand Total	3	678	711	0	192	554	20	0	9	59	14	0	78	642	14	0	2974
Apprch %	0.2	48.7	51.1	0.0	25.1	72.3	2.6	0.0	11.0	72.0	17.1	0.0	10.6	87.5	1.9	0.0	
Total %	0.1	22.8	23.9	0.0	6.5	18.6	0.7	0.0	0.3	2.0	0.5	0.0	2.6	21.6	0.5	0.0	

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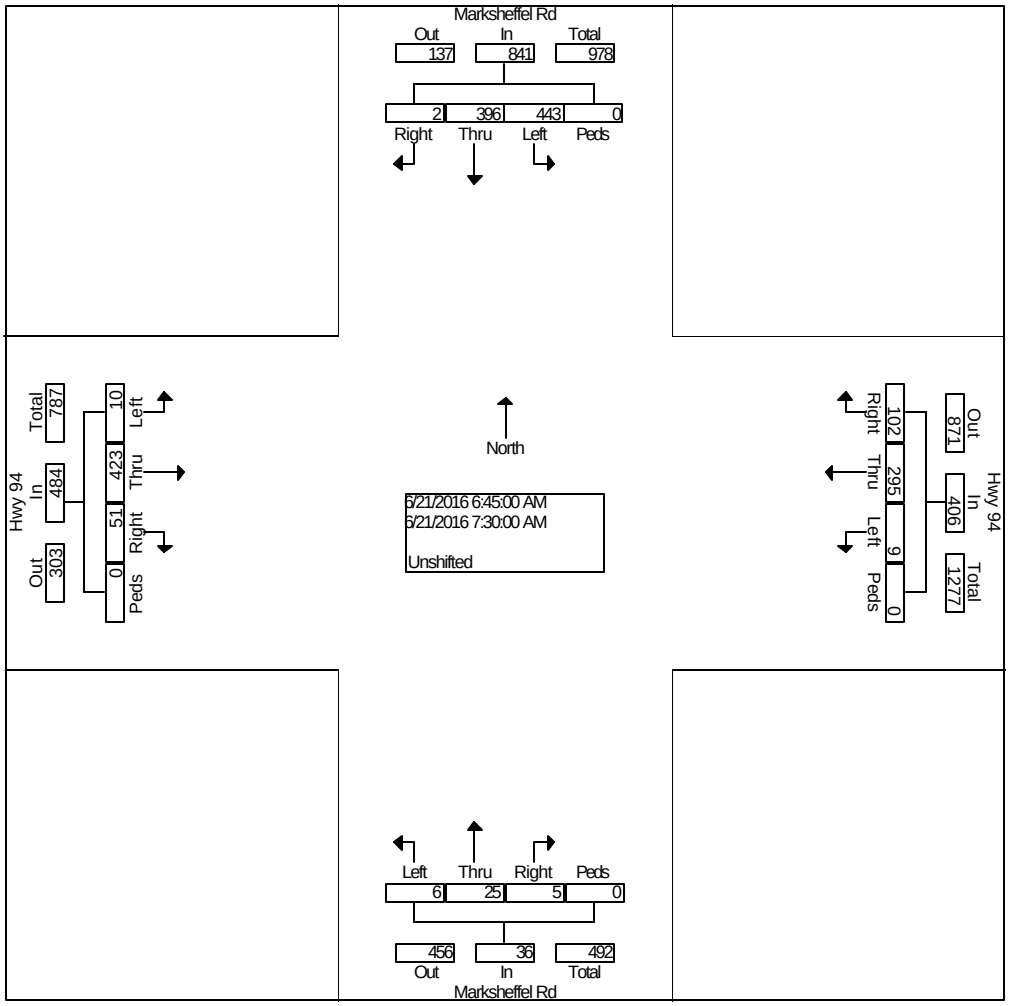
Site Name : Marksheffel Rd - Hwy 94 AM
Site Code : 00164430
Start Date : 06/21/2016
Page No : 2

	Marksheffel Rd From North					Hwy 94 From East					Marksheffel Rd From South					Hwy 94 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	2	396	443	0	841	102	295	9	0	406	5	25	6	0	36	51	423	10	0	484	1767
Percent	0.2	47.1	52.7	0.0		25.1	72.7	2.2	0.0		13.9	69.4	16.7	0.0		10.5	87.4	2.1	0.0		
07:00 Volume	0	106	156	0	262	26	49	1	0	76	4	9	1	0	14	11	115	1	0	127	479
Peak Factor																					0.922
High Int.	07:00 AM					07:30 AM					07:00 AM					06:45 AM					
Volume	0	106	156	0	262	26	97	3	0	126	4	9	1	0	14	15	117	2	0	134	
Peak Factor					0.802					0.806					0.643					0.903	



LSC Transportation Consultants, Inc.
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LSC Transportation Consultants, Inc.

Site Name : Marksheffel Rd - Hwy 94 PM
Site Code : 00164430
Start Date : 06/21/2016
Page No : 1

Groups Printed- Unshifted

	Marksheffel Rd From North				Hwy 94 From East				Marksheffel Rd From South				Hwy 94 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	8	27	0	66	81	1	0	0	92	16	0	2	61	0	0	354
04:15 PM	3	15	15	0	99	105	4	0	0	88	18	0	0	59	0	0	406
04:30 PM	1	11	25	0	94	104	6	0	0	88	14	0	1	62	0	0	406
04:45 PM	3	23	27	0	112	108	7	0	1	56	16	0	2	56	1	0	412
Total	7	57	94	0	371	398	18	0	1	324	64	0	5	238	1	0	1578
05:00 PM	1	13	21	0	93	80	6	0	3	58	11	0	6	70	0	0	362
05:15 PM	2	13	33	0	79	58	2	0	0	74	14	0	2	60	0	0	337
05:30 PM	1	13	21	0	66	58	3	0	1	47	6	0	2	56	0	0	274
05:45 PM	3	11	32	0	39	35	3	0	2	44	5	0	0	60	0	0	234
Total	7	50	107	0	277	231	14	0	6	223	36	0	10	246	0	0	1207
Grand Total	14	107	201	0	648	629	32	0	7	547	100	0	15	484	1	0	2785
Apprch %	4.3	33.2	62.4	0.0	49.5	48.1	2.4	0.0	1.1	83.6	15.3	0.0	3.0	96.8	0.2	0.0	
Total %	0.5	3.8	7.2	0.0	23.3	22.6	1.1	0.0	0.3	19.6	3.6	0.0	0.5	17.4	0.0	0.0	

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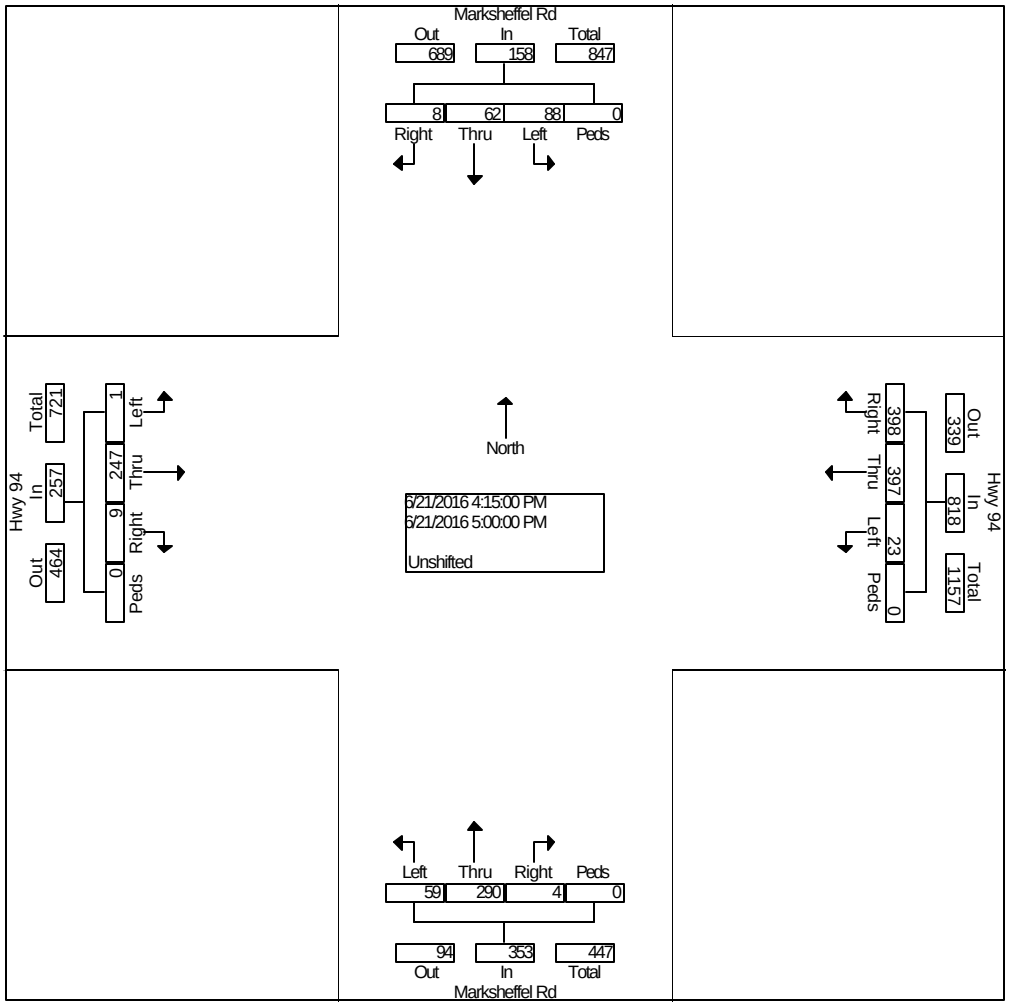
File Name : Marksheffel Rd - Hwy 94 PM
Site Code : 00164430
Start Date : 06/21/2016

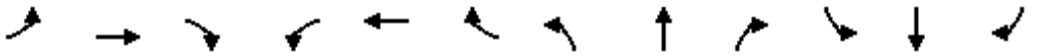
	Marksheffel Rd From North					Hwy 94 From East					Marksheffel Rd From South					Hwy 94 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:15 PM																				
Volume	8	62	88	0	158	398	397	23	0	818	4	290	59	0	353	9	247	1	0	257	1586
Percent	5.1	39.2	55.7	0.0		48.7	48.5	2.8	0.0		1.1	82.2	16.7	0.0		3.5	96.1	0.4	0.0		
04:45 Volume	3	23	27	0	53	112	108	7	0	227	1	56	16	0	73	2	56	1	0	59	412
Peak Factor																					0.962
High Int.	04:45 PM					04:45 PM					04:15 PM					05:00 PM					
Volume	3	23	27	0	53	112	108	7	0	227	0	88	18	0	106	6	70	0	0	76	
Peak Factor					0.745					0.901					0.833					0.845	



UPDATED APRIL 2018

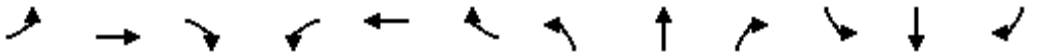
SimTraffic Simulation Results and Synchro Volume and Laneage Inputs for

Meadowbrook Parkway at Marksheffel Road, North Site Access at Meadowbrook Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	3	31	12	6	67	61	538	15	12	1447	176
Future Volume (vph)	68	3	31	12	6	67	61	538	15	12	1447	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		235	400		0	425		0	375		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	185			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.862				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1606	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1606	0	1770	3539	1583	1770	3539	1583
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		494			468			509			6009	
Travel Time (s)		9.6			9.1			6.9			81.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	80	4	36	14	7	79	66	585	16	13	1523	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	4	36	14	86	0	66	585	16	13	1523	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Right	R NA	L NA	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	68	5	48	169	1	3	0	19	13	1	5
Future Volume (vph)	3	68	5	48	169	1	3	0	19	13	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	250		0	100		0	30		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.999			0.850			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1846	0	1770	1861	0	1770	1583	0	1770	1630	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1846	0	1770	1861	0	1770	1583	0	1770	1630	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		780			494			320			224	
Travel Time (s)		15.2			9.6			8.7			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	74	5	52	184	1	3	0	21	14	1	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	79	0	52	185	0	3	21	0	14	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	3.4	0.1	5.9		0.1	0.1
Total Del/Veh (s)	2.6	0.2	0.1	2.5	0.6	3.5	3.4	10.7		2.5	1.1

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		4.2	0.1	3.9		0.2	0.2
Total Del/Veh (s)	1.3	1.8	0.0	2.4	0.5		5.1	2.7	6.5		3.0	1.4

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)		0.0	0.0	0.0	0.0		5.9	0.1	3.6	0.1	0.2
Total Del/Veh (s)		56.6	92.6	2.5	0.5		34.9	106.6	132.0	5.0	27.8

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	5.9	0.1	7.8	0.1	0.5
Total Del/Veh (s)		179.4	171.4	3.2	0.5	71.9	385.6	397.4	48.5	87.8

2: N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.1	5.9		0.1	0.3
Total Del/Veh (s)	2.1	72.1	75.4	2.6	0.5	0.1	23.1	165.4	245.2		18.9	32.0

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3
Total Del/Veh (s)	337.5	101.0	13.7	88.9	21.1	8.3	50.4	0.7	0.0	5.8	7.6	8.7

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.4

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3
Total Del/Veh (s)	296.8	36.7	15.7	40.9	41.8	17.1	31.6	0.8	0.0	7.2	8.1	9.8

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	17.6

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3
Total Del/Veh (s)	402.9	42.9	41.6	51.6	176.7	44.3	37.1	0.8	0.0	6.3	7.8	9.0

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	26.6

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.4
Total Del/Veh (s)	539.1	106.5	101.2	37.9	76.5	38.5	30.8	0.7	0.0	8.7	7.4	9.2

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	34.4

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3
Total Del/Veh (s)	612.9	71.8	42.9	66.4	79.2	28.7	38.5	0.8	0.0	9.4	8.3	10.1

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Entire Run

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	25.6

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	6	18	25	36	18	31
Average Queue (ft)	1	2	4	11	7	7
95th Queue (ft)	8	16	20	38	27	28
Link Distance (ft)				285		189
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	250	100		30	
Storage Blk Time (%)					1	1
Queuing Penalty (veh)					0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	6	14	18	18	31	30	31
Average Queue (ft)	1	0			17	11	10
95th Queue (ft)	9	0	20	22	42	35	34
Link Distance (ft)		711			285		189
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		250	100		30	
Storage Blk Time (%)		0				2	1
Queuing Penalty (veh)		0				0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	L	L	TR	L	TR
Maximum Queue (ft)	95	24	33	43	34	18
Average Queue (ft)	47	4	6	27	20	4
95th Queue (ft)	180	21	31	62	52	20
Link Distance (ft)	711			285		189
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		250	100		30	
Storage Blk Time (%)	19				32	1
Queuing Penalty (veh)	1				2	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	L	L	TR	L	TR
Maximum Queue (ft)	200	12	18	99	78	62
Average Queue (ft)	135	3	6	63	54	26
95th Queue (ft)	285	17	25	149	114	115
Link Distance (ft)	711			285		189
Upstream Blk Time (%)						4
Queuing Penalty (veh)						0
Storage Bay Dist (ft)		250	100		30	
Storage Blk Time (%)	46			27	80	1
Queuing Penalty (veh)	1			1	5	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	12	200	25	39	103	78	63
Average Queue (ft)	0	46	3	5	29	23	12
95th Queue (ft)	6	181	19	25	89	71	62
Link Distance (ft)		711			285		189
Upstream Blk Time (%)							1
Queuing Penalty (veh)							0
Storage Bay Dist (ft)	80		250	100		30	
Storage Blk Time (%)		16			7	29	1
Queuing Penalty (veh)		0			0	2	0

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	L	T	R
Maximum Queue (ft)	196	18	55	37	46	109	15	4	13
Average Queue (ft)	155	4	23	16	24	46	3	1	3
95th Queue (ft)	276	19	57	45	47	117	16	7	14
Link Distance (ft)		400			376			5974	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	225		235	400		425	375		300
Storage Blk Time (%)	15								
Queuing Penalty (veh)	5								

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	L	R
Maximum Queue (ft)	232	92	37	33	76	66	16	23
Average Queue (ft)	176	14	18	7	38	34	3	4
95th Queue (ft)	331	125	48	28	91	83	17	21
Link Distance (ft)		400			376			
Upstream Blk Time (%)	3	2						
Queuing Penalty (veh)	0	2						
Storage Bay Dist (ft)	225		235	400		425	375	300
Storage Blk Time (%)	27							
Queuing Penalty (veh)	8							

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

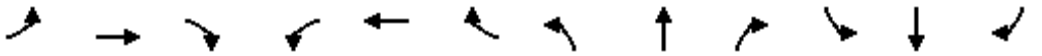
Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	L	R
Maximum Queue (ft)	391	331	56	50	120	74	26	13
Average Queue (ft)	290	158	21	19	52	34	4	1
95th Queue (ft)	455	485	57	51	134	77	22	9
Link Distance (ft)		400			376			
Upstream Blk Time (%)	31	34						
Queuing Penalty (veh)	0	37						
Storage Bay Dist (ft)	225		235	400		425	375	300
Storage Blk Time (%)	67							
Queuing Penalty (veh)	27							

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	L	R
Maximum Queue (ft)	398	441	121	25	137	70	26	13
Average Queue (ft)	388	395	38	7	56	35	6	2
95th Queue (ft)	404	560	164	23	138	72	27	13
Link Distance (ft)		400			376			
Upstream Blk Time (%)	80	84						
Queuing Penalty (veh)	0	82						
Storage Bay Dist (ft)	225		235	400		425	375	300
Storage Blk Time (%)	100							
Queuing Penalty (veh)	32							

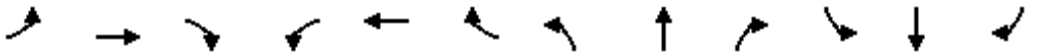
Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	L	T	R
Maximum Queue (ft)	399	445	127	55	170	127	31	4	28
Average Queue (ft)	252	143	25	12	42	37	4	0	2
95th Queue (ft)	453	466	96	39	111	89	21	3	15
Link Distance (ft)		400			376			5974	
Upstream Blk Time (%)	28	30							
Queuing Penalty (veh)	0	30							
Storage Bay Dist (ft)	225		235	400		425	375		300
Storage Blk Time (%)	52								
Queuing Penalty (veh)	18								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	155	21	62	140	0	14	0	89	35	0	6
Future Volume (vph)	10	155	21	62	140	0	14	0	89	35	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	75		0	100		0	30		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982						0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1829	0	1770	1863	0	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1829	0	1770	1863	0	1770	1583	0	1770	1583	0
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		773			494			320			224	
Travel Time (s)		15.1			9.6			7.3			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	168	23	67	152	0	15	0	97	38	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	191	0	67	152	0	15	97	0	38	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	155	21	62	140	0	14	0	89	35	0	6
Future Volume (vph)	10	155	21	62	140	0	14	0	89	35	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	80		0	75		0	100		0	30		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982						0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1829	0	1770	1863	0	1770	1583	0	1770	1583	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1829	0	1770	1863	0	1770	1583	0	1770	1583	0
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		773			494			320			224	
Travel Time (s)		15.1			9.6			7.3			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	168	23	67	152	0	15	0	97	38	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	191	0	67	152	0	15	97	0	38	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	4.4	0.2	4.0	0.1	0.4
Total Del/Veh (s)	1.9	1.7	1.3	3.4	0.5	11.9	4.4	6.0	2.3	2.5

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	3.4	0.2	3.9	0.1	0.3
Total Del/Veh (s)	1.9	1.6	0.3	2.8	0.5	6.5	4.9	5.2	3.6	2.1

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	3.6	0.2	4.0	0.1	0.3
Total Del/Veh (s)	1.7	8.1	5.7	2.9	0.6	6.9	21.2	18.9	3.1	7.7

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0	3.9	0.2	4.4	0.1	0.4
Total Del/Veh (s)	3.4	10.9	9.0	2.7	0.4	5.4	43.7	12.9	1.8	11.8

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	4.0	0.2	4.1	0.1	0.4
Total Del/Veh (s)	2.0	5.8	4.0	2.9	0.5	7.7	19.4	12.0	2.6	6.2

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2
Total Del/Veh (s)	123.1	32.3	4.9	33.9	11.5	21.6	4.9	2.0	0.3	21.4	2.1	2.1

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	11.3

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2
Total Del/Veh (s)	110.3	44.3	5.7	59.3	13.8	23.7	7.0	2.0	0.1	10.3	2.1	2.3

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	10.1

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.2
Total Del/Veh (s)	194.0	38.6	7.7	40.6	50.5	34.9	6.2	2.5	0.3	19.8	2.6	3.1

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	17.6

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2
Total Del/Veh (s)	176.4	45.6	11.5	42.3	11.6	33.0	6.1	2.1	0.2	25.9	2.2	2.3

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	17.7

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2
Total Del/Veh (s)	178.7	44.0	7.6	44.5	21.3	30.3	6.2	2.2	0.2	20.8	2.4	2.6

11: Marksheffel Rd & Meadowbrook Pkwy Performance by movement Entire Run

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	14.7

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	12	19	34	4	34	45	56	31
Average Queue (ft)	2	8	11	1	8	33	25	6
95th Queue (ft)	13	46	36	6	32	53	56	26
Link Distance (ft)		704		400		285		190
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	80		75		100		30	
Storage Blk Time (%)		1					5	0
Queuing Penalty (veh)		0					0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	6	15	30	34	53	35	18
Average Queue (ft)	1	3	6	12	32	10	5
95th Queue (ft)	9	25	26	37	56	34	23
Link Distance (ft)		704			285		190
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)		1				2	0
Queuing Penalty (veh)		0				0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	6	55	30	68	88	42	25
Average Queue (ft)	1	17	11	17	47	25	5
95th Queue (ft)	8	105	35	74	110	52	24
Link Distance (ft)		704			285		190
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)		5			6	12	0
Queuing Penalty (veh)		1			1	1	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	6	58	31	31	95	42	12
Average Queue (ft)	1	24	9	8	62	25	2
95th Queue (ft)	9	114	31	29	170	49	14
Link Distance (ft)		704			285		190
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)		7			13	10	0
Queuing Penalty (veh)		1			2	1	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	18	69	35	4	68	102	60	31
Average Queue (ft)	1	13	9	0	11	43	21	4
95th Queue (ft)	10	81	32	3	47	111	50	22
Link Distance (ft)		704		400		285		190
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	80		75		100		30	
Storage Blk Time (%)		3				5	7	0
Queuing Penalty (veh)		0				1	0	0

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	R	L	R
Maximum Queue (ft)	257	107	101	29	36	35	3	36	24
Average Queue (ft)	180	68	50	10	17	15	0	14	3
95th Queue (ft)	372	285	163	31	41	39	3	43	22
Link Distance (ft)		400			380		433		
Upstream Blk Time (%)	1	2							
Queuing Penalty (veh)	0	6							
Storage Bay Dist (ft)	225		235	400		425		375	300
Storage Blk Time (%)	30								
Queuing Penalty (veh)	37								

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	L	R
Maximum Queue (ft)	273	157	52	42	32	62	43	10
Average Queue (ft)	174	56	33	19	14	24	12	1
95th Queue (ft)	327	251	51	45	37	63	40	12
Link Distance (ft)		400			380			
Upstream Blk Time (%)	1	2						
Queuing Penalty (veh)	0	7						
Storage Bay Dist (ft)	225		235	400		425	375	300
Storage Blk Time (%)	20	0						
Queuing Penalty (veh)	25	0						

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

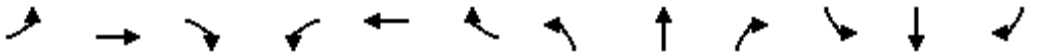
Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	L	R
Maximum Queue (ft)	372	339	276	46	89	54	46	4
Average Queue (ft)	272	134	79	24	46	21	14	1
95th Queue (ft)	447	429	251	51	102	53	44	6
Link Distance (ft)		400			380			
Upstream Blk Time (%)	6	10						
Queuing Penalty (veh)	0	29						
Storage Bay Dist (ft)	225		235	400		425	375	300
Storage Blk Time (%)	59							
Queuing Penalty (veh)	83							

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	L	R
Maximum Queue (ft)	338	276	218	40	38	45	2	43	4
Average Queue (ft)	280	150	76	14	16	19	0	15	1
95th Queue (ft)	467	456	251	40	40	48	3	45	6
Link Distance (ft)		400			380		433		
Upstream Blk Time (%)	10	13							
Queuing Penalty (veh)	0	35							
Storage Bay Dist (ft)	225		235	400		425		375	300
Storage Blk Time (%)	60	0							
Queuing Penalty (veh)	74	1							

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	R
Maximum Queue (ft)	373	351	277	56	91	72	2	3	57	30
Average Queue (ft)	226	102	60	17	23	20	0	0	14	1
95th Queue (ft)	422	368	198	43	64	52	1	2	43	13
Link Distance (ft)		400			380		433	433		
Upstream Blk Time (%)	5	7								
Queuing Penalty (veh)	0	19								
Storage Bay Dist (ft)	225		235	400		425			375	300
Storage Blk Time (%)	42	0								
Queuing Penalty (veh)	55	0								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	3	31	12	6	67	61	538	15	12	1447	176
Future Volume (vph)	68	3	31	12	6	67	61	538	15	12	1447	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		235	400		0	425		0	375		300
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	185			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850		0.862				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1606	0	1770	3539	1583	1770	5085	1583
Flt Permitted	0.421			0.755			0.130			0.431		
Satd. Flow (perm)	1521	1863	1583	1406	1606	0	242	3539	1583	803	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89		79				89			185
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		494			468			509			6009	
Travel Time (s)		9.6			9.1			6.9			81.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	80	4	36	14	7	79	66	585	16	13	1523	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	4	36	14	86	0	66	585	16	13	1523	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Right	R NA	L NA	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	9.0	9.0	10.0	9.0		10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	18.0	9.0	9.0	19.0	10.0		12.0	97.0	97.0	10.0	95.0	95.0
Total Split (%)	13.3%	6.7%	6.7%	14.1%	7.4%		8.9%	71.9%	71.9%	7.4%	70.4%	70.4%
Maximum Green (s)	14.0	4.0	4.0	15.0	5.0		7.0	92.0	92.0	5.0	90.0	90.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.6	14.7	14.7	14.5	7.0		104.3	101.5	101.5	100.7	96.3	96.3
Actuated g/C Ratio	0.15	0.11	0.11	0.11	0.05		0.77	0.75	0.75	0.75	0.71	0.71
v/c Ratio	0.24	0.02	0.14	0.08	0.54		0.25	0.22	0.01	0.02	0.42	0.16
Control Delay	50.7	56.7	1.2	48.7	28.2		14.3	15.4	2.5	4.0	9.0	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	56.7	1.2	48.7	28.2		14.3	15.4	2.5	4.0	9.0	1.4
LOS	D	E	A	D	C		B	B	A	A	A	A
Approach Delay		36.0			31.0			15.0			8.1	
Approach LOS		D			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 111 (82%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 52.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Marksheffel Rd & Meadowbrook Pkwy

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0			0.1	4.5	0.5	0.2
Total Del/Veh (s)	2.1	0.2	0.0	2.5	0.5			2.6	8.0	3.5	1.1

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)		0.0	0.0	0.0	0.0	0.0		0.1	3.5		0.1	0.1
Total Del/Veh (s)		0.1	0.0	2.4	0.6	0.5	2.7	3.3	4.0		2.9	1.1

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		3.2	0.2	4.8		0.1	0.2
Total Del/Veh (s)	2.5	0.2	0.0	2.9	0.6		3.4	2.8	4.5		4.4	1.2

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 8:15

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0			0.1	4.2		0.1	0.2
Total Del/Veh (s)	0.3	0.2	2.6	0.6			3.4	5.7		2.7	1.2

2: N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.1	3.9	0.1	0.2	0.2
Total Del/Veh (s)	2.4	0.2	0.1	2.6	0.6	0.4	3.6	3.0	5.5	2.6	3.2	1.1

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	6	24	31	32	18
Average Queue (ft)	1	7	15	11	3
95th Queue (ft)	9	28	40	38	19
Link Distance (ft)			279		184
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	80	75		30	
Storage Blk Time (%)				2	0
Queuing Penalty (veh)				0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #2

Movement	WB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	18	12	31	30	18
Average Queue (ft)	3	3	11	7	4
95th Queue (ft)	17	16	36	28	22
Link Distance (ft)			279		184
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75	100		30	
Storage Blk Time (%)				1	0
Queuing Penalty (veh)				0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	6	30	12	31	31	30
Average Queue (ft)	1	5	3	16	10	7
95th Queue (ft)	9	24	17	41	33	28
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					1	1
Queuing Penalty (veh)					0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #4

Movement	WB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	18	6	36	30	30
Average Queue (ft)	3	1	15	12	9
95th Queue (ft)	19	9	42	36	31
Link Distance (ft)			279		184
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75	100		30	
Storage Blk Time (%)				1	1
Queuing Penalty (veh)				0	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	12	31	24	36	38	31
Average Queue (ft)	0	5	2	14	10	6
95th Queue (ft)	6	22	12	40	34	26
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					1	0
Queuing Penalty (veh)					0	0

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	44	72	24	30	28	78	61	75	94	4	26	107
Average Queue (ft)	16	42	5	13	9	35	29	34	32	1	2	45
95th Queue (ft)	51	87	24	34	28	75	61	89	88	6	14	108
Link Distance (ft)			389			376		427	427	427		5969
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	129	186	43
Average Queue (ft)	67	100	18
95th Queue (ft)	136	194	47
Link Distance (ft)	5969	5969	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	51	72	9	25	24	60	66	128	105	12	22	92
Average Queue (ft)	15	37	1	12	8	24	36	44	36	2	4	42
95th Queue (ft)	48	74	10	29	27	52	79	119	102	10	19	96
Link Distance (ft)			389			376		427	427	427		5969
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	113	166	50
Average Queue (ft)	59	88	24
95th Queue (ft)	119	178	56
Link Distance (ft)	5969	5969	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	71	75	18	37	31	80	65	89	83	11	26	98
Average Queue (ft)	24	42	2	17	7	39	31	46	36	1	7	46
95th Queue (ft)	76	83	12	38	31	78	73	101	90	7	25	103
Link Distance (ft)			389			376		427	427	427		5969
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	156	186	60
Average Queue (ft)	76	102	26
95th Queue (ft)	161	221	62
Link Distance (ft)	5969	5969	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	53	73	14	29	32	58	65	119	117	8	21	88
Average Queue (ft)	21	46	2	10	15	29	34	40	42	2	5	37
95th Queue (ft)	61	92	13	28	37	67	72	120	118	8	22	96
Link Distance (ft)			389			376		427	427	427		5969
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

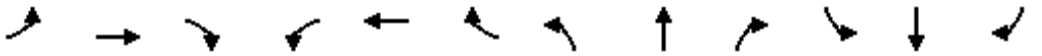
Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	142	179	58
Average Queue (ft)	62	98	26
95th Queue (ft)	148	196	61
Link Distance (ft)	5969	5969	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	88	98	24	38	45	97	86	134	128	13	28	117
Average Queue (ft)	19	42	3	13	10	31	32	41	37	2	4	43
95th Queue (ft)	60	84	16	33	31	69	72	109	100	8	21	101
Link Distance (ft)			389			376		427	427	427		5969
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	172	209	73
Average Queue (ft)	66	97	24
95th Queue (ft)	142	198	57
Link Distance (ft)	5969	5969	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			300
Storage Blk Time (%)			
Queuing Penalty (veh)			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	16	112	22	10	32	74	1444	93	28	586	149
Future Volume (vph)	158	16	112	22	10	32	74	1444	93	28	586	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		235	400		0	425		0	375		300
Storage Lanes	2		1	1		0	1		1	1		1
Taper Length (ft)	185			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.885				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1649	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.448			0.746			0.386			0.112		
Satd. Flow (perm)	1619	1863	1583	1390	1649	0	719	3539	1583	209	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122		49				97			157
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		494			467			509			4425	
Travel Time (s)		9.6			9.1			6.9			60.3	
Peak Hour Factor	0.92	0.92	0.92	0.65	0.65	0.65	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	172	17	122	34	15	49	80	1570	101	29	617	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	17	122	34	64	0	80	1570	101	29	617	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Right	R NA	L NA	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	11.5	11.5	10.0	11.5	11.5
Total Split (s)	19.0	17.0	17.0	19.0	17.0		13.0	88.0	88.0	11.0	86.0	86.0
Total Split (%)	14.1%	12.6%	12.6%	14.1%	12.6%		9.6%	65.2%	65.2%	8.1%	63.7%	63.7%
Maximum Green (s)	15.0	11.0	11.0	15.0	11.0		8.0	81.5	81.5	6.0	79.5	79.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	22.7	13.1	13.1	15.6	7.5		101.1	95.0	95.0	97.2	89.7	89.7
Actuated g/C Ratio	0.17	0.10	0.10	0.12	0.06		0.75	0.70	0.70	0.72	0.66	0.66
v/c Ratio	0.40	0.09	0.46	0.19	0.47		0.13	0.63	0.09	0.13	0.26	0.14
Control Delay	50.2	56.2	15.2	46.4	33.5		4.4	7.3	2.0	6.7	10.6	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	56.2	15.2	46.4	33.5		4.4	7.3	2.0	6.7	10.6	2.0
LOS	D	E	B	D	C		A	A	A	A	B	A
Approach Delay		36.8			38.0			6.8			8.8	
Approach LOS		D			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 11: Marksheffel Rd & Meadowbrook Pkwy

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 4:30

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	4.3	0.1	3.9	0.1	0.4
Total Del/Veh (s)	1.8	0.7	0.4	3.2	0.6	8.6	3.6	7.8	3.1	2.1

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 4:45

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	3.5	0.2	3.9	0.3	0.4
Total Del/Veh (s)	2.0	0.8	0.3	3.2	0.6	6.0	4.2	7.7	3.1	2.2

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 5:00

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	3.7	0.2	4.2	0.1	0.4
Total Del/Veh (s)	2.6	0.8	0.2	3.0	0.7	9.5	3.6	7.3	3.2	2.0

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 5:15

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	4.2	0.1	3.8	0.3	0.4
Total Del/Veh (s)	1.7	0.5	0.3	3.0	0.8	6.7	3.4	8.2	2.6	2.0

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	3.9	0.2	4.1	0.2	0.4
Total Del/Veh (s)	2.0	0.7	0.3	3.2	0.7	7.3	3.7	7.9	3.0	2.1

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	12	4	30	30	39	43	18
Average Queue (ft)	2	1	13	12	30	23	4
95th Queue (ft)	13	6	37	36	44	51	21
Link Distance (ft)		705			279		184
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)						5	0
Queuing Penalty (veh)						0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #2

Movement	WB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	33	35	59	45	24
Average Queue (ft)	8	14	33	24	7
95th Queue (ft)	36	41	59	56	27
Link Distance (ft)			279		184
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75	100		30	
Storage Blk Time (%)				6	1
Queuing Penalty (veh)				0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	11	24	30	54	57	30
Average Queue (ft)	2	10	8	35	28	7
95th Queue (ft)	12	33	30	58	58	28
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					5	1
Queuing Penalty (veh)					0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	6	34	30	43	53	24
Average Queue (ft)	1	9	13	30	23	7
95th Queue (ft)	9	34	38	49	56	28
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					5	1
Queuing Penalty (veh)					0	0

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	18	4	43	35	60	69	31
Average Queue (ft)	1	0	10	12	32	25	6
95th Queue (ft)	10	3	35	37	53	56	26
Link Distance (ft)		705			279		184
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)						5	1
Queuing Penalty (veh)						0	0

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	105	133	47	47	46	53	66	218	235	30	43	74
Average Queue (ft)	70	94	18	35	19	23	28	127	126	11	17	47
95th Queue (ft)	121	139	49	56	50	59	65	251	262	31	44	86
Link Distance (ft)			400			380		427	427	427		4385
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	156	44
Average Queue (ft)	72	22
95th Queue (ft)	146	49
Link Distance (ft)	4385	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		300
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	108	139	51	54	41	50	54	211	221	29	34	99
Average Queue (ft)	59	85	16	35	13	22	26	107	126	11	18	45
95th Queue (ft)	117	145	48	54	40	51	50	244	269	33	41	98
Link Distance (ft)			400			380		427	427	427		4385
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	125	53
Average Queue (ft)	68	26
95th Queue (ft)	134	58
Link Distance (ft)	4385	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		300
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	115	150	47	57	62	72	55	263	274	35	38	102
Average Queue (ft)	67	91	14	37	31	39	23	162	162	11	17	45
95th Queue (ft)	129	156	48	60	68	81	56	305	327	36	45	105
Link Distance (ft)			400			380		427	427	427		4385
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	126	39
Average Queue (ft)	64	18
95th Queue (ft)	131	44
Link Distance (ft)	4385	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		300
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	125	150	35	65	48	47	73	234	240	34	51	91
Average Queue (ft)	60	86	16	38	16	23	29	141	141	10	19	40
95th Queue (ft)	123	143	41	67	46	53	74	282	308	34	53	87
Link Distance (ft)			400			380		427	427	427		4385
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

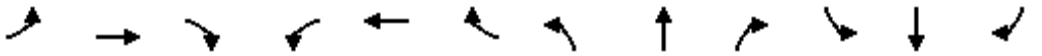
Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	150	39
Average Queue (ft)	67	18
95th Queue (ft)	141	44
Link Distance (ft)	4385	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		300
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	T	R	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	138	167	56	74	71	84	86	272	285	52	61	122
Average Queue (ft)	64	89	16	36	20	27	27	134	139	11	18	44
95th Queue (ft)	123	146	47	59	53	63	62	275	294	33	46	95
Link Distance (ft)			400			380		427	427	427		4385
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		425				375	
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	175	54
Average Queue (ft)	68	21
95th Queue (ft)	138	49
Link Distance (ft)	4385	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		300
Storage Blk Time (%)		
Queuing Penalty (veh)		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	5	65	95	16	75	130	919	58	41	2016	333
Future Volume (vph)	140	5	65	95	16	75	130	919	58	41	2016	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		235	400		400	425		0	375		300
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	185			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.976			0.533			0.054			0.270		
Satd. Flow (perm)	3527	1863	1583	993	1863	1583	101	3539	1583	503	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			89			89			351
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		494			468			509			6009	
Travel Time (s)		9.6			9.1			6.9			81.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	5	68	100	17	79	137	967	61	43	2122	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	5	68	100	17	79	137	967	61	43	2122	351
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Right	R NA	L NA	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	9.0	9.0	10.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	18.0	9.0	9.0	19.0	10.0	10.0	12.0	97.0	97.0	10.0	95.0	95.0
Total Split (%)	13.3%	6.7%	6.7%	14.1%	7.4%	7.4%	8.9%	71.9%	71.9%	7.4%	70.4%	70.4%
Maximum Green (s)	14.0	4.0	4.0	15.0	5.0	5.0	7.0	92.0	92.0	5.0	90.0	90.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.4	5.2	5.2	20.2	6.5	6.5	101.8	95.5	95.5	96.5	91.0	91.0
Actuated g/C Ratio	0.11	0.04	0.04	0.15	0.05	0.05	0.75	0.71	0.71	0.71	0.67	0.67
v/c Ratio	0.37	0.07	0.47	0.44	0.19	0.49	0.79	0.39	0.05	0.10	0.62	0.30
Control Delay	52.7	65.4	17.1	55.8	66.8	20.5	60.0	14.1	4.9	4.8	13.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	65.4	17.1	55.8	66.8	20.5	60.0	14.1	4.9	4.8	13.4	1.5
LOS	D	E	B	E	E	C	E	B	A	A	B	A
Approach Delay		42.0			42.5			19.0			11.6	
Approach LOS		D			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 111 (82%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 11: Marksheffel Rd & Meadowbrook Pkwy

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	0.0	3.4	0.1	4.0	0.2	0.2
Total Del/Veh (s)	1.4	0.5	0.2	2.9	0.8	0.4	3.9	3.3	8.4	3.4	1.7

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		3.4	0.1	4.1	0.2	0.2
Total Del/Veh (s)	2.9	0.4	0.2	3.4	0.8		3.6	3.5	6.9	3.1	1.6

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.1	3.7	0.2	0.2
Total Del/Veh (s)	1.3	0.5	0.4	3.1	0.9	0.5	16.1	3.2	7.4	3.6	1.7

2: N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.1	3.8	0.4	0.2
Total Del/Veh (s)	2.8	0.7	0.1	3.2	0.9	0.3	12.4	3.5	8.6	3.3	1.7

2: N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	4.2	0.1	4.0	0.2	0.2
Total Del/Veh (s)	2.3	0.5	0.2	3.2	0.8	0.5	9.0	3.4	8.0	3.6	1.7

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	6	35	18	36	43	36
Average Queue (ft)	1	17	3	28	22	16
95th Queue (ft)	9	45	17	47	53	43
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					5	2
Queuing Penalty (veh)					1	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	22	43	15	31	40	31
Average Queue (ft)	5	15	3	19	24	16
95th Queue (ft)	22	47	17	43	49	41
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)		0			5	1
Queuing Penalty (veh)		0			1	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	6	36	24	36	40	36
Average Queue (ft)	1	10	6	24	22	18
95th Queue (ft)	9	36	26	47	48	45
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					5	3
Queuing Penalty (veh)					1	1

Intersection: 2: N Site Access & Meadowbrook Pkwy, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	12	38	24	40	36	31
Average Queue (ft)	2	11	4	25	17	15
95th Queue (ft)	13	38	22	47	47	40
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)					5	2
Queuing Penalty (veh)					1	0

Intersection: 2: N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	29	57	31	44	53	40
Average Queue (ft)	2	14	4	24	21	17
95th Queue (ft)	14	42	21	47	49	42
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)		0			5	2
Queuing Penalty (veh)		0			1	1

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	94	111	18	77	130	36	48	162	182	192	18	37
Average Queue (ft)	48	69	4	35	70	11	28	85	90	95	4	13
95th Queue (ft)	106	120	17	75	133	42	59	171	194	203	17	37
Link Distance (ft)			389			377			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	318	369	429	230
Average Queue (ft)	138	175	205	81
95th Queue (ft)	277	303	358	248
Link Distance (ft)	5957	5957	5957	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)	2		6	
Queuing Penalty (veh)	1		19	

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	83	100	24	77	121	44	64	174	199	205	23	119
Average Queue (ft)	47	68	6	38	71	15	25	106	107	110	8	78
95th Queue (ft)	92	105	23	74	123	45	62	200	216	229	23	344
Link Distance (ft)			389			377			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	749	792	813	209
Average Queue (ft)	407	451	486	135
95th Queue (ft)	1345	1391	1430	395
Link Distance (ft)	5957	5957	5957	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)	17		21	
Queuing Penalty (veh)	7		67	

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	88	103	14	107	193	42	48	156	195	212	27	389
Average Queue (ft)	44	70	2	57	110	17	23	79	108	113	6	171
95th Queue (ft)	95	115	11	124	210	50	49	164	234	254	23	532
Link Distance (ft)			389			377			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	2008	2126	2166	333
Average Queue (ft)	1401	1469	1515	305
95th Queue (ft)	3606	3650	3655	570
Link Distance (ft)	5957	5957	5957	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)	57		65	
Queuing Penalty (veh)	25		227	

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	126	137	19	83	181	58	44	146	204	188	24	394
Average Queue (ft)	57	78	4	43	95	18	22	77	114	110	7	163
95th Queue (ft)	122	134	26	85	192	51	45	148	228	226	24	510
Link Distance (ft)			389			377			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

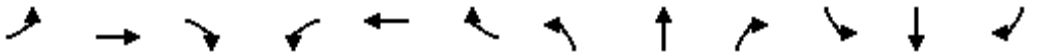
Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	2657	2769	2819	400
Average Queue (ft)	2259	2321	2340	348
95th Queue (ft)	5504	5506	5498	558
Link Distance (ft)	5957	5957	5957	
Upstream Blk Time (%)	15	16	16	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				300
Storage Blk Time (%)	49		72	
Queuing Penalty (veh)	20		234	

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	134	147	32	127	223	70	78	202	220	222	38	474
Average Queue (ft)	49	71	4	43	87	15	25	87	105	107	6	106
95th Queue (ft)	105	120	20	93	172	47	55	173	219	229	22	410
Link Distance (ft)			389			377			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	2703	2784	2832	400
Average Queue (ft)	1051	1104	1137	217
95th Queue (ft)	3501	3538	3551	511
Link Distance (ft)	5957	5957	5957	
Upstream Blk Time (%)	4	4	4	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (ft)				300
Storage Blk Time (%)	31		41	
Queuing Penalty (veh)	13		137	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	417	31	171	150	25	115	120	2096	260	90	804	333
Future Volume (vph)	417	31	171	150	25	115	120	2096	260	90	804	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		235	400		400	425		0	375		300
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	185			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.645			0.736			0.302			0.048		
Satd. Flow (perm)	2331	1863	1583	1371	1863	1583	563	3539	1583	89	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			101			182			351
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		494			467			509			4425	
Travel Time (s)		9.6			9.1			6.9			60.3	
Peak Hour Factor	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.99	0.95	0.95	0.95	0.95
Adj. Flow (vph)	426	33	180	158	26	121	126	2117	274	95	846	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	426	33	180	158	26	121	126	2117	274	95	846	351
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Right	R NA	L NA	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	11.5	11.5	10.0	11.5	11.5
Total Split (s)	19.0	17.0	17.0	19.0	17.0	17.0	13.0	88.0	88.0	11.0	86.0	86.0
Total Split (%)	14.1%	12.6%	12.6%	14.1%	12.6%	12.6%	9.6%	65.2%	65.2%	8.1%	63.7%	63.7%
Maximum Green (s)	15.0	11.0	11.0	15.0	11.0	11.0	8.0	81.5	81.5	6.0	79.5	79.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	26.2	9.3	9.3	23.9	8.1	8.1	92.6	83.2	83.2	91.2	82.5	82.5
Actuated g/C Ratio	0.19	0.07	0.07	0.18	0.06	0.06	0.69	0.62	0.62	0.68	0.61	0.61
v/c Ratio	0.74	0.26	0.65	0.56	0.23	0.64	0.28	0.97	0.26	0.64	0.27	0.32
Control Delay	56.3	64.6	19.7	53.5	64.4	31.7	7.8	22.2	5.0	41.4	12.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	56.3	64.6	19.7	53.5	64.4	31.7	7.8	22.3	5.0	41.4	12.8	2.0
LOS	E	E	B	D	E	C	A	C	A	D	B	A
Approach Delay		46.4			45.8			19.7			12.0	
Approach LOS		D			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 22.9		Intersection LOS: C	
Intersection Capacity Utilization 96.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 11: Marksheffel Rd & Meadowbrook Pkwy

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #1 4:30

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	1.9	0.2	0.2	0.0	0.0	3.5	0.2	4.0	0.3	0.4
Total Del/Veh (s)	2.4	1.0	0.3	4.2	0.8	11.2	7.0	14.1	3.5	2.9

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #2 4:45

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.2	0.2	0.2	0.0	0.0	4.0		0.2	3.8		0.2	0.4
Total Del/Veh (s)	2.1	1.1	0.4	4.0	0.7	11.3		6.4	12.2		4.2	3.0

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #3 5:00

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	2.0	0.2	0.4	0.0	0.0	4.2	0.2	4.0	0.4	0.4
Total Del/Veh (s)	2.6	1.4	0.4	4.9	0.9	14.0	8.1	18.0	4.3	3.7

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Interval #4 5:15

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBR	All
Denied Del/Veh (s)	2.5	0.2	0.4	0.0	0.0	3.3	0.1	0.3	4.2	0.2	0.5
Total Del/Veh (s)	3.0	1.2	0.8	4.1	0.7	13.1	7.4	8.0	11.1	4.4	3.2

2: Mobil/N Site Access & Meadowbrook Pkwy Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	2.1	0.2	0.3	0.0	0.0	3.7	0.1	0.2	4.0		0.3	0.4
Total Del/Veh (s)	2.5	1.2	0.5	4.4	0.8	12.5	9.1	7.5	14.0		4.2	3.2

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	30	47	44	97	50	39
Average Queue (ft)	5	25	12	51	32	18
95th Queue (ft)	24	54	39	90	49	44
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)		0		1	19	2
Queuing Penalty (veh)		0		0	5	2

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	12	39	35	75	50	40
Average Queue (ft)	2	18	13	47	34	22
95th Queue (ft)	14	48	41	77	59	48
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)				0	15	3
Queuing Penalty (veh)				0	4	2

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	24	4	44	35	103	53	47
Average Queue (ft)	7	1	23	15	56	37	25
95th Queue (ft)	27	7	51	42	102	58	55
Link Distance (ft)		705			279		184
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)					1	24	3
Queuing Penalty (veh)					0	7	3

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	18	39	34	76	48	43
Average Queue (ft)	5	22	14	51	34	25
95th Queue (ft)	24	49	42	87	56	52
Link Distance (ft)				279		184
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	80	75	100		30	
Storage Blk Time (%)				1	16	4
Queuing Penalty (veh)				0	4	2

Intersection: 2: Mobil/N Site Access & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	L	TR	L	TR
Maximum Queue (ft)	31	4	52	48	124	55	56
Average Queue (ft)	5	0	22	13	51	34	23
95th Queue (ft)	23	3	51	41	90	56	50
Link Distance (ft)		705			279		184
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	80		75	100		30	
Storage Blk Time (%)			0		1	18	3
Queuing Penalty (veh)			0		0	5	2

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	205	233	68	70	157	46	81	80	236	236	57	81
Average Queue (ft)	156	179	27	40	106	19	46	31	150	152	21	40
95th Queue (ft)	213	235	76	75	165	51	88	75	291	295	57	87
Link Distance (ft)			389			380			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)	0	2										
Queuing Penalty (veh)	1	4										

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #1

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	72	135	147	101
Average Queue (ft)	45	72	73	45
95th Queue (ft)	85	136	149	98
Link Distance (ft)	4373	4373	4373	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	195	215	69	53	165	45	66	73	247	249	38	77
Average Queue (ft)	145	166	31	34	116	16	40	29	164	161	16	42
95th Queue (ft)	196	228	78	58	182	40	74	73	312	313	42	80
Link Distance (ft)			389			380			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)	0	1										
Queuing Penalty (veh)	0	2										

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #2

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	99	122	125	71
Average Queue (ft)	40	60	70	36
95th Queue (ft)	99	125	135	74
Link Distance (ft)	4373	4373	4373	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	236	275	133	116	201	66	107	87	245	251	48	116
Average Queue (ft)	177	204	40	50	117	30	56	41	146	158	15	62
95th Queue (ft)	270	295	138	136	200	69	127	91	302	315	44	123
Link Distance (ft)			389			380			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)	3	9										
Queuing Penalty (veh)	7	18										

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #3

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	116	129	145	78
Average Queue (ft)	56	76	85	41
95th Queue (ft)	119	136	149	82
Link Distance (ft)	4373	4373	4373	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	204	236	60	61	177	48	109	57	236	263	42	86
Average Queue (ft)	159	185	26	37	119	19	53	29	156	166	16	45
95th Queue (ft)	276	293	61	63	201	50	111	62	306	329	44	92
Link Distance (ft)			389			380			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)	1	6										
Queuing Penalty (veh)	3	12										

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, Interval #4

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	88	114	133	64
Average Queue (ft)	49	67	71	40
95th Queue (ft)	94	123	135	66
Link Distance (ft)	4373	4373	4373	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	T	R	L	T	R	L	T	T	R	L
Maximum Queue (ft)	257	291	156	125	216	71	130	99	261	270	61	124
Average Queue (ft)	159	184	31	40	115	21	48	32	154	159	17	47
95th Queue (ft)	245	269	94	91	188	54	103	77	303	313	47	98
Link Distance (ft)			389			380			427	427	427	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	225		235	400		400	425				375
Storage Blk Time (%)	1	4										
Queuing Penalty (veh)	3	9										

Intersection: 11: Marksheffel Rd & Meadowbrook Pkwy, All Intervals

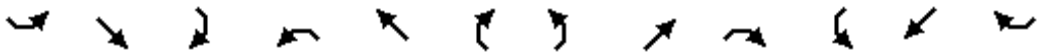
Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	126	161	173	109
Average Queue (ft)	48	69	75	40
95th Queue (ft)	101	131	143	81
Link Distance (ft)	4373	4373	4373	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				300
Storage Blk Time (%)				
Queuing Penalty (veh)				

DECEMBER 2017

Synchro LOS Analysis Results

All Major Intersections Near Proposed Site

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	700	781	3	275	47	270	303	0	224	1097	20
Future Volume (vph)	4	700	781	3	275	47	270	303	0	224	1097	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295			113						145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1121			885			1842			2739	
Travel Time (s)		25.5			20.1			22.8			34.0	
Peak Hour Factor	0.92	0.99	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.92
Adj. Flow (vph)	4	707	849	3	299	51	293	329	0	243	1108	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	707	849	3	299	51	293	329	0	243	1108	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

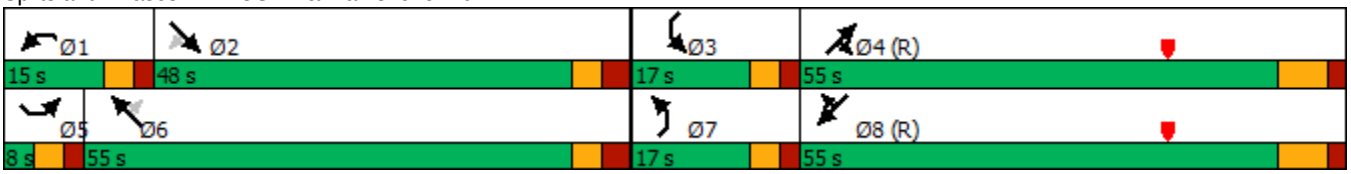


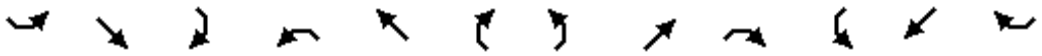
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	8.0	48.0	48.0	15.0	55.0	55.0	17.0	55.0	55.0	17.0	55.0	55.0
Total Split (%)	5.9%	35.6%	35.6%	11.1%	40.7%	40.7%	12.6%	40.7%	40.7%	12.6%	40.7%	40.7%
Maximum Green (s)	3.0	42.0	42.0	10.0	49.0	49.0	12.0	48.0	48.0	12.0	48.0	48.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	1.0	0.0	-1.0	1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	3.0	55.7	53.7	6.1	56.4	54.4	12.0	50.0		12.0	50.0	50.0
Actuated g/C Ratio	0.02	0.41	0.40	0.05	0.42	0.40	0.09	0.37		0.09	0.37	0.37
v/c Ratio	0.10	0.48	1.04	0.04	0.20	0.07	0.95	0.17		1.54	0.58	0.03
Control Delay	99.2	23.5	61.4	62.7	25.9	0.2	101.0	28.9		310.7	35.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	99.2	23.5	61.4	62.7	25.9	0.2	101.0	28.9		310.7	35.6	0.1
LOS	F	C	E	E	C	A	F	C		F	D	A
Approach Delay		44.3			22.5			62.9			83.8	
Approach LOS		D			C			E			F	
Queue Length 50th (ft)	4	112	~290	3	84	0	134	70		~298	283	0
Queue Length 95th (ft)	m7	212	#958	14	130	0	#225	95		#471	332	0
Internal Link Dist (ft)		1041			805			1762			2659	
Turn Bay Length (ft)	500			300		300	1000			1000		750
Base Capacity (vph)	39	1474	813	132	1493	711	308	1902		158	1902	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.10	0.48	1.04	0.02	0.20	0.07	0.95	0.17		1.54	0.58	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 30 (22%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.54			
Intersection Signal Delay: 59.2		Intersection LOS: E	
Intersection Capacity Utilization 90.9%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

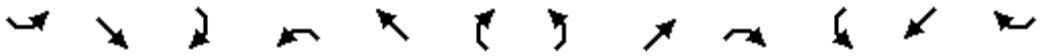
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	28	16	157	308	25	2	111	524	408	34	1950	47
Future Volume (vph)	28	16	157	308	25	2	111	524	408	34	1950	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.059			0.440		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	111	5136	1599	828	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			182			421			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			1072			1668			1125	
Travel Time (s)		9.8			18.3			20.7			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	30	17	167	331	27	2	114	540	421	41	2378	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	17	167	331	27	2	114	540	421	41	2378	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.3	8.3	120.0	16.6	16.6	120.0	78.8	72.4	120.0	79.8	69.4	120.0
Actuated g/C Ratio	0.07	0.07	1.00	0.14	0.14	1.00	0.66	0.60	1.00	0.66	0.58	1.00
v/c Ratio	0.24	0.07	0.10	0.69	0.05	0.00	0.65	0.17	0.26	0.07	0.80	0.04
Control Delay	58.0	52.9	0.1	57.6	45.5	0.0	36.6	12.2	0.4	7.5	24.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	52.9	0.1	57.6	45.5	0.0	36.6	12.2	0.4	7.5	24.0	0.0
LOS	E	D	A	E	D	A	D	B	A	A	C	A
Approach Delay		12.4			56.4			10.2			23.2	
Approach LOS		B			E			B			C	
Queue Length 50th (ft)	23	6	0	126	9	0	36	75	0	11	575	0
Queue Length 95th (ft)	m52	m18	0	#182	24	0	#110	100	0	21	544	0
Internal Link Dist (ft)		495			992			1588			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	479	494	1599	185	3098	1599	621	2968	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.05	0.10	0.69	0.05	0.00	0.62	0.17	0.26	0.07	0.80	0.04

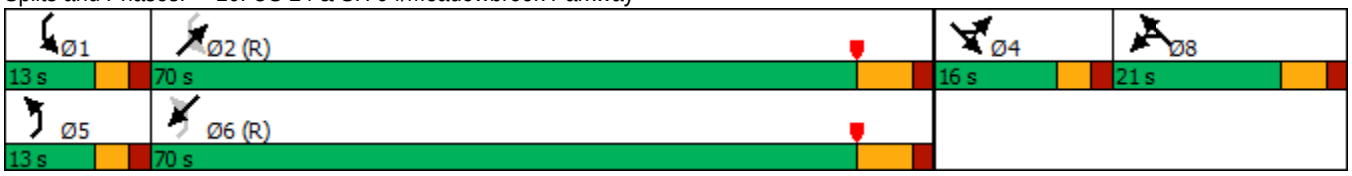
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

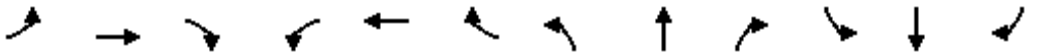
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

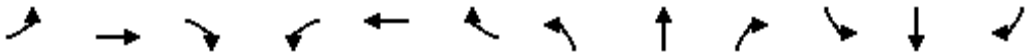
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway





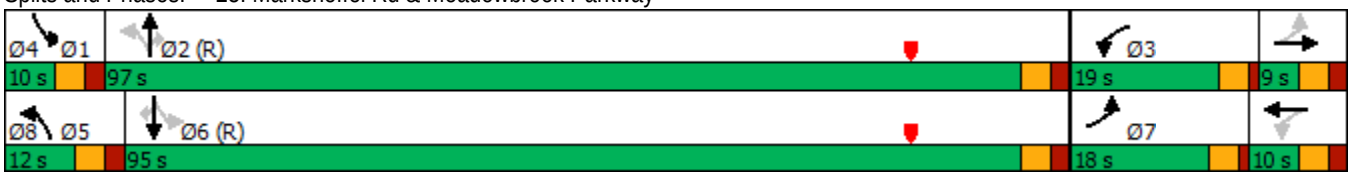
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	2	15	12	3	67	25	542	15	12	1454	143
Future Volume (vph)	58	2	15	12	3	67	25	542	15	12	1454	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		0	400		0	500		0	375		375
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.51	0.52		0.87								
Frt		0.868			0.856				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	853	0	1787	1610	0	1787	3574	1599	1787	3574	1599
Flt Permitted	0.467			0.746			0.133			0.444		
Satd. Flow (perm)	870	853	0	1214	1610	0	250	3574	1599	835	3574	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			68				89			146
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		466			924			1121			582	
Travel Time (s)		9.1			18.0			15.3			7.9	
Confl. Peds. (#/hr)	1159		1928	70								
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	59	2	15	12	3	68	26	553	15	12	1484	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	17	0	12	71	0	26	553	15	12	1484	146
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	L NA	Right	Left	L NA	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	9.0		10.0	9.0		10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	18.0	9.0		19.0	10.0		12.0	97.0	97.0	10.0	95.0	95.0
Total Split (%)	13.3%	6.7%		14.1%	7.4%		8.9%	71.9%	71.9%	7.4%	70.4%	70.4%
Maximum Green (s)	14.0	4.0		15.0	5.0		7.0	92.0	92.0	5.0	90.0	90.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.3	12.0		12.9	6.9		109.0	107.5	107.5	107.2	104.9	104.9
Actuated g/C Ratio	0.12	0.09		0.10	0.05		0.81	0.80	0.80	0.79	0.78	0.78
v/c Ratio	0.24	0.19		0.08	0.49		0.10	0.19	0.01	0.02	0.53	0.11
Control Delay	51.8	31.9		49.3	26.1		11.1	13.0	2.6	3.8	9.1	1.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	31.9		49.3	26.1		11.1	13.0	2.6	3.8	9.1	1.3
LOS	D	C		D	C		B	B	A	A	A	A
Approach Delay		47.3			29.5			12.7			8.4	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	23	2		9	3		12	132	0	2	300	0
Queue Length 95th (ft)	43	27		28	52		m21	m153	m3	7	422	22
Internal Link Dist (ft)		386			844			1041			502	
Turn Bay Length (ft)	210			400			500			375		375
Base Capacity (vph)	391	89		236	146		282	2845	1291	701	2777	1275
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.19		0.05	0.49		0.09	0.19	0.01	0.02	0.53	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 111 (82%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 25: Marksheffel Rd & Meadowbrook Parkway



Intersection	
Int Delay, s/veh	4.4

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	9	46	0	23	0	15	87	0	0	0	133	0	3
Future Vol, veh/h	9	46	0	23	0	15	87	0	0	0	133	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	50	0	25	0	16	95	0	0	0	145	0	3

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	111	0	0	-	50	0	0	-	231	-	86	136	16
Stage 1	-	-	-	-	-	-	-	-	70	-	16	66	-
Stage 2	-	-	-	-	-	-	-	-	161	-	70	70	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	-	6.51	-	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	-	4.009	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1485	-	-	-	1563	-	-	0	671	0	902	757	1066
Stage 1	-	-	-	-	-	-	-	0	839	0	1006	842	-
Stage 2	-	-	-	-	-	-	-	0	767	0	942	839	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1485	-	-	-	1563	-	-	-	666	-	897	752	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	666	-	897	752	-
Stage 1	-	-	-	-	-	-	-	-	833	-	999	842	-
Stage 2	-	-	-	-	-	-	-	-	767	-	936	833	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.2		0	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	-	-	1563	-	-	1485	-	-	897	1066
HCM Lane V/C Ratio	-	-	-	-	-	0.007	-	-	0.161	0.003
HCM Control Delay (s)	0	-	0	-	-	7.4	-	-	9.8	8.4
HCM Lane LOS	A	-	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.6	0

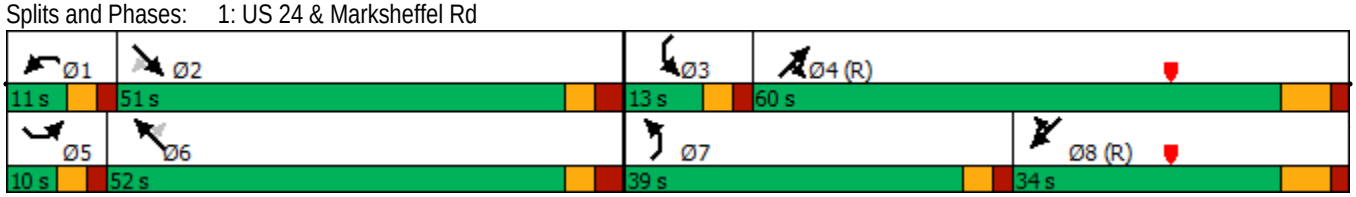
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	19	221	227	10	744	109	681	961	0	30	327	10
Future Volume (vph)	19	221	227	10	744	109	681	961	0	30	327	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			247			154						145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1126			885			1842			11941	
Travel Time (s)		25.6			20.1			22.8			148.0	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.99	0.95	0.99	0.99	0.92	0.92	0.95	0.92
Adj. Flow (vph)	19	223	247	11	752	115	688	971	0	33	344	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	223	247	11	752	115	688	971	0	33	344	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

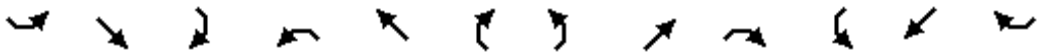
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	10.0	51.0	51.0	11.0	52.0	52.0	39.0	60.0	60.0	13.0	34.0	34.0
Total Split (%)	7.4%	37.8%	37.8%	8.1%	38.5%	38.5%	28.9%	44.4%	44.4%	9.6%	25.2%	25.2%
Maximum Green (s)	5.0	45.0	45.0	6.0	46.0	46.0	34.0	53.0	53.0	8.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	5.0	36.9	36.9	6.0	37.3	37.3	49.7	75.4		7.8	29.0	29.0
Actuated g/C Ratio	0.04	0.27	0.27	0.04	0.28	0.28	0.37	0.56		0.06	0.21	0.21
v/c Ratio	0.29	0.23	0.40	0.14	0.76	0.21	0.54	0.34		0.32	0.31	0.02
Control Delay	83.6	34.2	3.9	66.1	49.8	2.5	37.8	19.4		68.8	45.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	83.6	34.2	3.9	66.1	49.8	2.5	37.8	19.4		68.8	45.5	0.1
LOS	F	C	A	E	D	A	D	B		E	D	A
Approach Delay		20.8			43.8			27.0			46.2	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	18	69	0	9	318	0	231	165		28	93	0
Queue Length 95th (ft)	m0	79	31	30	359	18	359	267		64	126	0
Internal Link Dist (ft)		1046			805			1762			11861	
Turn Bay Length (ft)	500			300		300	1000			1000		750
Base Capacity (vph)	66	1217	707	79	1244	657	1275	2868		112	1103	457
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.29	0.18	0.35	0.14	0.60	0.18	0.54	0.34		0.29	0.31	0.02

Intersection Summary

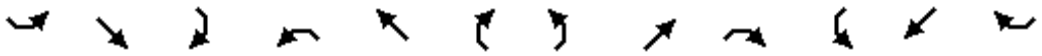
Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 32.6 Intersection LOS: C
Intersection Capacity Utilization 75.8% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	56	15	151	594	34	120	191	1734	259	2	777	32
Future Volume (vph)	56	15	151	594	34	120	191	1734	259	2	777	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.258			0.081		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	485	5136	1599	152	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			182			267			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			9509			11173			1125	
Travel Time (s)		9.8			162.1			138.5			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	60	16	161	639	37	129	197	1788	267	2	948	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	16	161	639	37	129	197	1788	267	2	948	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	9.5	9.5	120.0	18.8	18.8	120.0	73.0	73.8	120.0	77.0	63.0	120.0
Actuated g/C Ratio	0.08	0.08	1.00	0.16	0.16	1.00	0.61	0.62	1.00	0.64	0.52	1.00
v/c Ratio	0.43	0.06	0.10	1.18	0.07	0.08	0.52	0.57	0.17	0.01	0.35	0.02
Control Delay	62.0	51.4	0.1	141.8	46.6	0.1	13.6	15.0	0.2	7.5	17.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	51.4	0.1	141.8	46.6	0.1	13.6	15.0	0.2	7.5	17.1	0.0
LOS	E	D	A	F	D	A	B	B	A	A	B	A
Approach Delay		19.2			114.7			13.1			16.4	
Approach LOS		B			F			B			B	
Queue Length 50th (ft)	45	5	0	~341	13	0	56	265	0	1	150	0
Queue Length 95th (ft)	m90	m18	0	#468	30	0	87	392	0	3	162	0
Internal Link Dist (ft)		495			9429			11093			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	543	560	1599	381	3158	1599	206	2697	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.05	0.10	1.18	0.07	0.08	0.52	0.57	0.17	0.01	0.35	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 33.3		Intersection LOS: C	
Intersection Capacity Utilization 77.1%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

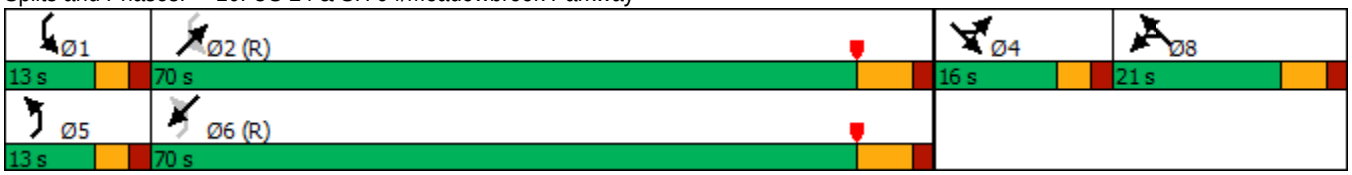
Queue shown is maximum after two cycles.

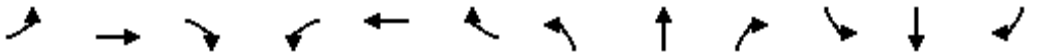
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

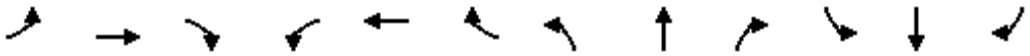
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway





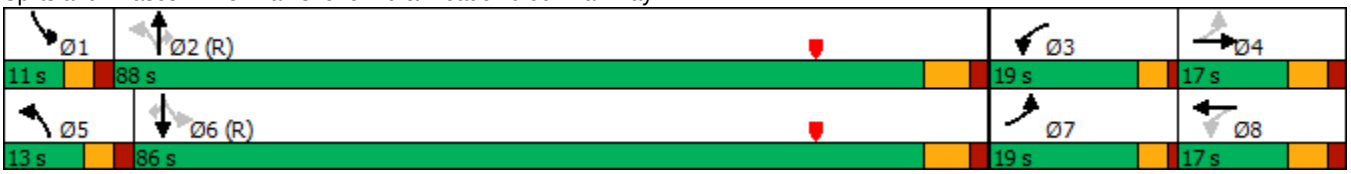
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	11	41	22	7	32	21	1458	93	28	597	111
Future Volume (vph)	99	11	41	22	7	32	21	1458	93	28	597	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		300	400		0	150		0	0		0
Storage Lanes	2		0	1		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.49	0.58		0.90								
Frt		0.883			0.876				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	958	0	1787	1648	0	1787	3574	1599	1787	3574	1599
Flt Permitted	0.460			0.721			0.402			0.131		
Satd. Flow (perm)	822	958	0	1219	1648	0	756	3574	1599	246	3574	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			34				97			117
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		466			959			1126			555	
Travel Time (s)		9.1			18.7			15.4			7.6	
Confl. Peds. (#/hr)	1159		1928	70								
Peak Hour Factor	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.99	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	12	43	23	7	34	22	1473	98	29	628	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	55	0	23	41	0	22	1473	98	29	628	117
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	11.5	11.5	10.0	11.5	11.5
Total Split (s)	19.0	17.0		19.0	17.0		13.0	88.0	88.0	11.0	86.0	86.0
Total Split (%)	14.1%	12.6%		14.1%	12.6%		9.6%	65.2%	65.2%	8.1%	63.7%	63.7%
Maximum Green (s)	15.0	11.0		15.0	11.0		8.0	81.5	81.5	6.0	79.5	79.5
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0		5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.0	11.1		15.0	7.5		102.7	97.5	97.5	102.9	97.6	97.6
Actuated g/C Ratio	0.14	0.08		0.11	0.06		0.76	0.72	0.72	0.76	0.72	0.72
v/c Ratio	0.35	0.47		0.14	0.34		0.04	0.57	0.08	0.11	0.24	0.10
Control Delay	51.2	35.2		47.5	30.1		3.6	5.2	1.2	5.5	8.0	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	35.2		47.5	30.1		3.6	5.2	1.2	5.5	8.0	1.8
LOS	D	D		D	C		A	A	A	A	A	A
Approach Delay		45.6			36.4			4.9			6.9	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	40	10		18	6		1	57	0	5	101	0
Queue Length 95th (ft)	62	55		42	44		m7	177	m12	16	158	23
Internal Link Dist (ft)		386			879			1046			475	
Turn Bay Length (ft)	250			400			150					
Base Capacity (vph)	425	130		258	168		642	2581	1181	258	2584	1188
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.42		0.09	0.24		0.03	0.57	0.08	0.11	0.24	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 102.5 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 66.0%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 25: Marksheffel Rd & Meadowbrook Parkway



Intersection	
Int Delay, s/veh	4.8

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	6	30	0	26	0	52	88	0	0	0	166	0	10
Future Vol, veh/h	6	30	0	26	0	52	88	0	0	0	166	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	33	0	28	0	57	96	0	0	0	180	0	11

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	153	0	0	-	33	0	0	-	256	-	104	160	57
Stage 1	-	-	-	-	-	-	-	-	47	-	57	113	-
Stage 2	-	-	-	-	-	-	-	-	209	-	47	47	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	-	6.51	-	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	-	4.009	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1434	-	-	-	1585	-	-	0	650	0	878	734	1012
Stage 1	-	-	-	-	-	-	-	0	858	0	957	804	-
Stage 2	-	-	-	-	-	-	-	0	731	0	969	858	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1434	-	-	-	1585	-	-	-	647	-	874	730	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	647	-	874	730	-
Stage 1	-	-	-	-	-	-	-	-	854	-	952	804	-
Stage 2	-	-	-	-	-	-	-	-	731	-	964	854	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		0	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	-	-	1585	-	-	1434	-	-	874	1012
HCM Lane V/C Ratio	-	-	-	-	-	0.005	-	-	0.206	0.011
HCM Control Delay (s)	0	-	0	-	-	7.5	-	-	10.2	8.6
HCM Lane LOS	A	-	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.8	0

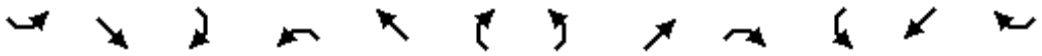
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	128	14	32	122	0	20	0	46	0	0	0
Future Vol, veh/h	0	128	14	32	122	0	20	0	46	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	139	15	35	133	0	22	0	50	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	154	0	0	350	350	147	375	357	133
Stage 1	-	-	-	-	-	-	147	147	-	203	203	-
Stage 2	-	-	-	-	-	-	203	203	-	172	154	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1452	-	-	1426	-	-	605	574	900	582	569	916
Stage 1	-	-	-	-	-	-	856	775	-	799	733	-
Stage 2	-	-	-	-	-	-	799	733	-	830	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1426	-	-	594	560	900	540	555	916
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	560	-	540	555	-
Stage 1	-	-	-	-	-	-	856	775	-	799	715	-
Stage 2	-	-	-	-	-	-	779	715	-	784	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	9.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	594	900	1452	-	-	1426	-	-	-
HCM Lane V/C Ratio	0.037	0.056	-	-	-	0.024	-	-	-
HCM Control Delay (s)	11.3	9.2	0	-	-	7.6	-	-	0
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0.1	-	-	-

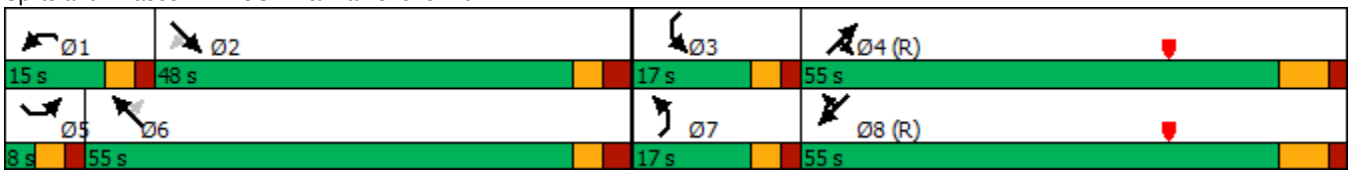


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	701	787	3	280	47	284	301	0	224	1092	33
Future Volume (vph)	6	701	787	3	280	47	284	301	0	224	1092	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295			113						145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1121			885			1842			2739	
Travel Time (s)		25.5			20.1			22.8			34.0	
Peak Hour Factor	0.92	0.99	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.92
Adj. Flow (vph)	7	708	855	3	304	51	309	327	0	243	1103	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	708	855	3	304	51	309	327	0	243	1103	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	8.0	48.0	48.0	15.0	55.0	55.0	17.0	55.0	55.0	17.0	55.0	55.0
Total Split (%)	5.9%	35.6%	35.6%	11.1%	40.7%	40.7%	12.6%	40.7%	40.7%	12.6%	40.7%	40.7%
Maximum Green (s)	3.0	42.0	42.0	10.0	49.0	49.0	12.0	48.0	48.0	12.0	48.0	48.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	1.0	0.0	-1.0	1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	3.0	55.7	53.7	6.1	56.4	54.4	12.0	50.0		12.0	50.0	50.0
Actuated g/C Ratio	0.02	0.41	0.40	0.05	0.42	0.40	0.09	0.37		0.09	0.37	0.37
v/c Ratio	0.18	0.48	1.05	0.04	0.20	0.07	1.00	0.17		1.54	0.58	0.05
Control Delay	99.7	22.8	62.8	62.7	25.9	0.2	112.8	28.9		310.7	35.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	99.7	22.8	62.8	62.7	25.9	0.2	112.8	28.9		310.7	35.6	0.2
LOS	F	C	E	E	C	A	F	C		F	D	A
Approach Delay		45.0			22.6			69.7			83.0	
Approach LOS		D			C			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 30 (22%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.54			
Intersection Signal Delay: 60.2		Intersection LOS: E	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: US 24 & Marksheffel Rd



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	28	16	162	308	25	2	122	523	408	34	1957	47
Future Volume (vph)	28	16	162	308	25	2	122	523	408	34	1957	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.060			0.441		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	113	5136	1599	830	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			182			421			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			1072			1668			1125	
Travel Time (s)		9.8			18.3			20.7			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	30	17	172	331	27	2	126	539	421	41	2387	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	17	172	331	27	2	126	539	421	41	2387	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.3	8.3	120.0	16.6	16.6	120.0	78.8	72.4	120.0	79.8	69.1	120.0
Actuated g/C Ratio	0.07	0.07	1.00	0.14	0.14	1.00	0.66	0.60	1.00	0.66	0.58	1.00
v/c Ratio	0.24	0.07	0.11	0.69	0.05	0.00	0.70	0.17	0.26	0.07	0.81	0.04
Control Delay	57.9	53.0	0.1	57.6	45.5	0.0	41.4	12.2	0.4	7.5	24.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	53.0	0.1	57.6	45.5	0.0	41.4	12.2	0.4	7.5	24.3	0.0
LOS	E	D	A	E	D	A	D	B	A	A	C	A
Approach Delay		12.2			56.4			11.0			23.5	
Approach LOS		B			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 22.5		Intersection LOS: C	
Intersection Capacity Utilization 75.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway

Intersection	
Int Delay, s/veh	4.3

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	9	46	0	23	0	15	100	0	0	0	138	0	3
Future Vol, veh/h	9	46	0	23	0	15	100	0	0	0	138	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	50	0	25	0	16	109	0	0	0	150	0	3

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	125	0	0	-	50	0	0	-	245	-	86	136	16
Stage 1	-	-	-	-	-	-	-	-	70	-	16	66	-
Stage 2	-	-	-	-	-	-	-	-	175	-	70	70	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	-	6.51	-	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	-	4.009	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1468	-	-	-	1563	-	-	0	659	0	902	757	1066
Stage 1	-	-	-	-	-	-	-	0	839	0	1006	842	-
Stage 2	-	-	-	-	-	-	-	0	756	0	942	839	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1468	-	-	-	1563	-	-	-	654	-	897	752	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	654	-	897	752	-
Stage 1	-	-	-	-	-	-	-	-	833	-	999	842	-
Stage 2	-	-	-	-	-	-	-	-	756	-	936	833	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.2		0	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	-	-	1563	-	-	1468	-	-	897	1066
HCM Lane V/C Ratio	-	-	-	-	-	0.007	-	-	0.167	0.003
HCM Control Delay (s)	0	-	0	-	-	7.5	-	-	9.8	8.4
HCM Lane LOS	A	-	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.6	0

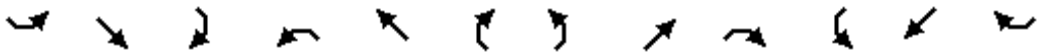
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	0	8	0	65	8	24	150	0
Future Vol, veh/h	0	0	0	2	0	8	0	65	8	24	150	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	75	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	0	0	2	0	9	0	71	9	26	163	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	295	295	163	286	-	71	-	0	0	80	0	0
Stage 1	215	215	-	71	-	-	-	-	-	-	-	-
Stage 2	80	80	-	215	-	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	-	6.21	-	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	-	3.309	-	-	-	2.209	-	-
Pot Cap-1 Maneuver	659	618	884	668	0	994	0	-	-	1524	-	0
Stage 1	790	727	-	941	0	-	0	-	-	-	-	0
Stage 2	931	830	-	790	0	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	645	607	884	659	-	994	-	-	-	1524	-	-
Mov Cap-2 Maneuver	645	607	-	659	-	-	-	-	-	-	-	-
Stage 1	790	715	-	941	-	-	-	-	-	-	-	-
Stage 2	923	830	-	777	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.1	0	1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	659	994	1524	-
HCM Lane V/C Ratio	-	-	-	0.003	0.009	0.017	-
HCM Control Delay (s)	-	-	0	10.5	8.7	7.4	-
HCM Lane LOS	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	0.1	-

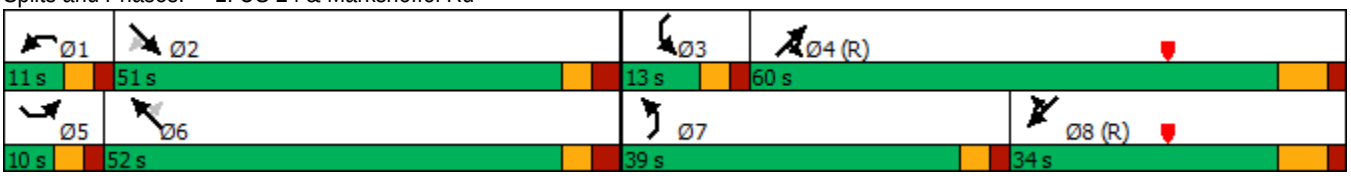


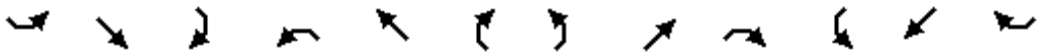
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	43	229	255	10	751	109	698	951	0	30	321	25
Future Volume (vph)	43	229	255	10	751	109	698	951	0	30	321	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1881	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			277			154						145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1126			885			1842			11941	
Travel Time (s)		25.6			20.1			22.8			148.0	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.99	0.95	0.99	0.99	0.92	0.92	0.95	0.92
Adj. Flow (vph)	43	231	277	11	759	115	705	961	0	33	338	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	231	277	11	759	115	705	961	0	33	338	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	10.0	51.0	51.0	11.0	52.0	52.0	39.0	60.0	60.0	13.0	34.0	34.0
Total Split (%)	7.4%	37.8%	37.8%	8.1%	38.5%	38.5%	28.9%	44.4%	44.4%	9.6%	25.2%	25.2%
Maximum Green (s)	5.0	45.0	45.0	6.0	46.0	46.0	34.0	53.0	53.0	8.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	5.0	41.1	41.1	6.0	37.5	37.5	45.5	71.2		7.8	29.0	29.0
Actuated g/C Ratio	0.04	0.30	0.30	0.04	0.28	0.28	0.34	0.53		0.06	0.21	0.21
v/c Ratio	0.65	0.21	0.41	0.14	0.76	0.21	0.60	0.35		0.32	0.31	0.06
Control Delay	110.1	31.9	4.0	66.1	49.7	2.5	41.8	21.5		69.0	45.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	110.1	31.9	4.0	66.1	49.7	2.5	41.8	21.5		69.0	45.4	0.2
LOS	F	C	A	E	D	A	D	C		E	D	A
Approach Delay		24.0			43.8			30.1			44.3	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	40	63	0	9	322	0	271	194		28	91	0
Queue Length 95th (ft)	m#97	85	37	30	362	18	371	264		64	123	0
Internal Link Dist (ft)		1046			805			1762			11861	
Turn Bay Length (ft)	500			300		300	1000			1000		750
Base Capacity (vph)	66	1226	730	79	1244	657	1167	2709		111	1103	457
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.65	0.19	0.38	0.14	0.61	0.18	0.60	0.35		0.30	0.31	0.06

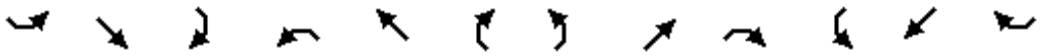
Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 34.2		Intersection LOS: C	
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	56	15	173	594	34	120	219	1720	259	2	798	32
Future Volume (vph)	56	15	173	594	34	120	219	1720	259	2	798	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.249			0.083		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	468	5136	1599	156	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184			182			267			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			9509			11173			1125	
Travel Time (s)		9.8			162.1			138.5			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	60	16	184	639	37	129	226	1773	267	2	973	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	16	184	639	37	129	226	1773	267	2	973	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	9.5	9.5	120.0	18.8	18.8	120.0	73.0	73.8	120.0	77.0	63.0	120.0
Actuated g/C Ratio	0.08	0.08	1.00	0.16	0.16	1.00	0.61	0.62	1.00	0.64	0.52	1.00
v/c Ratio	0.43	0.06	0.12	1.18	0.07	0.08	0.61	0.56	0.17	0.01	0.36	0.02
Control Delay	61.5	51.3	0.1	141.8	46.6	0.1	16.4	14.9	0.2	7.5	17.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	51.3	0.1	141.8	46.6	0.1	16.4	14.9	0.2	7.5	17.2	0.0
LOS	E	D	A	F	D	A	B	B	A	A	B	A
Approach Delay		17.5			114.7			13.4			16.5	
Approach LOS		B			F			B			B	
Queue Length 50th (ft)	45	5	0	~341	13	0	65	261	0	1	155	0
Queue Length 95th (ft)	m87	m17	0	#468	30	0	99	387	0	3	166	0
Internal Link Dist (ft)		495			9429			11093			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	543	560	1599	372	3158	1599	209	2696	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.05	0.12	1.18	0.07	0.08	0.61	0.56	0.17	0.01	0.36	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 33.1		Intersection LOS: C	
Intersection Capacity Utilization 76.8%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

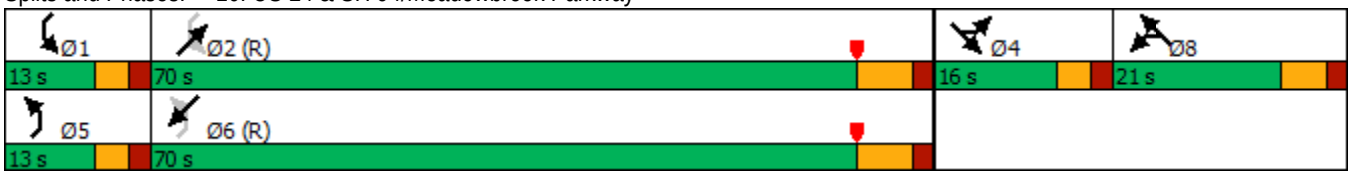
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway



Intersection	
Int Delay, s/veh	5

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	6	30	0	26	0	52	123	0	0	0	200	0	10
Future Vol, veh/h	6	30	0	26	0	52	123	0	0	0	200	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	33	0	28	0	57	134	0	0	0	217	0	11

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	191	0	0	-	33	0	0	-	294	-	104	160	57
Stage 1	-	-	-	-	-	-	-	-	47	-	57	113	-
Stage 2	-	-	-	-	-	-	-	-	247	-	47	47	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	-	6.51	-	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	-	4.009	-	3.509	4.009	3.309
Pot Cap-1 Maneuver	1389	-	-	-	1585	-	-	0	619	0	878	734	1012
Stage 1	-	-	-	-	-	-	-	0	858	0	957	804	-
Stage 2	-	-	-	-	-	-	-	0	704	0	969	858	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1389	-	-	-	1585	-	-	-	616	-	874	730	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	616	-	874	730	-
Stage 1	-	-	-	-	-	-	-	-	854	-	952	804	-
Stage 2	-	-	-	-	-	-	-	-	704	-	964	854	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		0	10.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	-	-	1585	-	-	1389	-	-	874	1012
HCM Lane V/C Ratio	-	-	-	-	-	0.005	-	-	0.249	0.011
HCM Control Delay (s)	0	-	0	-	-	7.6	-	-	10.5	8.6
HCM Lane LOS	A	-	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	1	0

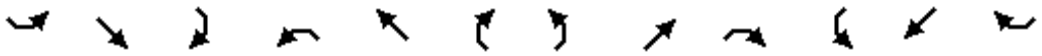
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	20	0	46	0	128	14	32	122	0
Future Vol, veh/h	0	0	0	20	0	46	0	128	14	32	122	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	75	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	0	0	22	0	50	0	139	15	35	133	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	375	357	133	342	342	139	-	0	0	154	0	0
Stage 1	203	203	-	139	139	-	-	-	-	-	-	-
Stage 2	172	154	-	203	203	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	-	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	-	-	-	2.209	-	-
Pot Cap-1 Maneuver	584	571	919	614	582	912	0	-	-	1433	-	0
Stage 1	801	735	-	866	784	-	0	-	-	-	-	0
Stage 2	832	772	-	801	735	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	542	557	919	602	568	912	-	-	-	1433	-	-
Mov Cap-2 Maneuver	542	557	-	602	568	-	-	-	-	-	-	-
Stage 1	801	717	-	866	784	-	-	-	-	-	-	-
Stage 2	786	772	-	781	717	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.8	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	602	912	1433	-
HCM Lane V/C Ratio	-	-	-	0.036	0.055	0.024	-
HCM Control Delay (s)	-	-	0	11.2	9.2	7.6	-
HCM Lane LOS	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.2	0.1	-



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	31	1198	930	5	652	54	387	802	25	487	1790	37
Future Volume (vph)	31	1198	930	5	652	54	387	802	25	487	1790	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279			113			145			145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1121			885			1842			2739	
Travel Time (s)		25.5			20.1			22.8			34.0	
Peak Hour Factor	0.92	0.99	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.92
Adj. Flow (vph)	34	1210	1011	5	709	59	421	872	27	529	1808	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	1210	1011	5	709	59	421	872	27	529	1808	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	8.0	48.0	48.0	15.0	55.0	55.0	17.0	55.0	55.0	17.0	55.0	55.0
Total Split (%)	5.9%	35.6%	35.6%	11.1%	40.7%	40.7%	12.6%	40.7%	40.7%	12.6%	40.7%	40.7%
Maximum Green (s)	3.0	42.0	42.0	10.0	49.0	49.0	12.0	48.0	48.0	12.0	48.0	48.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	1.0	0.0	-1.0	1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	3.0	55.6	53.6	6.2	50.0	48.0	12.0	50.0	50.0	12.0	50.0	50.0
Actuated g/C Ratio	0.02	0.41	0.40	0.05	0.37	0.36	0.09	0.37	0.37	0.09	0.37	0.37
v/c Ratio	0.87	0.82	1.26	0.06	0.54	0.09	1.37	0.46	0.04	3.35	0.95	0.06
Control Delay	177.8	30.6	145.3	63.0	35.2	0.3	229.2	33.2	0.1	1090.7	53.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	177.8	30.6	145.3	63.0	35.2	0.3	229.2	33.2	0.1	1090.7	53.3	0.2
LOS	F	C	F	E	D	A	F	C	A	F	D	A
Approach Delay		84.2			32.7			95.0			283.3	
Approach LOS		F			C			F			F	
Queue Length 50th (ft)	32	240	~502	4	255	0	~250	210	0	~818	560	0
Queue Length 95th (ft)	m#71	#715	#1382	19	317	0	#358	253	0	#1042	#667	0
Internal Link Dist (ft)		1041			805			1762			2659	
Turn Bay Length (ft)	500			300		300	1000		700	1000		750
Base Capacity (vph)	39	1472	803	132	1323	641	308	1902	683	158	1902	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.82	1.26	0.04	0.54	0.09	1.37	0.46	0.04	3.35	0.95	0.06

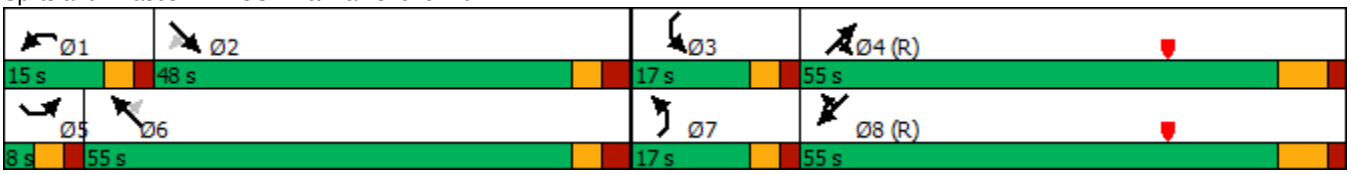
Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 30 (22%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 3.35			
Intersection Signal Delay: 150.8		Intersection LOS: F	
Intersection Capacity Utilization 111.3%		ICU Level of Service H	
Analysis Period (min) 15			

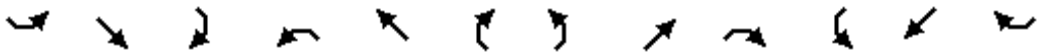
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

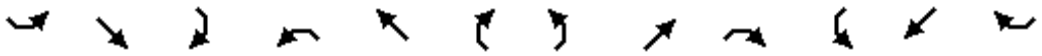
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	41	47	208	900	114	10	161	960	933	50	2791	90
Future Volume (vph)	41	47	208	900	114	10	161	960	933	50	2791	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.065			0.247		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	122	5136	1599	465	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214			182			935			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			1072			1668			1125	
Travel Time (s)		9.8			18.3			20.7			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	44	50	221	968	123	11	166	990	962	61	3404	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	50	221	968	123	11	166	990	962	61	3404	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.9	8.9	120.0	19.3	19.3	120.0	73.0	66.2	120.0	74.0	63.0	120.0
Actuated g/C Ratio	0.07	0.07	1.00	0.16	0.16	1.00	0.61	0.55	1.00	0.62	0.52	1.00
v/c Ratio	0.33	0.19	0.14	1.73	0.21	0.01	0.90	0.35	0.60	0.17	1.26	0.07
Control Delay	60.1	53.9	0.2	369.7	46.9	0.0	70.5	15.9	1.7	8.8	149.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	53.9	0.2	369.7	46.9	0.0	70.5	15.9	1.7	8.8	149.0	0.1
LOS	E	D	A	F	D	A	E	B	A	A	F	A
Approach Delay		17.1			330.0			13.7			142.1	
Approach LOS		B			F			B			F	
Queue Length 50th (ft)	33	19	0	~601	45	0	74	155	0	16	~1213	0
Queue Length 95th (ft)	m71	m39	m0	#753	77	0	#207	191	0	28	#1106	0
Internal Link Dist (ft)		495			992			1588			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	558	575	1599	185	2834	1599	377	2696	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.15	0.14	1.73	0.21	0.01	0.90	0.35	0.60	0.16	1.26	0.07

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.73
Intersection Signal Delay: 127.4 Intersection LOS: F
Intersection Capacity Utilization 110.2% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

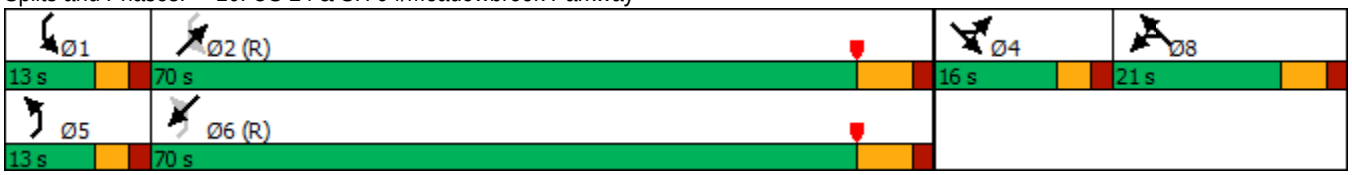
Queue shown is maximum after two cycles.

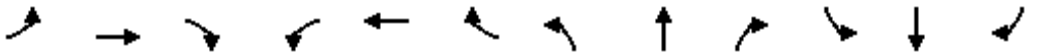
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

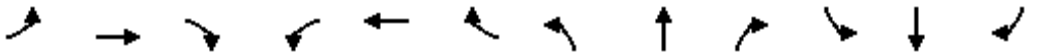
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	4	49	95	13	75	94	923	58	41	2023	202
Future Volume (vph)	130	4	49	95	13	75	94	923	58	41	2023	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		0	400		400	500		0	375		375
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Ped Bike Factor	0.47	0.50		0.87								
Frt		0.861				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	808	0	1787	1881	1599	1787	3574	1599	1787	5136	1599
Flt Permitted	0.833			0.471			0.060			0.276		
Satd. Flow (perm)	1428	808	0	772	1881	1599	113	3574	1599	519	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50				89			89			206
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		466			924			1121			582	
Travel Time (s)		9.1			18.0			15.3			7.9	
Confl. Peds. (#/hr)	1159		1928	70								
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	133	4	50	97	13	77	96	942	59	42	2064	206
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	54	0	97	13	77	96	942	59	42	2064	206
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	L NA	Right	Left	L NA	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm

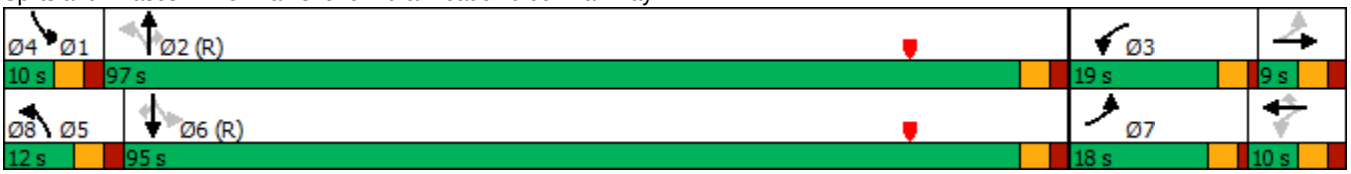


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	9.0		10.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	18.0	9.0		19.0	10.0	10.0	12.0	97.0	97.0	10.0	95.0	95.0
Total Split (%)	13.3%	6.7%		14.1%	7.4%	7.4%	8.9%	71.9%	71.9%	7.4%	70.4%	70.4%
Maximum Green (s)	14.0	4.0		15.0	5.0	5.0	7.0	92.0	92.0	5.0	90.0	90.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.6	6.2		20.9	7.5	7.5	100.9	95.3	95.3	97.1	91.8	91.8
Actuated g/C Ratio	0.12	0.05		0.15	0.06	0.06	0.75	0.71	0.71	0.72	0.68	0.68
v/c Ratio	0.42	0.64		0.44	0.12	0.45	0.57	0.37	0.05	0.10	0.59	0.18
Control Delay	53.5	50.5		55.5	63.6	17.6	36.7	13.8	5.5	4.8	12.7	1.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	50.5		55.5	63.6	17.6	36.7	13.8	5.5	4.8	12.7	1.4
LOS	D	D		E	E	B	D	B	A	A	B	A
Approach Delay		52.6			40.5			15.4			11.5	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	52	3		75	11	0	49	173	7	8	342	0
Queue Length 95th (ft)	82	#79		131	35	42	m79	m173	m13	17	383	26
Internal Link Dist (ft)		386			844			1041			502	
Turn Bay Length (ft)	210			400		400	500			375		375
Base Capacity (vph)	418	84		244	104	172	171	2523	1155	422	3492	1152
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.64		0.40	0.13	0.45	0.56	0.37	0.05	0.10	0.59	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 111 (82%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

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

Splits and Phases: 25: Marksheffel Rd & Meadowbrook Parkway



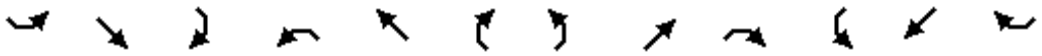
Intersection	
Int Delay, s/veh	9.9

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	9	30	16	20	102	10	193	5	131	71	176	77	3
Future Vol, veh/h	9	30	16	20	102	10	193	5	131	71	176	77	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	33	17	22	111	11	210	5	142	77	191	84	3

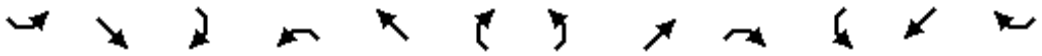
Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	221	0	0	-	50	0	0	444	549	42	404	347	11
Stage 1	-	-	-	-	-	-	-	62	62	-	233	277	-
Stage 2	-	-	-	-	-	-	-	382	487	-	171	70	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1354	-	-	-	1563	-	-	526	445	1032	559	578	1073
Stage 1	-	-	-	-	-	-	-	952	845	-	772	683	-
Stage 2	-	-	-	-	-	-	-	643	552	-	833	839	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1354	-	-	-	1563	-	-	463	442	1032	386	574	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	463	442	-	386	574	-
Stage 1	-	-	-	-	-	-	-	945	839	-	767	683	-
Stage 2	-	-	-	-	-	-	-	562	552	-	635	833	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		15.7	19.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	553	-	1563	-	-	1354	-	-	386	584
HCM Lane V/C Ratio	0.397	-	0.071	-	-	0.007	-	-	0.496	0.149
HCM Control Delay (s)	15.7	-	7.5	-	-	7.7	-	-	23.1	12.2
HCM Lane LOS	C	-	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.9	-	0.2	-	-	0	-	-	2.7	0.5



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	47	590	417	10	1193	300	1159	1909	10	100	656	86
Future Volume (vph)	47	590	417	10	1193	300	1159	1909	10	100	656	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			453			161			105			145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1126			885			1842			11941	
Travel Time (s)		25.6			20.1			22.8			148.0	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.99	0.95	0.99	0.99	0.92	0.92	0.95	0.92
Adj. Flow (vph)	47	596	453	11	1205	316	1171	1928	11	109	691	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	596	453	11	1205	316	1171	1928	11	109	691	93
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

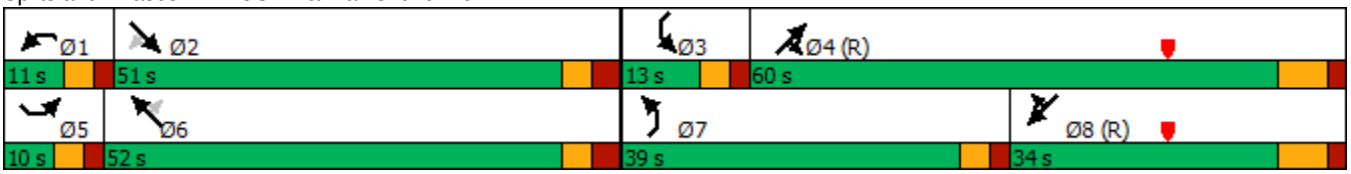


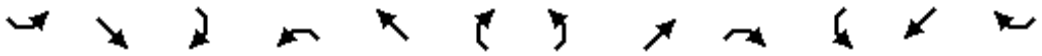
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	10.0	51.0	51.0	11.0	52.0	52.0	39.0	60.0	60.0	13.0	34.0	34.0
Total Split (%)	7.4%	37.8%	37.8%	8.1%	38.5%	38.5%	28.9%	44.4%	44.4%	9.6%	25.2%	25.2%
Maximum Green (s)	5.0	45.0	45.0	6.0	46.0	46.0	34.0	53.0	53.0	8.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	5.0	51.4	51.4	6.0	47.8	47.8	35.2	55.0	55.0	9.2	29.0	29.0
Actuated g/C Ratio	0.04	0.38	0.38	0.04	0.35	0.35	0.26	0.41	0.41	0.07	0.21	0.21
v/c Ratio	0.71	0.44	0.51	0.14	0.95	0.47	1.29	0.92	0.02	0.90	0.63	0.20
Control Delay	112.0	26.4	6.2	66.1	59.1	18.7	180.8	46.4	0.0	119.8	51.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	112.0	26.4	6.2	66.1	59.1	18.7	181.1	46.4	0.0	119.8	51.0	2.1
LOS	F	C	A	E	E	B	F	D	A	F	D	A
Approach Delay		21.7			50.8			97.0			54.3	
Approach LOS		C			D			F			D	
Queue Length 50th (ft)	42	156	26	9	545	102	~689	580	0	~102	202	0
Queue Length 95th (ft)	m#104	204	54	30	#697	191	#825	653	0	#228	249	9
Internal Link Dist (ft)		1046			805			1762			11861	
Turn Bay Length (ft)	500			300		300	1000		700	1000		750
Base Capacity (vph)	66	1359	888	79	1264	669	905	2092	713	121	1103	457
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	53	0	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.44	0.51	0.14	0.95	0.47	1.37	0.92	0.02	0.90	0.63	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay: 68.1		Intersection LOS: E	
Intersection Capacity Utilization 108.0%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

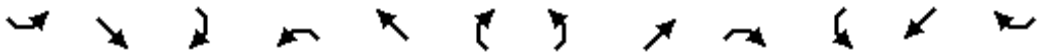
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	218	160	315	743	174	275	341	2734	1054	10	1122	123
Future Volume (vph)	218	160	315	743	174	275	341	2734	1054	10	1122	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.142			0.058		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	267	5136	1599	109	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235			263			959			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			9509			11173			1125	
Travel Time (s)		9.8			162.1			138.5			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	232	170	335	799	187	296	352	2819	1087	12	1368	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	170	335	799	187	296	352	2819	1087	12	1368	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	11.0	11.0	120.0	15.0	15.0	120.0	73.0	71.5	120.0	76.0	63.0	120.0
Actuated g/C Ratio	0.09	0.09	1.00	0.12	0.12	1.00	0.61	0.60	1.00	0.63	0.52	1.00
v/c Ratio	1.42	0.52	0.21	1.85	0.42	0.19	1.34	0.92	0.68	0.08	0.51	0.09
Control Delay	261.8	58.2	0.3	419.5	51.7	0.3	194.7	28.8	2.4	8.6	19.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	261.8	58.2	0.3	419.5	51.7	0.3	194.7	28.8	2.4	8.6	19.3	0.1
LOS	F	E	A	F	D	A	F	C	A	A	B	A
Approach Delay		96.0			269.1			35.7			17.3	
Approach LOS		F			F			D			B	
Queue Length 50th (ft)	~244	67	0	~484	71	0	~188	604	0	3	242	0
Queue Length 95th (ft)	m#402	m103	m0	#608	109	0	#358	#934	0	9	248	0
Internal Link Dist (ft)		495			9429			11093			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	433	446	1599	263	3061	1599	181	2696	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	0.52	0.21	1.85	0.42	0.19	1.34	0.92	0.68	0.07	0.51	0.09

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.85
Intersection Signal Delay: 76.1 Intersection LOS: E
Intersection Capacity Utilization 103.2% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.

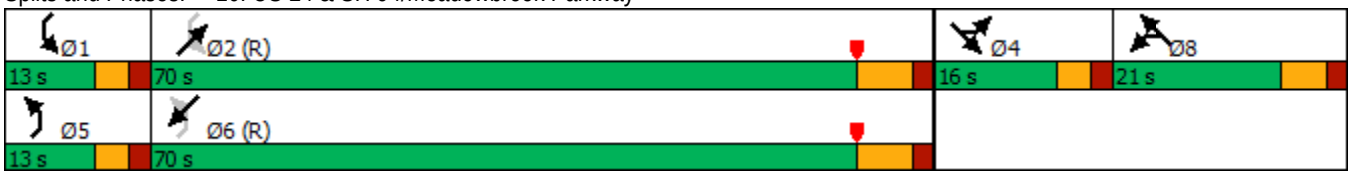
Queue shown is maximum after two cycles.

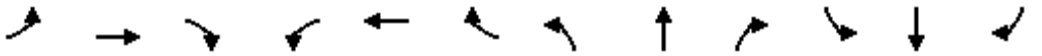
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

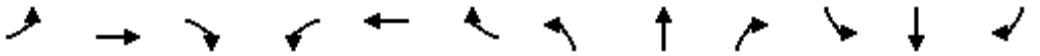
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	26	100	150	22	115	67	2110	260	90	815	295
Future Volume (vph)	358	26	100	150	22	115	67	2110	260	90	815	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		300	400		400	150		0	0		0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Ped Bike Factor	0.48	0.57		0.92								
Frt		0.881				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	944	0	1787	1881	1599	1787	3574	1599	1787	5136	1599
Flt Permitted	0.675			0.448			0.304			0.048		
Satd. Flow (perm)	1175	944	0	772	1881	1599	572	3574	1599	90	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		105				101			181			311
Link Speed (mph)		35			35			50			50	
Link Distance (ft)		466			572			1126			555	
Travel Time (s)		9.1			11.1			15.4			7.6	
Confl. Peds. (#/hr)	1159		1928	70								
Peak Hour Factor	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.99	0.95	0.95	0.95	0.95
Adj. Flow (vph)	365	27	105	158	23	121	71	2131	274	95	858	311
Shared Lane Traffic (%)												
Lane Group Flow (vph)	365	132	0	158	23	121	71	2131	274	95	858	311
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm

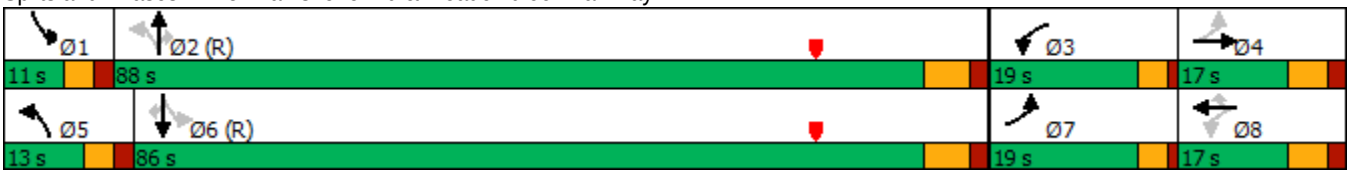


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	11.5	11.5	10.0	11.5	11.5
Total Split (s)	19.0	17.0		19.0	17.0	17.0	13.0	88.0	88.0	11.0	86.0	86.0
Total Split (%)	14.1%	12.6%		14.1%	12.6%	12.6%	9.6%	65.2%	65.2%	8.1%	63.7%	63.7%
Maximum Green (s)	15.0	11.0		15.0	11.0	11.0	8.0	81.5	81.5	6.0	79.5	79.5
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	6.0	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	26.7	9.9		24.7	8.9	8.9	91.9	83.4	83.4	91.6	85.0	85.0
Actuated g/C Ratio	0.20	0.07		0.18	0.07	0.07	0.68	0.62	0.62	0.68	0.63	0.63
v/c Ratio	0.76	0.80		0.65	0.19	0.60	0.16	0.97	0.26	0.67	0.27	0.28
Control Delay	56.6	48.6		57.6	61.8	29.0	7.0	20.3	3.9	45.5	12.1	1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	48.6		57.6	61.8	29.0	7.0	20.3	3.9	45.5	12.1	1.9
LOS	E	D		E	E	C	A	C	A	D	B	A
Approach Delay		54.5			46.5			18.1			12.1	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	141	23		117	19	17	14	757	30	32	127	0
Queue Length 95th (ft)	190	#130		186	49	81	m13	m315	m26	#120	155	38
Internal Link Dist (ft)		386			492			1046			475	
Turn Bay Length (ft)	250			400		400	150					
Base Capacity (vph)	487	173		260	153	223	465	2208	1057	141	3232	1121
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.76		0.61	0.15	0.54	0.15	0.97	0.26	0.67	0.27	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 102.5 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of FDW or yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 22.3		Intersection LOS: C	
Intersection Capacity Utilization 109.3%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

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

Splits and Phases: 25: Marksheffel Rd & Meadowbrook Parkway



Intersection	
Int Delay, s/veh	91.1

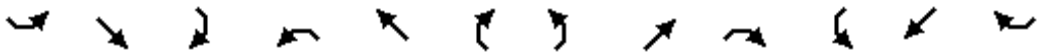
Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	6	19	11	23	349	34	190	18	232	344	307	266	10
Future Vol, veh/h	6	19	11	23	349	34	190	18	232	344	307	266	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	21	12	25	379	37	207	20	252	374	334	289	11

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	244	0	0	-	33	0	0	1090	1093	27	1149	892	37
Stage 1	-	-	-	-	-	-	-	41	41	-	795	845	-
Stage 2	-	-	-	-	-	-	-	1049	1052	-	354	47	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1328	-	-	-	1585	-	-	193	~ 215	1051	~ 176	~ 282	1038
Stage 1	-	-	-	-	-	-	-	976	863	-	382	380	-
Stage 2	-	-	-	-	-	-	-	276	305	-	665	858	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1328	-	-	-	1585	-	-	-	~ 214	1051	-	~ 281	1038
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	~ 214	-	-	~ 281	-
Stage 1	-	-	-	-	-	-	-	971	859	-	380	380	-
Stage 2	-	-	-	-	-	-	-	65	305	-	~ 301	854	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		277.5	
HCM LOS			F	-

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	408	-	1585	-	-	1328	-	-	-	289
HCM Lane V/C Ratio	1.535	-	0.239	-	-	0.005	-	-	-	1.038
HCM Control Delay (s)	277.5	-	8	-	-	7.7	-	-	-	102.8
HCM Lane LOS	F	-	A	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	34.1	-	0.9	-	-	0	-	-	-	11.3

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



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	33	1199	936	5	657	54	401	800	25	487	1785	50
Future Volume (vph)	33	1199	936	5	657	54	401	800	25	487	1785	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279			113			145			145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1121			885			1842			2739	
Travel Time (s)		25.5			20.1			22.8			34.0	
Peak Hour Factor	0.92	0.99	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.99	0.92
Adj. Flow (vph)	36	1211	1017	5	714	59	436	870	27	529	1803	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	1211	1017	5	714	59	436	870	27	529	1803	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

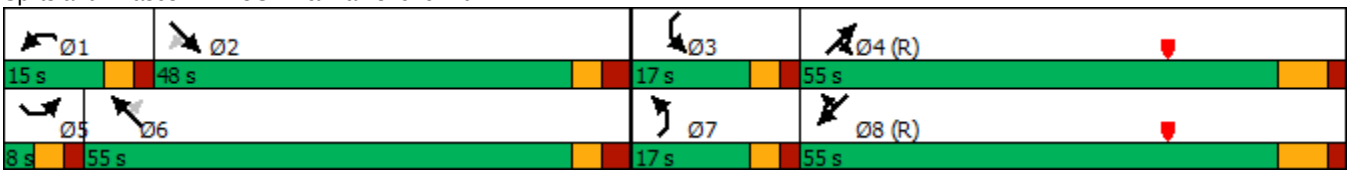
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	8.0	48.0	48.0	15.0	55.0	55.0	17.0	55.0	55.0	17.0	55.0	55.0
Total Split (%)	5.9%	35.6%	35.6%	11.1%	40.7%	40.7%	12.6%	40.7%	40.7%	12.6%	40.7%	40.7%
Maximum Green (s)	3.0	42.0	42.0	10.0	49.0	49.0	12.0	48.0	48.0	12.0	48.0	48.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	1.0	0.0	-1.0	1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	7.0	5.0	5.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	3.0	55.6	53.6	6.2	50.0	48.0	12.0	50.0	50.0	12.0	50.0	50.0
Actuated g/C Ratio	0.02	0.41	0.40	0.05	0.37	0.36	0.09	0.37	0.37	0.09	0.37	0.37
v/c Ratio	0.92	0.82	1.27	0.06	0.54	0.09	1.42	0.46	0.04	3.35	0.95	0.08
Control Delay	190.2	30.3	148.2	63.0	35.3	0.3	248.2	33.2	0.1	1090.7	52.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	190.2	30.3	148.2	63.0	35.3	0.3	248.2	33.2	0.1	1090.7	52.9	0.2
LOS	F	C	F	E	D	A	F	C	A	F	D	A
Approach Delay		85.8			32.8			102.9			281.8	
Approach LOS		F			C			F			F	
Queue Length 50th (ft)	34	247	~516	4	257	0	~264	210	0	~818	558	0
Queue Length 95th (ft)	m#78	#717	#1394	19	321	0	#373	252	0	#1042	#664	0
Internal Link Dist (ft)		1041			805			1762			2659	
Turn Bay Length (ft)	500			300		300	1000		700	1000		750
Base Capacity (vph)	39	1472	803	132	1323	641	308	1902	683	158	1902	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.82	1.27	0.04	0.54	0.09	1.42	0.46	0.04	3.35	0.95	0.08

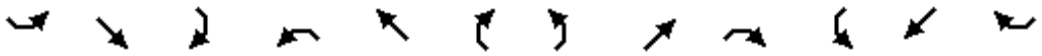
Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 30 (22%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 3.35
Intersection Signal Delay: 152.2 Intersection LOS: F
Intersection Capacity Utilization 111.6% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

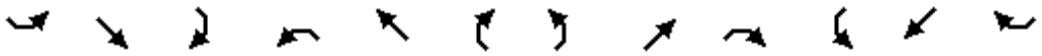
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	41	47	213	900	114	10	174	959	933	50	2798	90
Future Volume (vph)	41	47	213	900	114	10	174	959	933	50	2798	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.065			0.247		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	122	5136	1599	465	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214			182			935			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			1072			1668			1125	
Travel Time (s)		9.8			18.3			20.7			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	44	50	227	968	123	11	179	989	962	61	3412	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	50	227	968	123	11	179	989	962	61	3412	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.9	8.9	120.0	19.3	19.3	120.0	73.0	66.2	120.0	74.0	63.0	120.0
Actuated g/C Ratio	0.07	0.07	1.00	0.16	0.16	1.00	0.61	0.55	1.00	0.62	0.52	1.00
v/c Ratio	0.33	0.19	0.14	1.73	0.21	0.01	0.97	0.35	0.60	0.17	1.27	0.07
Control Delay	60.1	54.1	0.2	369.7	46.9	0.0	86.8	15.9	1.7	8.8	150.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	54.1	0.2	369.7	46.9	0.0	86.8	15.9	1.7	8.8	150.3	0.1
LOS	E	D	A	F	D	A	F	B	A	A	F	A
Approach Delay		16.8			330.0			15.4			143.3	
Approach LOS		B			F			B			F	
Queue Length 50th (ft)	33	19	0	~601	45	0	85	155	0	16	~1218	0
Queue Length 95th (ft)	m71	m39	m0	#753	77	0	#233	191	0	28	#1110	0
Internal Link Dist (ft)		495			992			1588			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	558	575	1599	185	2834	1599	377	2696	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.15	0.14	1.73	0.21	0.01	0.97	0.35	0.60	0.16	1.27	0.07

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.73
Intersection Signal Delay: 128.3 Intersection LOS: F
Intersection Capacity Utilization 111.0% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

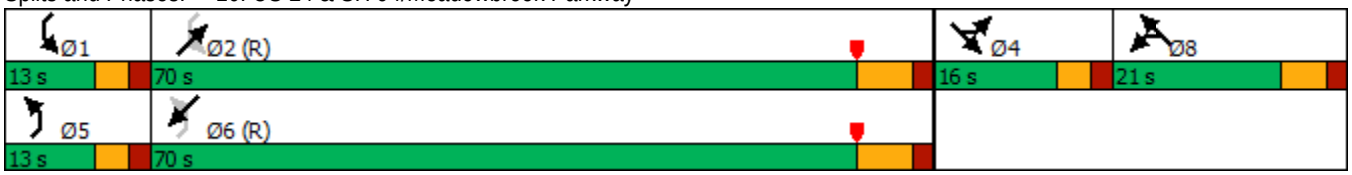
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway



Intersection	
Int Delay, s/veh	10.1

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	9	30	16	20	102	10	206	5	131	71	181	77	3
Future Vol, veh/h	9	30	16	20	102	10	206	5	131	71	181	77	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	33	17	22	111	11	224	5	142	77	197	84	3

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	235	0	0	-	50	0	0	451	563	42	404	347	11
Stage 1	-	-	-	-	-	-	-	62	62	-	233	277	-
Stage 2	-	-	-	-	-	-	-	389	501	-	171	70	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1338	-	-	-	1563	-	-	520	437	1032	559	578	1073
Stage 1	-	-	-	-	-	-	-	952	845	-	772	683	-
Stage 2	-	-	-	-	-	-	-	637	544	-	833	839	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1338	-	-	-	1563	-	-	458	434	1032	383	574	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	458	434	-	383	574	-
Stage 1	-	-	-	-	-	-	-	945	839	-	767	683	-
Stage 2	-	-	-	-	-	-	-	557	544	-	635	833	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		16	20.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	545	-	1563	-	-	1338	-	-	383	584
HCM Lane V/C Ratio	0.403	-	0.071	-	-	0.007	-	-	0.514	0.149
HCM Control Delay (s)	16	-	7.5	-	-	7.7	-	-	23.9	12.2
HCM Lane LOS	C	-	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.9	-	0.2	-	-	0	-	-	2.8	0.5

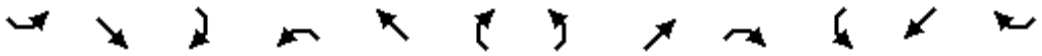
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	16	2	0	8	4	159	8	24	288	3
Future Vol, veh/h	10	0	16	2	0	8	4	159	8	24	288	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	-	-	75	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	11	0	17	2	0	9	4	173	9	26	313	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	557	557	315	556	-	173	316	0	0	182	0	0
Stage 1	367	367	-	181	-	-	-	-	-	-	-	-
Stage 2	190	190	-	375	-	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	-	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	-	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	443	440	728	443	0	873	1250	-	-	1399	-	-
Stage 1	655	624	-	823	0	-	-	-	-	-	-	-
Stage 2	814	745	-	648	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	431	430	728	425	-	873	1250	-	-	1399	-	-
Mov Cap-2 Maneuver	431	430	-	425	-	-	-	-	-	-	-	-
Stage 1	652	612	-	820	-	-	-	-	-	-	-	-
Stage 2	803	742	-	621	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	10.1	0.2	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1250	-	-	575	425	873	1399	-	-
HCM Lane V/C Ratio	0.003	-	-	0.049	0.005	0.01	0.019	-	-
HCM Control Delay (s)	7.9	-	-	11.6	13.5	9.2	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	0.1	-	-



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	71	598	445	10	1200	300	1176	1899	10	100	650	101
Future Volume (vph)	71	598	445	10	1200	300	1176	1899	10	100	650	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		0	300		300	1000		700	1000		750
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	100			300			300			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1787	3574	1599	1787	3574	1599	3467	5136	1599	1787	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			484			154			105			145
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1126			885			1842			11941	
Travel Time (s)		25.6			20.1			22.8			148.0	
Peak Hour Factor	0.99	0.99	0.92	0.92	0.99	0.95	0.99	0.99	0.92	0.92	0.95	0.92
Adj. Flow (vph)	72	604	484	11	1212	316	1188	1918	11	109	684	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	604	484	11	1212	316	1188	1918	11	109	684	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			18			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	5	2		1	6		7	4	4	3	8	8
Permitted Phases			2			6						

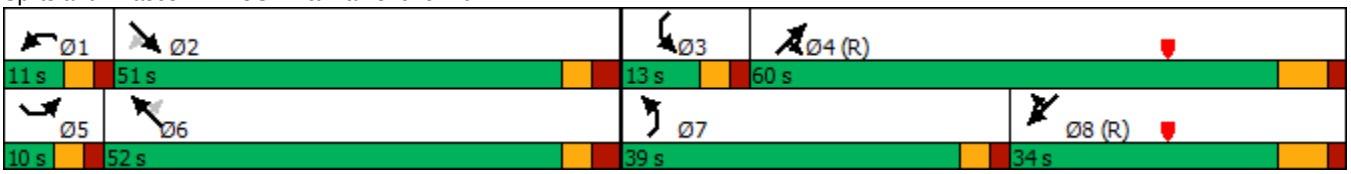
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	5	2	2	1	6	6	7		4	3		8
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	28.0	28.0	6.0	28.0	28.0
Minimum Split (s)	15.0	16.0	16.0	15.0	16.0	16.0	15.0	35.0	35.0	15.0	35.0	35.0
Total Split (s)	10.0	51.0	51.0	11.0	52.0	52.0	39.0	60.0	60.0	13.0	34.0	34.0
Total Split (%)	7.4%	37.8%	37.8%	8.1%	38.5%	38.5%	28.9%	44.4%	44.4%	9.6%	25.2%	25.2%
Maximum Green (s)	5.0	45.0	45.0	6.0	46.0	46.0	34.0	53.0	53.0	8.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-1.0	-1.0	0.0	-1.0	-1.0	0.0	-2.0	-2.0	0.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Max	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	5.0	52.6	52.6	6.0	47.0	47.0	34.0	55.0	55.0	8.0	29.0	29.0
Actuated g/C Ratio	0.04	0.39	0.39	0.04	0.35	0.35	0.25	0.41	0.41	0.06	0.21	0.21
v/c Ratio	1.09	0.43	0.53	0.14	0.97	0.48	1.36	0.92	0.02	1.04	0.62	0.24
Control Delay	192.2	25.9	6.2	66.1	63.5	19.6	208.7	45.9	0.0	158.6	50.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	192.2	25.9	6.2	66.1	63.5	19.6	209.1	45.9	0.0	158.6	50.9	3.9
LOS	F	C	A	E	E	B	F	D	A	F	D	A
Approach Delay		28.0			54.5			107.9			58.2	
Approach LOS		C			D			F			E	
Queue Length 50th (ft)	~72	156	30	9	550	107	~705	576	0	~102	200	0
Queue Length 95th (ft)	m#161	m207	m48	30	#704	197	#841	648	0	#228	246	24
Internal Link Dist (ft)		1046			805			1762			11861	
Turn Bay Length (ft)	500			300		300	1000		700	1000		750
Base Capacity (vph)	66	1392	918	79	1244	657	873	2092	713	105	1103	457
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	50	0	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.43	0.53	0.14	0.97	0.48	1.44	0.92	0.02	1.04	0.62	0.24

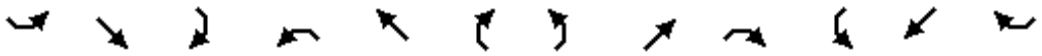
Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 4:NET and 8:SWT, Start of FDW or yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 75.2 Intersection LOS: E
Intersection Capacity Utilization 111.7% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

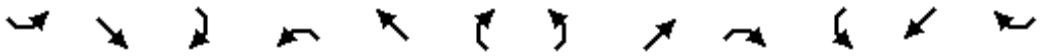
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 24 & Marksheffel Rd





Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	218	160	349	743	174	275	376	2720	1054	10	1143	123
Future Volume (vph)	218	160	349	743	174	275	376	2720	1054	10	1143	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	500		500	1000		1000	800		800
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	100			300			100			100		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3574	1599	3467	3574	1599	1787	5136	1599	1787	5136	1599
Flt Permitted	0.950			0.950			0.137			0.058		
Satd. Flow (perm)	1787	3574	1599	3467	3574	1599	258	5136	1599	109	5136	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233			263			959			182
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		575			9509			11173			1125	
Travel Time (s)		9.8			162.1			138.5			13.9	
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.97	0.97	0.97	0.82	0.82	0.82
Adj. Flow (vph)	232	170	371	799	187	296	388	2804	1087	12	1394	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	170	371	799	187	296	388	2804	1087	12	1394	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			52			52	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Free	Split	NA	Free	D.P+P	NA	Free	D.P+P	NA	Free
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			Free			Free	6		Free	2		Free



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	28.0		6.0	28.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		13.0	35.0		11.0	35.0	
Total Split (s)	16.0	16.0		21.0	21.0		13.0	70.0		13.0	70.0	
Total Split (%)	13.3%	13.3%		17.5%	17.5%		10.8%	58.3%		10.8%	58.3%	
Maximum Green (s)	11.0	11.0		15.0	15.0		8.0	63.0		8.0	63.0	
Yellow Time (s)	3.0	3.0		4.0	4.0		3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0		5.0	7.0		5.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.8	3.8		6.0	6.0		3.0	6.0		3.0	6.0	
Minimum Gap (s)	3.8	3.8		3.8	3.8		3.0	6.0		3.0	6.0	
Time Before Reduce (s)	0.0	0.0		8.0	8.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		12.0	12.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	11.0	11.0	120.0	15.0	15.0	120.0	73.0	71.5	120.0	76.0	63.0	120.0
Actuated g/C Ratio	0.09	0.09	1.00	0.12	0.12	1.00	0.61	0.60	1.00	0.63	0.52	1.00
v/c Ratio	1.42	0.52	0.23	1.85	0.42	0.19	1.50	0.92	0.68	0.08	0.52	0.09
Control Delay	261.8	58.1	0.3	419.5	51.7	0.3	265.3	28.3	2.4	8.6	19.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	261.8	58.1	0.3	419.5	51.7	0.3	265.3	28.3	2.4	8.6	19.4	0.1
LOS	F	E	A	F	D	A	F	C	A	A	B	A
Approach Delay		91.5			269.1			43.2			17.5	
Approach LOS		F			F			D			B	
Queue Length 50th (ft)	~244	67	0	~484	71	0	~242	598	0	3	248	0
Queue Length 95th (ft)	m#403	m103	m0	#608	109	0	#428	#926	0	9	254	0
Internal Link Dist (ft)		495			9429			11093			1045	
Turn Bay Length (ft)	200			500		500	1000		1000	800		800
Base Capacity (vph)	163	327	1599	433	446	1599	258	3061	1599	181	2696	1599
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	0.52	0.23	1.85	0.42	0.19	1.50	0.92	0.68	0.07	0.52	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NESW and 6:NESW, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.85			
Intersection Signal Delay: 79.6		Intersection LOS: E	
Intersection Capacity Utilization 102.9%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

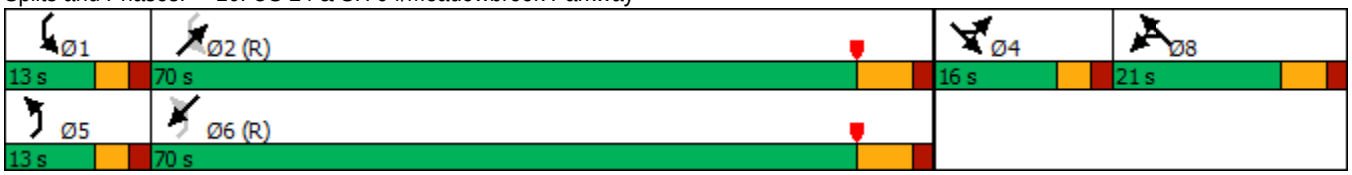
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: US 24 & SH 94/Meadowbrook Parkway



Intersection	
Int Delay, s/veh	96.7

Movement	SEL	SET	SER	NWU	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations													
Traffic Vol, veh/h	6	19	11	23	349	34	225	18	232	344	341	266	10
Future Vol, veh/h	6	19	11	23	349	34	225	18	232	344	341	266	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	150	-	0	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	21	12	25	379	37	245	20	252	374	371	289	11

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	282	0	0	-	33	0	0	1109	1131	27	1149	892	37
Stage 1	-	-	-	-	-	-	-	41	41	-	795	845	-
Stage 2	-	-	-	-	-	-	-	1068	1090	-	354	47	-
Critical Hdwy	4.11	-	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1286	-	-	-	1585	-	-	188	~ 204	1051	~ 176	~ 282	1038
Stage 1	-	-	-	-	-	-	-	976	863	-	382	380	-
Stage 2	-	-	-	-	-	-	-	269	292	-	665	858	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1286	-	-	-	1585	-	-	-	~ 203	1051	-	~ 281	1038
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	~ 203	-	-	~ 281	-
Stage 1	-	-	-	-	-	-	-	971	859	-	380	380	-
Stage 2	-	-	-	-	-	-	-	64	292	-	~ 301	854	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	1.3		$ 305.6	
HCM LOS			F	-

Minor Lane/Major Mvmt	NELn1	NWU	NWL	NWT	NWR	SEL	SET	SER	SWLn1	SWLn2
Capacity (veh/h)	392	-	1585	-	-	1286	-	-	-	289
HCM Lane V/C Ratio	1.597	-	0.239	-	-	0.005	-	-	-	1.038
HCM Control Delay (s)	$ 305.6	-	8	-	-	7.8	-	-	-	102.8
HCM Lane LOS	F	-	A	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	35.8	-	0.9	-	-	0	-	-	-	11.3

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	0	10	20	0	46	3	442	14	32	346	4
Future Vol, veh/h	16	0	10	20	0	46	3	442	14	32	346	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	75	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	17	0	11	22	0	50	3	480	15	35	376	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	967	949	378	940	936	480	380	0	0	495	0	0
Stage 1	448	448	-	486	486	-	-	-	-	-	-	-
Stage 2	519	501	-	454	450	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	235	261	671	245	266	588	1184	-	-	1074	-	-
Stage 1	592	575	-	565	553	-	-	-	-	-	-	-
Stage 2	542	544	-	588	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	209	251	671	234	256	588	1184	-	-	1074	-	-
Mov Cap-2 Maneuver	209	251	-	234	256	-	-	-	-	-	-	-
Stage 1	590	556	-	563	551	-	-	-	-	-	-	-
Stage 2	494	542	-	560	554	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.1	14.8	0.1	0.7
HCM LOS	C	B		

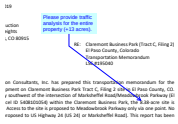
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	284	234	588	1074	-	-
HCM Lane V/C Ratio	0.003	-	-	0.1	0.093	0.085	0.032	-	-
HCM Control Delay (s)	8	-	-	19.1	22	11.7	8.5	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.3	0.1	-	-

TIS_v1_redlines.pdf Markup Summary

Callout (11)

Subject: Callout
Page Label: 2
Author: Daniel Torres
Date: 1/13/2020 2:32:32 PM
Status:
Color:
Layer:
Space:

There are two points of access shown on the preliminary plan. Please revise.



Subject: Callout
Page Label: 2
Author: Daniel Torres
Date: 1/13/2020 2:33:40 PM
Status:
Color:
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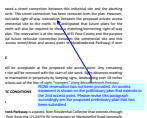
Space:

Please provide traffic analysis for the entire property (+13 acres).

Subject: Callout
Page Label: 3
Author: Daniel Torres
Date: 1/13/2020 3:58:14 PM
Status:
Color:
Layer:
Space:

There is a second access shown on the preliminary plan. Include discussion regarding the 2nd access and indicate whether these access points meet County criteria.



Subject: Callout
Page Label: 3
Author: Daniel Torres
Date: 1/13/2020 3:59:38 PM
Status:
Color:
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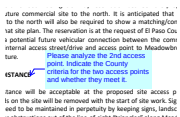
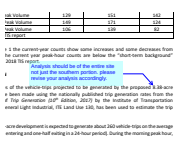
Space:

ROW reservation has not been provided. An access easement is shown on the preliminary plan that extends to the 2nd access point. Please revise this paragraph accordingly per the proposed preliminary plan that has been submitted.



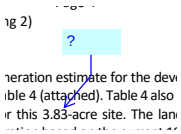
Subject: Callout
Page Label: 3
Author: Daniel Torres
Date: 1/13/2020 4:02:08 PM
Status:
Color:
Layer:
Space:

Please analyze the 2nd access point. Indicate the County criteria for the two access points and whether they meet it.



Subject: Callout
Page Label: 4
Author: Daniel Torres
Date: 1/13/2020 4:25:48 PM
Status:
Color:
Layer:
Space:

Analysis should be of the entire site not just the southern portion. please revise your analysis accordingly.

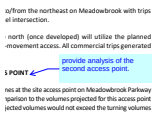


Subject: Callout
Page Label: 5
Author: Daniel Torres
Date: 1/13/2020 4:27:44 PM
Status:
Color:
Layer:
Space:

?

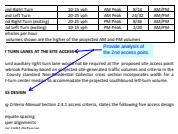
Subject: Callout
Page Label: 4
Author: Daniel Torres
Date: 1/13/2020 4:36:40 PM
Status:
Color:
Layer:
Space:

Please update the narrative and your traffic analysis as the traffic signal was recently installed. The traffic behavior more likely has changed due to the new signal.



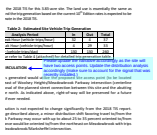
Subject: Callout
Page Label: 5
Author: Daniel Torres
Date: 1/13/2020 4:39:03 PM
Status:
Color:
Layer:
Space:

provide analysis of the second access point.



Subject: Callout
Page Label: 6
Author: Daniel Torres
Date: 1/13/2020 5:22:32 PM
Status:
Color:
Layer:
Space:

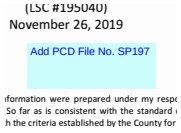
Provide analysis of the 2nd access point.



Subject: Callout
Page Label: 5
Author: Daniel Torres
Date: 1/13/2020 6:10:09 PM
Status:
Color:
Layer:
Space:

Please update the narrative accordingly as the site will have two access points. Update the distribution analysis accordingly (make sure to account for the signal that was recently installed.)

Text Box (4)



Subject: Text Box
Page Label: 1
Author: Daniel Torres
Date: 1/13/2020 1:31:58 PM
Status:
Color:
Layer:
Space:

Add PCD File No. SP197

Subject: Text Box
Page Label: 10
Author: Daniel Torres
Date: 1/13/2020 1:58:13 PM
Status:
Color:
Layer:
Space:

Please update the site plan to what has been shown on the preliminary plan.

Subject: Text Box
Page Label: 6
Author: Daniel Torres
Date: 1/13/2020 5:36:22 PM
Status:
Color:
Layer:
Space:

Please update your findings/conclusions section accordingly based on comments provided.

Subject: Text Box
Page Label: 7
Author: Daniel Torres
Date: 1/13/2020 6:05:07 PM
Status:
Color:
Layer:
Space:

what are the changes/discrepancies to your previous traffic analysis (july 2018) due to new signal at marksheffel/meadowbrook and the changes proposed in the preliminary plan? Are your previous recommendations/conclusions (i.e. LOS, queuing, intersection lane configuration, trip distribution/generation, auxiliary lanes etc.) still the same? Please address this in your narrative.