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April 14, 2022

Please include table of contents

The Landhuis Company
212 N. Wahsatch Avenue, Suite 305
Colorado Springs, CO 80903
Attention: Mr. Jeff Marks

Filing No. 2

RE: Creekside at Lorson Ranch Traffic Impact Study

Dear Mr. Marks:

Matrix Design Group (Matrix) is pleased to present this traffic impact study (TIS) for the Creekside at Lorson Ranch development. This TIS analyzes the existing roadway network in the vicinity of the project and determines the impact of the additional traffic generated by the proposed development. The build-out year (2025) and horizon year (2040) conditions were analyzed, with and without the addition of site-generated traffic.

Introduction

The Creekside at Lorson Ranch development, herein referred to as "the site", is a proposed development located in El Paso County, Colorado. The site includes 38 proposed single-family detached houses. The site is bounded by Lorson Boulevard to the north, Trappe Drive to the east, Luneth Drive to the south, and Jimmy Camp Creek to the west. See Figure 1 for a vicinity map. The overall development was previously analyzed by LSC in the *Lorson Ranch Sketch Plan Amendment 2 Traffic Impact and Access Analysis*, dated December 17, 2018. Additionally, several individual developments in and surrounding the Baseline development have submitted traffic impact studies. These studies include:

- *Creekside at Lorson Ranch Filing No. 1 Traffic Impact and Access Analysis*, October 25, 2020
- *Creekside at Lorson Ranch South Transportation Memo*, March 9, 2020 with minor revisions May 5, 2020

Additionally, Matrix has completed the *Corvallis Traffic Impact Study*, June 14, 2021 in the vicinity of the Creekside at Lorson Ranch development.

The proposed land use of the site is shown on the site plan in Figure 2.

The purpose of this TIS is to analyze the existing conditions within the study area, determine the traffic generated by the site, analyze the build-out year (2025) and horizon year (2040) traffic conditions, and determine the impact of site-generated traffic on the adjacent roadway network. The study area for this TIS includes the following intersections:

- Marksheffel Road/Lorson Boulevard
- Lorson Boulevard/Trappe Drive
- Trappe Drive/Magothy Drive
- Trappe Drive/Luneth Drive
- Luneth Drive/Akela Lane

Only the Marksheffel Road/Lorson Boulevard intersection currently has traffic as the other roads and intersections either don't exist yet or are under construction by adjacent developments. The existing intersection volumes at the Marksheffel Road/Lorson Boulevard intersection was taken from the other traffic studies for consistency.

PUDSP-22-003

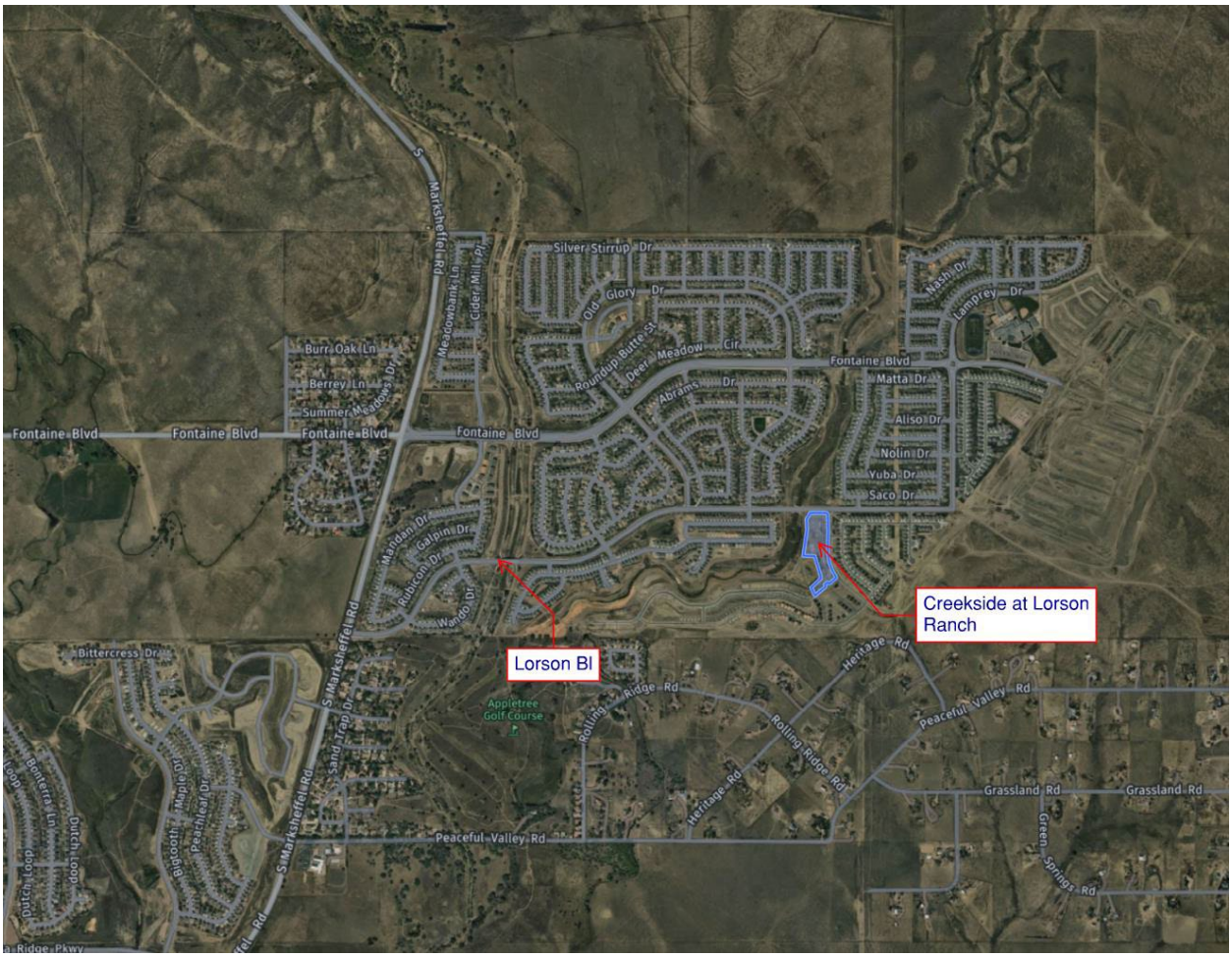


Figure 1 - Vicinity Map

Existing Conditions

Matrix analyzed the existing traffic conditions at the Marksheffel Road/Lorson Boulevard intersection listed above based on the traffic volumes from previous studies. The existing intersection geometry is shown in Figure 3. The existing AM and PM peak hour traffic volumes are shown in Figures 4 and 5, respectively. A summary of how the Marksheffel Road/Lorson Boulevard intersection currently operates in the AM and PM peak scenarios is shown in Table 1 and Table 2, respectively. As shown in the tables, the intersection operates at an acceptable level-of-service (LOS) during both the AM and PM peak hours.

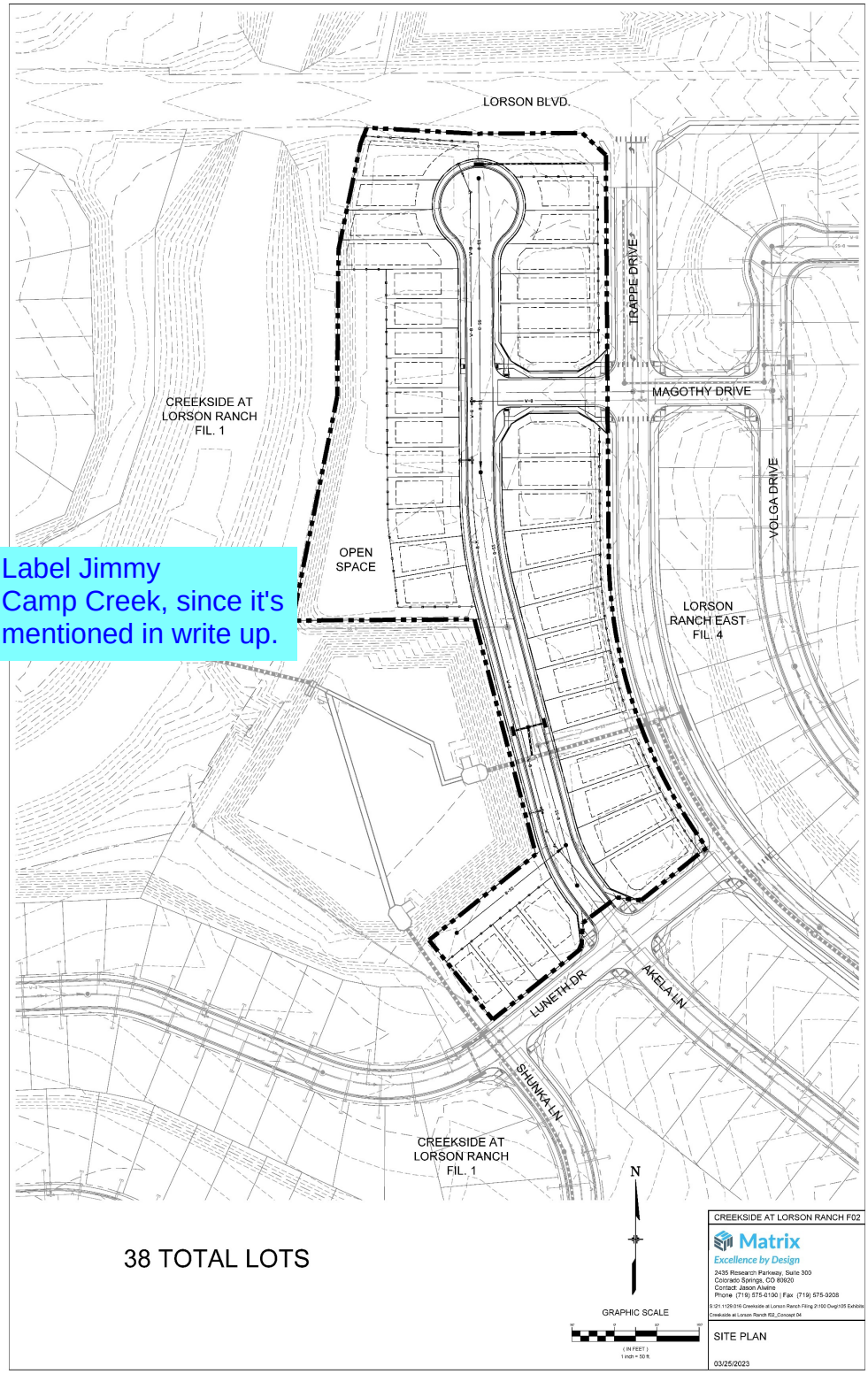
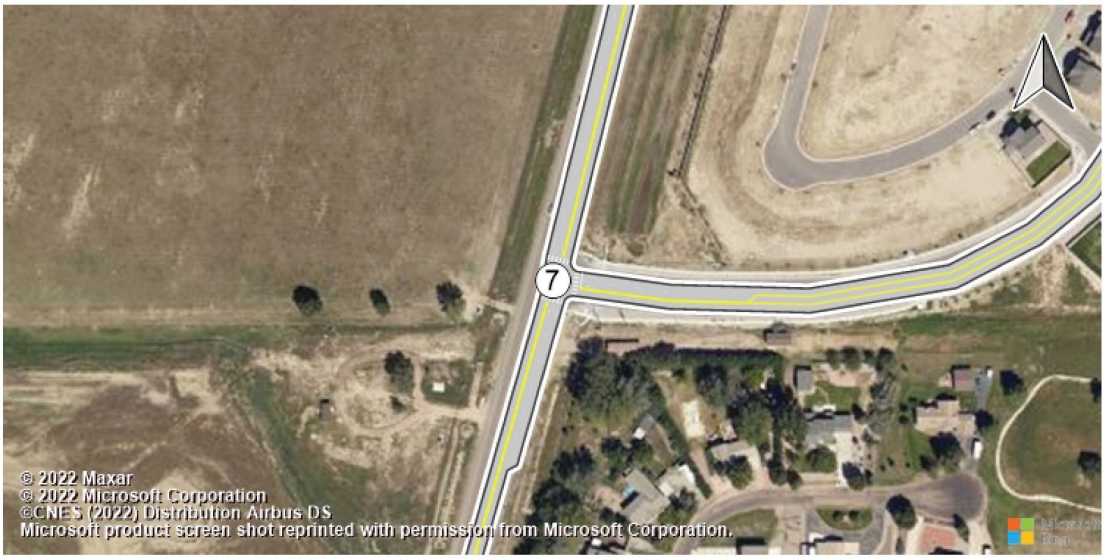


Figure 2 - Site Plan

Figure 3 - Existing Intersection Geometry



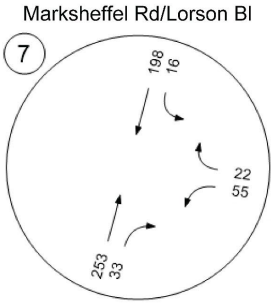


Figure 4 - Existing AM Peak Hour Traffic Volumes

Add note as to which report these volumes were taken from.

Figure 5 - Existing PM Peak Hour Traffic Volumes

Add note as to which report these volumes were taken from.

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.103	12.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 1 - Existing AM Peak Hour LOS Summary

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.105	14.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 2 - Existing PM Peak Hour LOS Summary.

Proposed Development

The site proposes 38 detached single-family houses, as shown in Figure 2. The trip generation results for daily trips and both AM and PM peak hours can be found in Table 3.

The site connects to the existing roadway network via Trappe Drive. All project traffic will travel along Lorson Boulevard to Marksheffel Road. At Marksheffel Road, 65% of project traffic will travel to/from the north and 35% will travel to/from the south. See Figure 6 for the anticipated trip distribution of site-generated traffic.

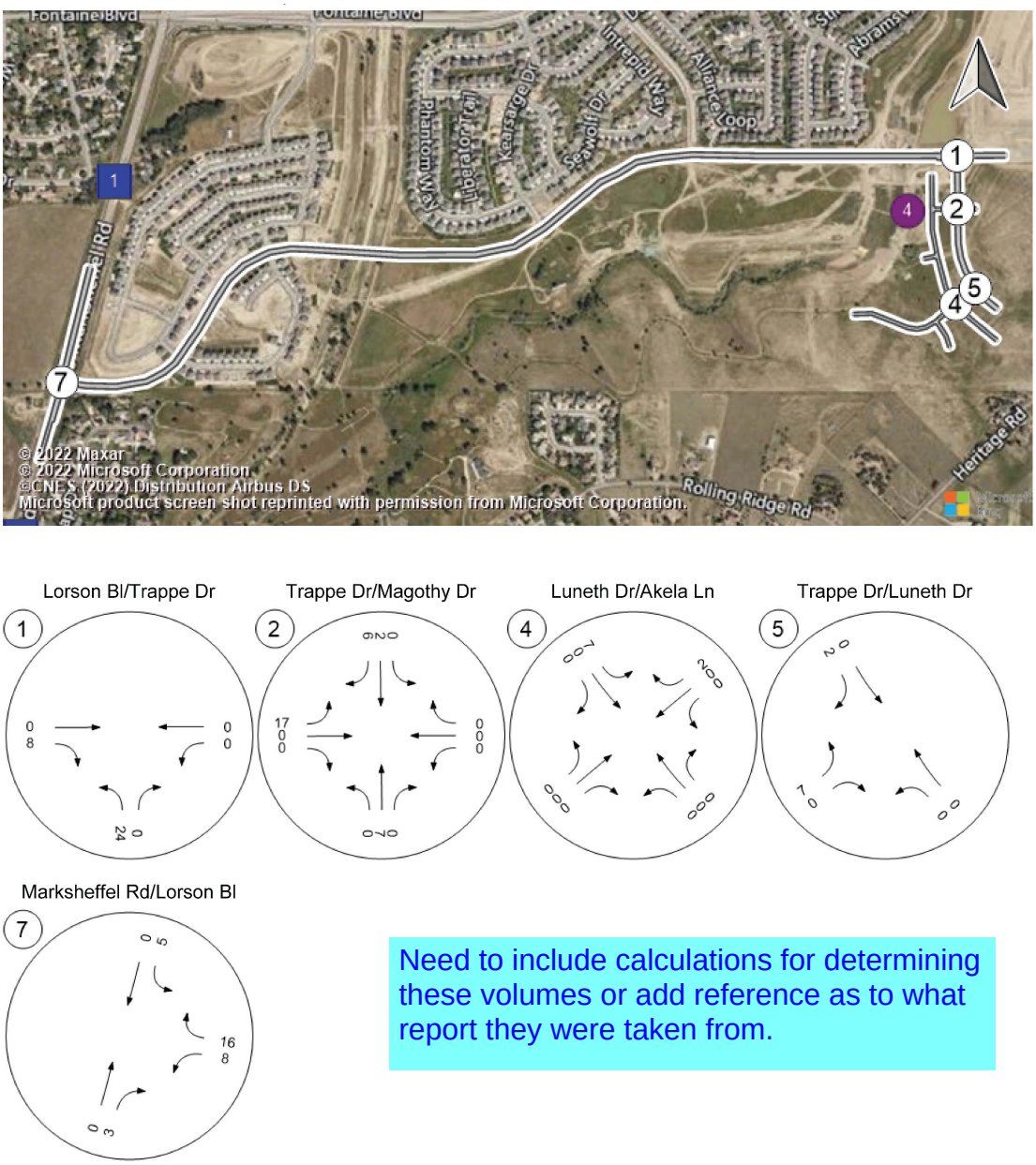
The assignment of the new project trips from the site are shown in Figures 7 and 8 for AM and PM peak hours, respectively.

Scenario	Estimated New Vehicle Trips		
	Entry	Exit	Total
Daily Trips	213	213	426
AM Peak Hour	8	24	32
PM Peak Hour	25	15	40

Table 3 - Trip Generation Sum

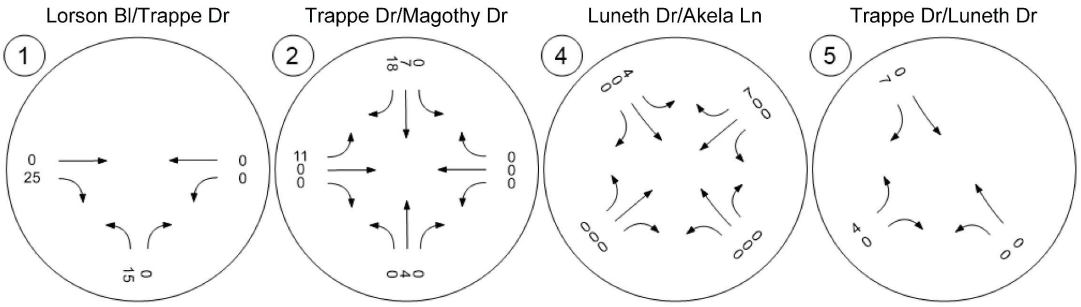
Reference Appendix B Trip Generation Calculations

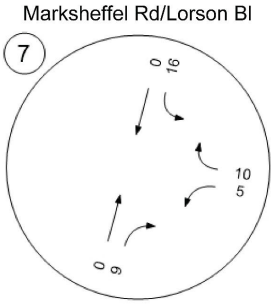
Figure 6 - Project Trip Distribution



Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 7 - AM Peak Hour Project Trip Assignment





Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 8 - PM Peak Hour Project Trip Assignment

Full Build-Out Conditions (2025) Traffic Analysis

Matrix assumed the site will be fully developed and inhabited by the year 2025, along with Filing 1 of the Creekside at Lorson Ranch development. The anticipated intersection geometry is shown in Figure 9.

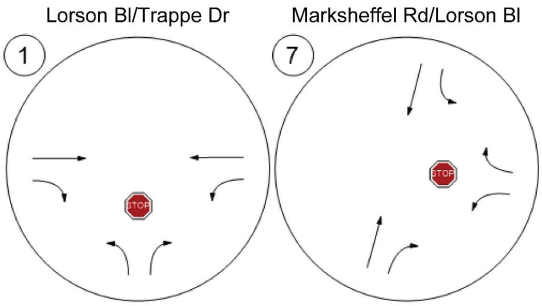
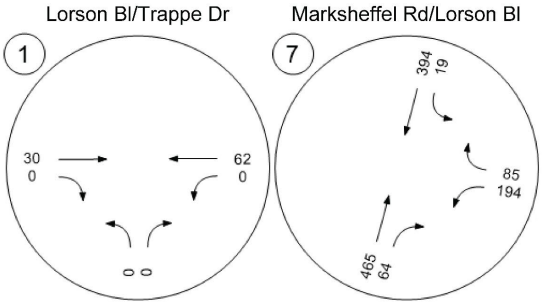


Figure 9 - Build Out Intersection Geometry – Background

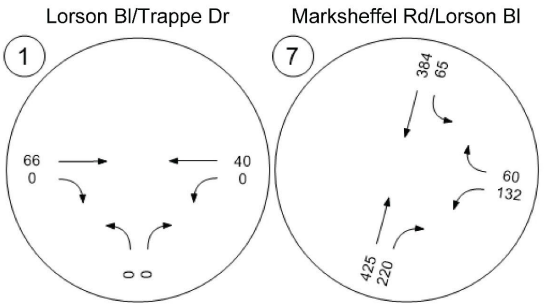
Full Build Out Conditions – Background Traffic Analysis (No Project)

The anticipated AM and PM peak hour intersection volumes at build out (2025) without the project are shown in Figures 10 and 11. These volumes were taken directly from the previous Lorson Ranch traffic studies. A summary of the anticipated intersection performance during the background AM and PM peak hours at buildout are shown in Tables 4 and 5, respectively.



Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 10 - Build Out Background AM Peak Hour Traffic Volumes



Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 11 - Build Out Background PM Peak Hour Traffic Volumes

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	WB Thru	0.001	0.0	A
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.637	35.4	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 4 - Build Out Background AM Peak Hour LOS Summary

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	EB Thru	0.001	0.0	A
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.484	30.0	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 5 - Build Out Background PM Peak Hour LOS Summary

The Marksheffel Road/Lorson Boulevard intersection is projected to operate at LOS E at buildout during the AM peak hour because the westbound left-turn operates at LOS E. However, the build out background traffic volumes do not warrant the installation of a traffic signal yet. There is only a 4 vehicle queue for the westbound left-turn movement and once additional development traffic is added to the intersection, a traffic signal will be warranted and constructed. Therefore, no mitigation is recommended for this intersection.

Build Out Conditions (2025) Total Traffic Analysis (With Project)

The anticipated AM and PM peak hour counts in the total (background and site-generated) traffic scenarios are shown in Figures 12 and 13, respectively. A summary of how each intersection operates in the AM and PM peaks is shown in Tables 6 and 7, respectively. As shown in the tables, each of the six intersections analyzed are anticipated to operate at an acceptable level-of-service (LOS) during both the AM and PM peak hours.

5 intersections are shown in figures and tables

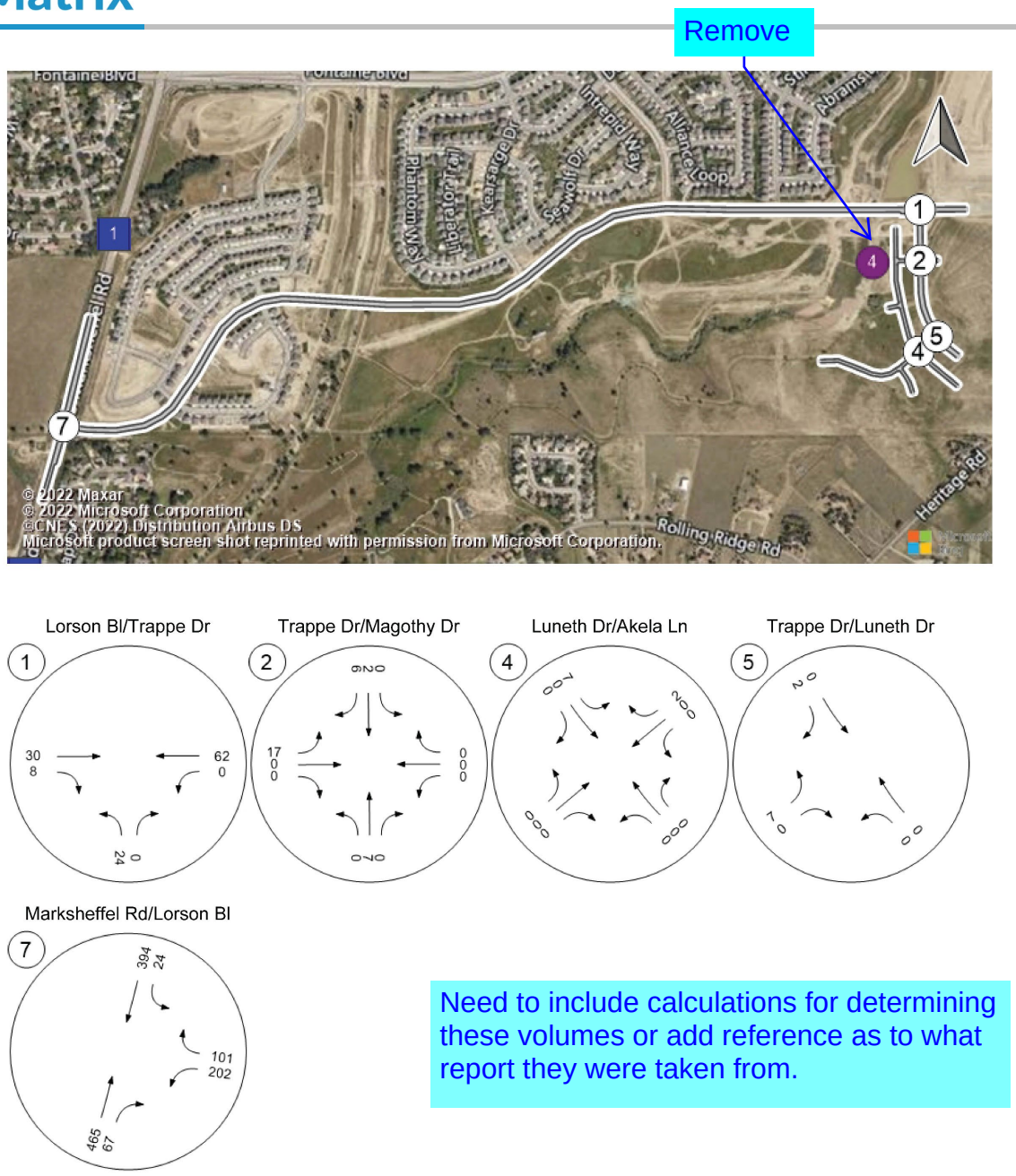
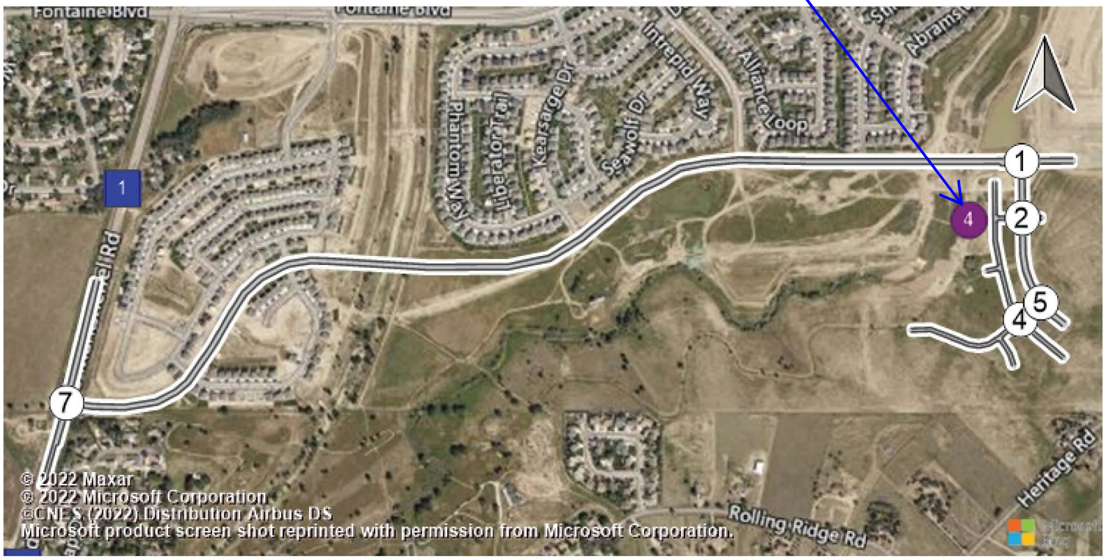
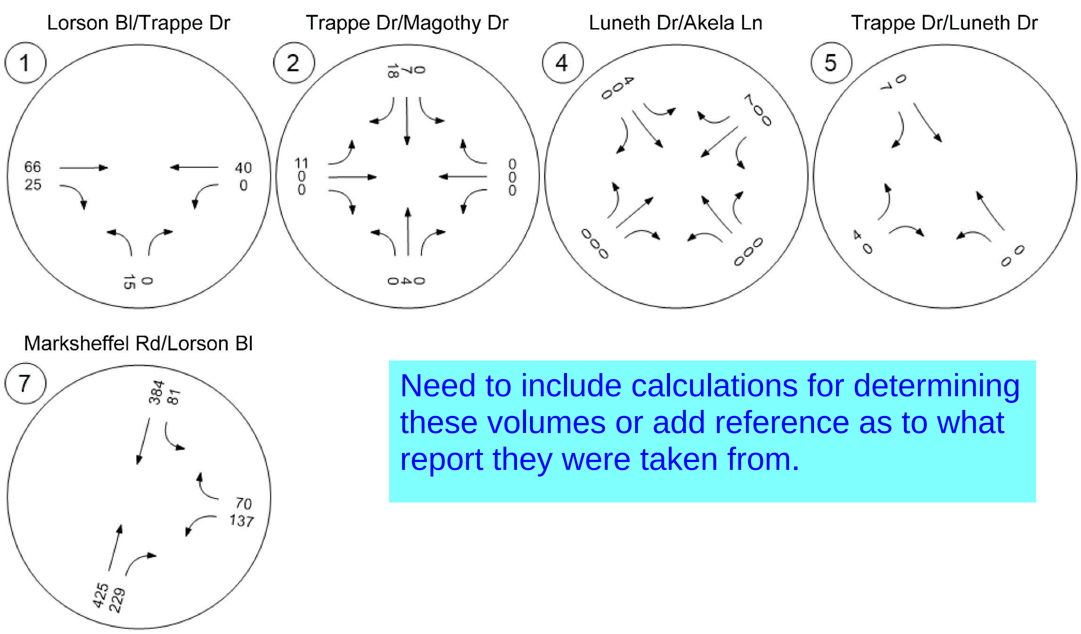


Figure 12 - Build Out Total AM Peak Hour Traffic Volumes

Remove





Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 13 - Build Out Total PM Peak Hour Traffic Volumes

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.026	9.1	A
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	EB Left	0.017	8.6	A
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	WB Right	0.002	8.3	A
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.007	8.5	A
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.676	38.8	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 6 - Build Out Total AM Peak Hour LOS Summary

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.017	9.1	A
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	EB Left	0.011	8.7	A
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	WB Right	0.006	8.3	A
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.004	8.5	A
7	Marksheffel Rd/Lorson Bl	Two-way stop	HCM 6th Edition	WB Left	0.535	34.1	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 7 - Build Out Total PM Peak Hour LOS Summary

Include list of signal warrants

All study area intersections operate at an acceptable level-of-service (LOS) at project build out with the addition of project traffic except that the Marksheffel Road/Lorson Boulevard intersection still operates at LOS E during the AM peak hour. However, the addition of project traffic pushes the intersection volumes over the threshold to warrant installation of a traffic signal. The construction cost of the traffic signal at Marksheffel Road and Lorson Boulevard has already been contributed to by other developments, so no additional contribution from Creekside at Lorson Ranch Filing 2 is required. The traffic signal is proposed to be constructed by The Ridge at Lorson Ranch. Once a traffic signal is installed at the intersection of Marksheffel Road and Lorson Boulevard, the intersection will operate at LOS B in the AM and PM peak hours.

The cost of the traffic signal needs to be brought up to "todays dollars". Then include how much has been contributed to the installation of the facility. Then show whether or not any additional contributions will be necessary.

Provide calculations for this scenario at the intersection to show that it's an LOS B.

Horizon (2040) Traffic Analysis

Matrix analyzed the traffic conditions for the horizon scenario, year 2040. The anticipated intersection geometry (without mitigation) is shown in Figure 14 based on the geometries shown in the other traffic impact studies that cover this area.

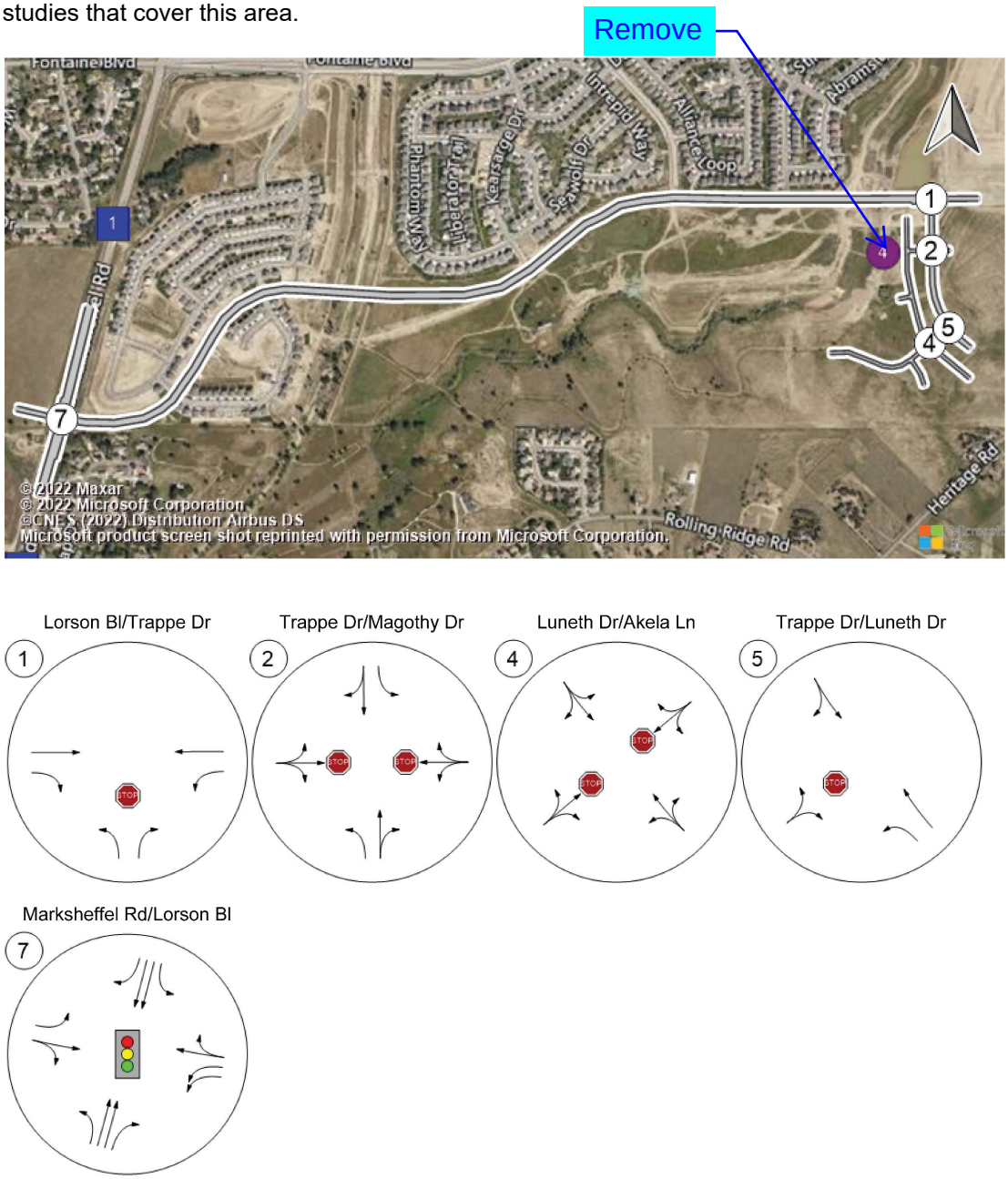


Figure 14 - Horizon Intersection Geometry

Horizon (2040) Background Traffic Analysis (No Project)

The projected traffic volumes during the 2040 AM and PM background peak hours are shown in Figures 15 and 16, respectively. A summary of how the study area intersections will operate (without mitigation) during the 2040 AM and PM background peak hours are shown in Tables 8 and 9, respectively.

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.385	13.5	B
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	WB Left	0.002	11.1	B
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	EB Thru	0.097	9.4	A
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.118	10.6	B
7	Marksheffel Rd/Lorson Bl	Signalized	HCM 6th Edition	SB Left	0.597	28.1	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 8 - Horizon Background AM Peak Hour LOS Summary

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.300	13.2	B
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	WB Thru	0.002	13.0	B
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	WB Thru	0.219	10.1	B
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.081	10.6	B
7	Marksheffel Rd/Lorson Bl	Signalized	HCM 6th Edition	WB Left	0.527	41.0	D

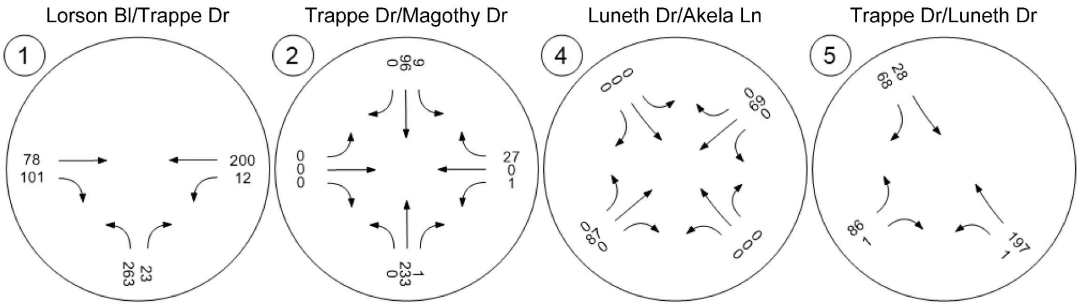
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

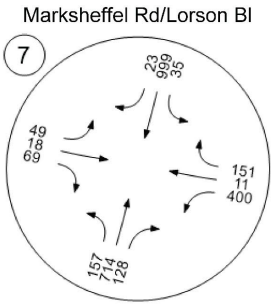
Table 9 - Horizon Background PM Peak Hour LOS Summary

The following traffic signal phasing was assumed at the intersection of Marksheffel Road and Lorson Boulevard:

- Unmitigated
  - Northbound protected left-turn phasing
  - Southbound protected left-turn phasing
  - Westbound protected left-turn phasing

The phasing for left-turns was based on Figure 4-16 in the *NCHRP Report 812 Signal Timing Manual Second Edition*, produced in cooperation with the USDOT and the FHWA.





Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 15 - Horizon Background AM Peak Hour Traffic Volumes

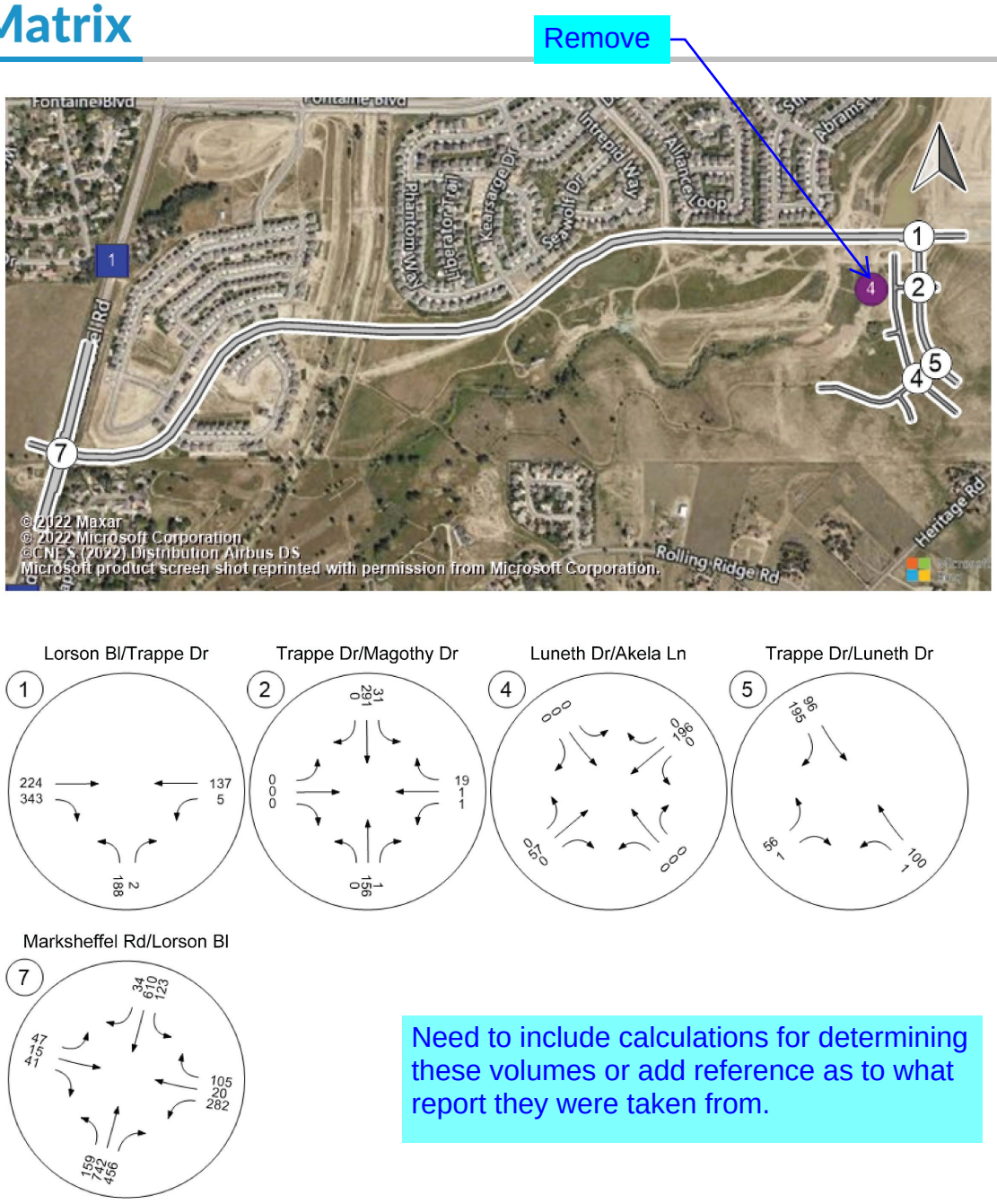


Figure 16 - Horizon Background PM Peak Hour Traffic Volumes

Horizon (2040) Total (With Project) Traffic Analysis

The projected traffic volumes during the 2040 AM and PM total (background and site-generated) traffic scenarios are shown in Figures 17 and 18, respectively. A summary of how the study area intersections will operate during the AM and PM peaks is shown in Tables 10 and 11, respectively. All study area intersections continue to operate at acceptable LOS with the addition of project traffic and no mitigation is required.

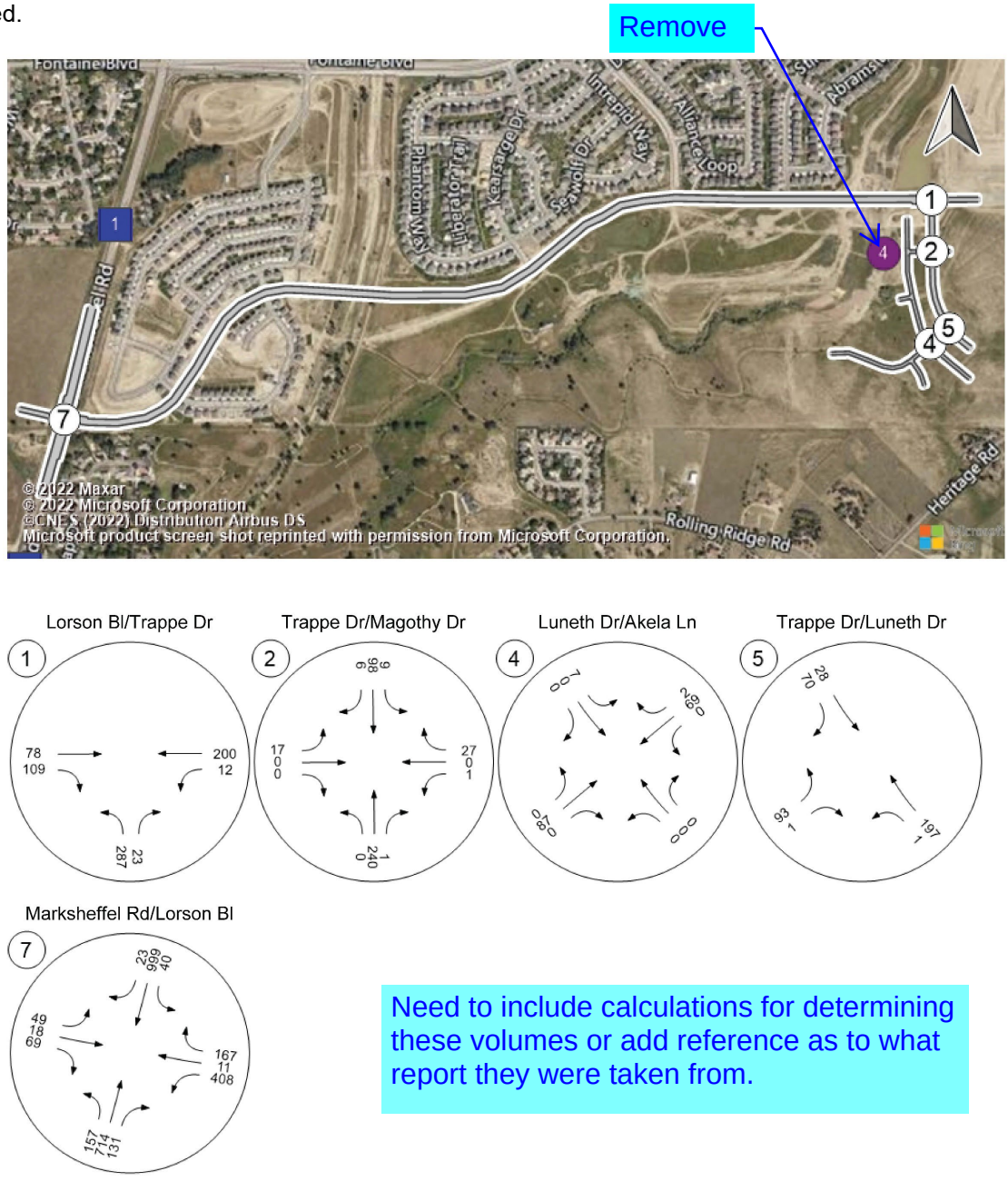


Figure 17 - Horizon Total AM Peak Hour Traffic Volumes

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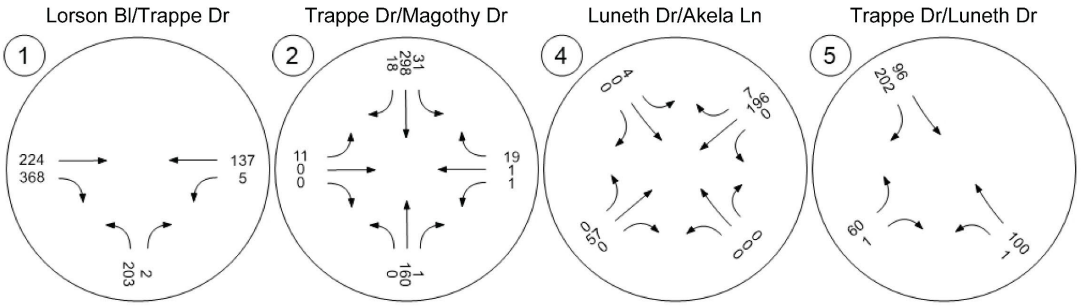
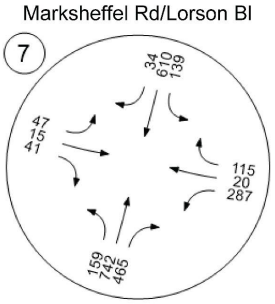




Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Figure 18 - Horizon Total PM Peak Hour Traffic Volumes

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.420	14.0	B
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	EB Left	0.030	11.6	B
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	EB Thru	0.099	9.6	A
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.128	10.7	B
7	Marksheffel Rd/Lorson Bl	Signalized	HCM 6th Edition	SB Left	0.600	25.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 10 - Horizon Total AM Peak Hour LOS Summary

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Lorson Bl/Trappe Dr	Two-way stop	HCM 6th Edition	NB Left	0.324	13.5	B
2	Trappe Dr/Magothy Dr	Two-way stop	HCM 6th Edition	EB Left	0.025	13.5	B
4	Luneth Dr/Akela Ln	Two-way stop	HCM 6th Edition	WB Thru	0.222	10.3	B
5	Trappe Dr/Luneth Dr	Two-way stop	HCM 6th Edition	EB Left	0.087	10.7	B
7	Marksheffel Rd/Lorson Bl	Signalized	HCM 6th Edition	SB Left	0.546	41.7	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 11 - Horizon Total PM Peak Hour LOS Summary

The turn lane requirements at the study area intersections were also reviewed based on El Paso County *Engineering Criteria Manual*. Marksheffel Road is classified by El Paso County as a 4-lane Expressway which carries a 60 miles-per-hour (mph) design speed with it. Separate turn lanes are required for all turn movements along Marksheffel Road. Lorson Boulevard at the intersection with Marksheffel Road is an Urban Non-Residential Collector with a 40-mph design speed. Lorson Bouelvard at Trappe Drive is classified as an Urban Residential Collector with a 40-mph design speed. Additionally, Trappe Drive is classified as an Urban Residential Collector with a 40-mph design speed. The turn lane requirements are shown below. Deceleration and taper lengths were determined from the *Engineering Criteria Manual*, Table 2-24 and Table 2-30. Where an intersection approach was not signalized or stop-controlled, a 50-ft minimum storage length was used. Where an intersection approach was signalized, the 95% queue length from the traffic analysis was used for storage length.

Per Table 2-30 Minimum storage at this location should be 100 ft.

Lorson Boulevard/Trappe Drive

- Northbound Left – 290-ft storage; 155-ft deceleration length; 160-ft taper length
- Eastbound Right – 50-ft storage; 155-ft deceleration length; 160-ft taper length

Trappe Drive/Magothy Drive

- No turn lanes required, but northbound left possible due to painted median

Trappe Drive/Luneth Drive

- Southbound Right – 50-ft storage; 155-ft deceleration length; 160-ft taper length

Luneth Drive/Akela Lane

- No turn lanes required

Highlighted sentence doesn't make sense. Looks like it sentence wasn't finished

Marksheffel Road/Lorson Boulevard

- Northbound Right – 70-ft storage; 290-ft deceleration length; 240-ft taper length
- Southbound Left – 200-ft storage; 290-ft deceleration length; 240-ft taper length
- Westbound Left – 200-ft storage; 155-ft deceleration length; 160-ft taper length
- Westbound Right – 140-ft storage; 155-ft deceleration length; 160-ft taper length

Recommended Improvements

Creekside at Lorson Ranch is the last development in Lorson Ranch. All turn lanes and intersections have been built and no additional improvements are required for the development of Creekside at Lorson Ranch

The applicant is required to pay road impact fees to El Paso County. The County allows for the applicant to pay three different upfront fee amounts. The applicant can either pay the full fee amount, a smaller upfront fee to the 5 mill Public Improvement District (PID), or an even smaller upfront fee amount to the 10 mill PID. The different fee amounts are shown in Table 12 below, calculated using 38 single-family dwelling units. The applicant has chosen to join the 10 Mill PID . If the applicant chooses one of the PIDs, the PID will collect taxes over time.

38

Dwelling Units	Full Fee	5 Mill PID	10 Mill PID
38	$145,540	$96,026	$46,398

Table 12 - Road Impact Fee Schedule

If you have any questions, please feel free to contact me at Scott.Barnhart@matrixdesigngroup.com or at (719) 575-0100. Thank you.

Include:
- discussion on pedestrian/bicycle needs and provisions
- school & pedestrian routing plan
- state whether or not there are any deviations
- statement if there are any planned MTCP improvements in the area (include if they are reimbursible if there are any)
- crash history
- discussion & exhibit showiong roadway classification in area and being proposed for project site

Traffic Engineer's Statement

The attached 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.

_____ May 10, 2022

Scott D. Barnhart, P.E. #37447 Date

Developer's Statement

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

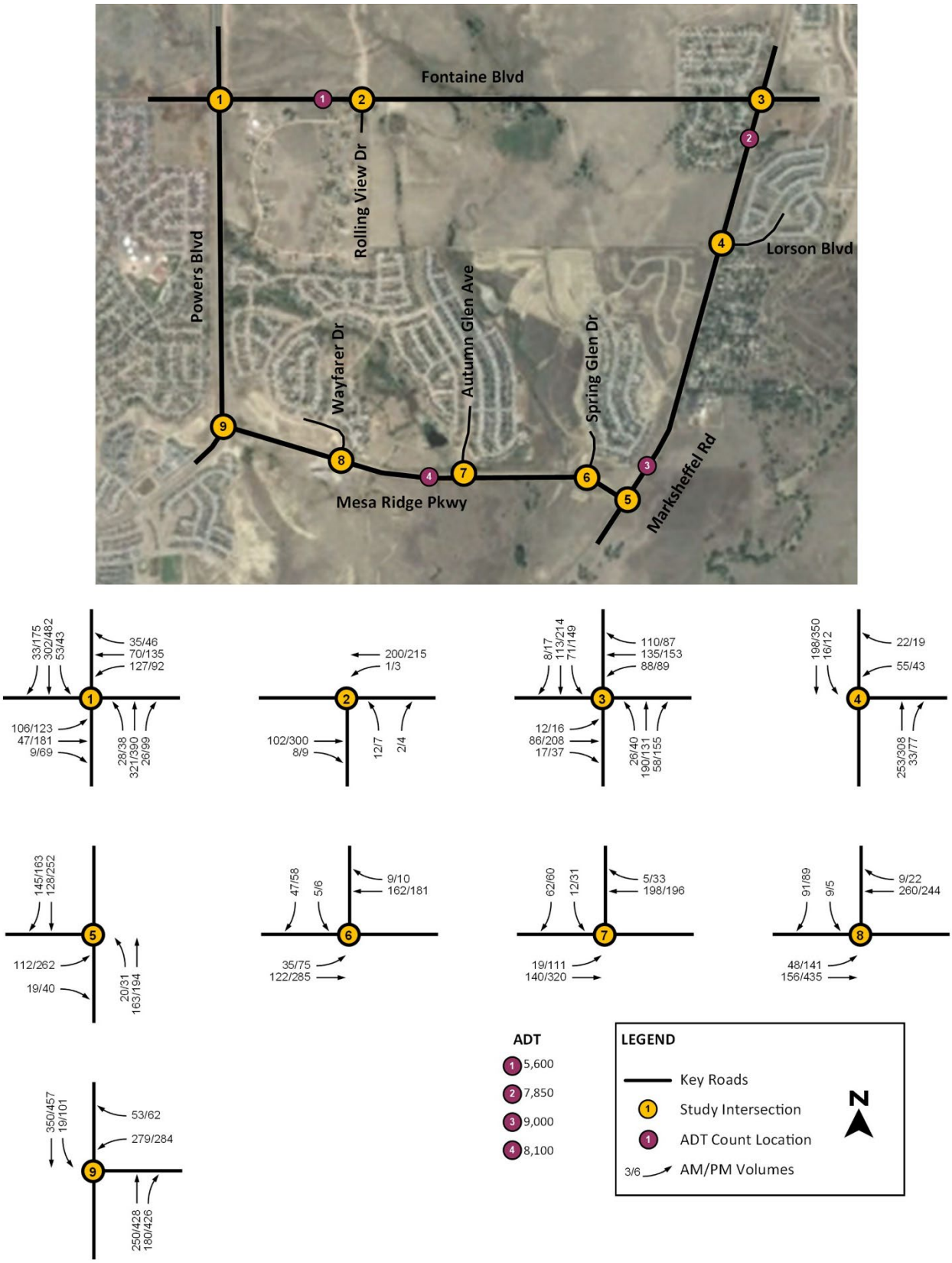
_____ _____

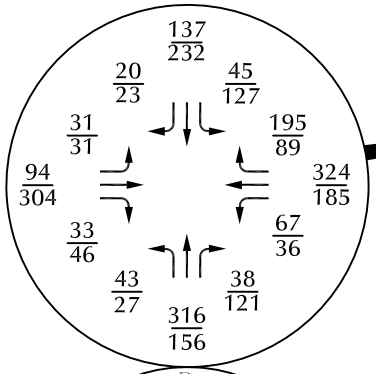
Jeff Mark, President Date
The Landhuis Company
212 N. Wahsatch Avenue, Suite 301
Colorado Springs, CO 80903

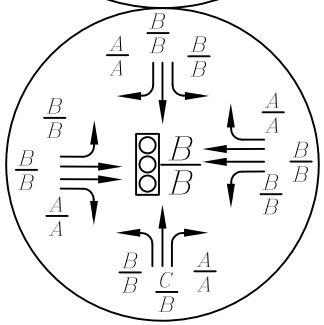
Appendix A

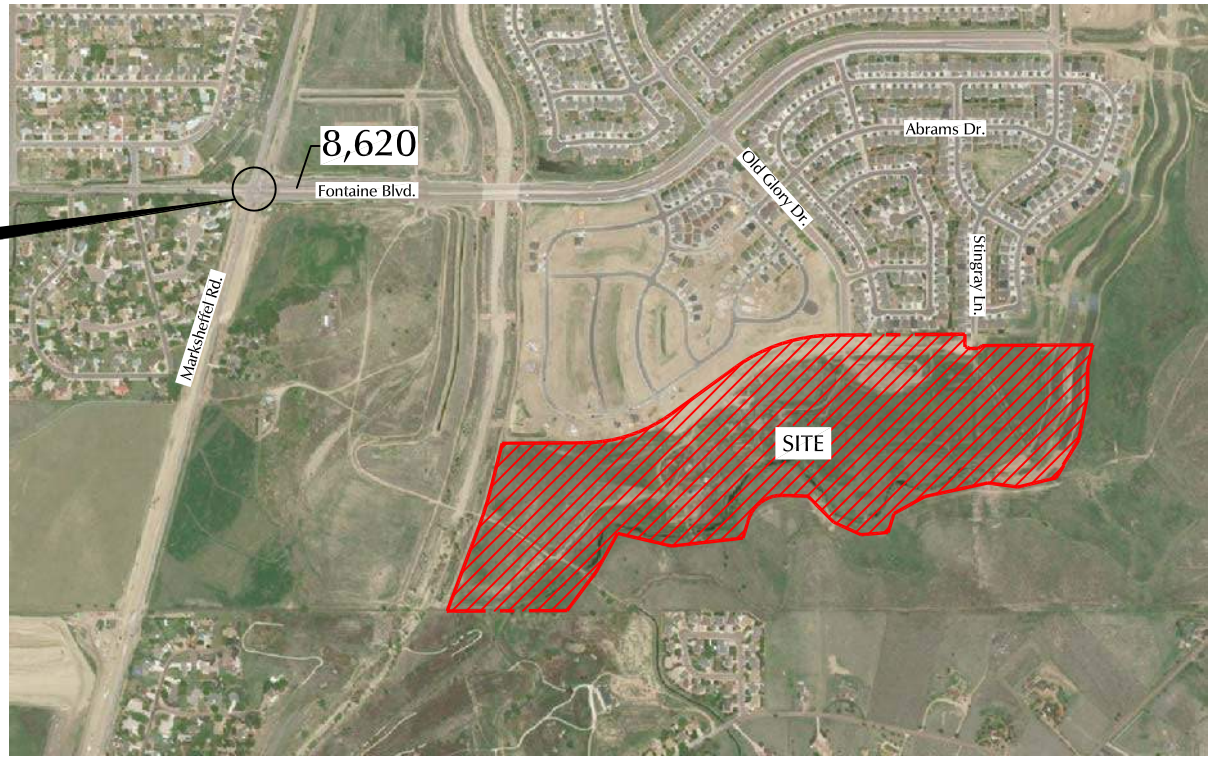
Exiting Traffic Counts

Figure 2 – Existing (2020) Traffic









Approximate Scale
Scale: 1"= 1,200'

LEGEND:

= Stop Sign

= Traffic Signal

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

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

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

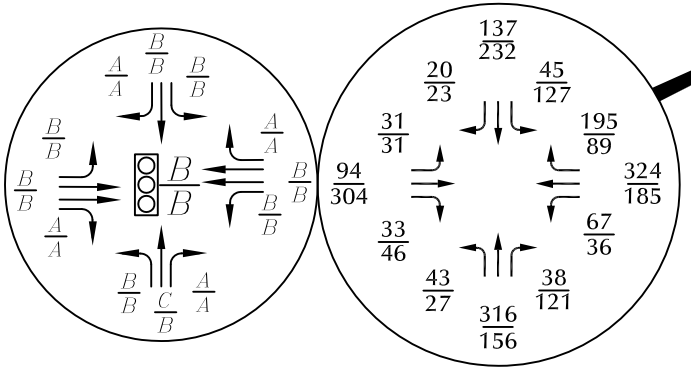
X,XXX= Average Weekday Traffic (vehicles per day) (estimate by LSC)

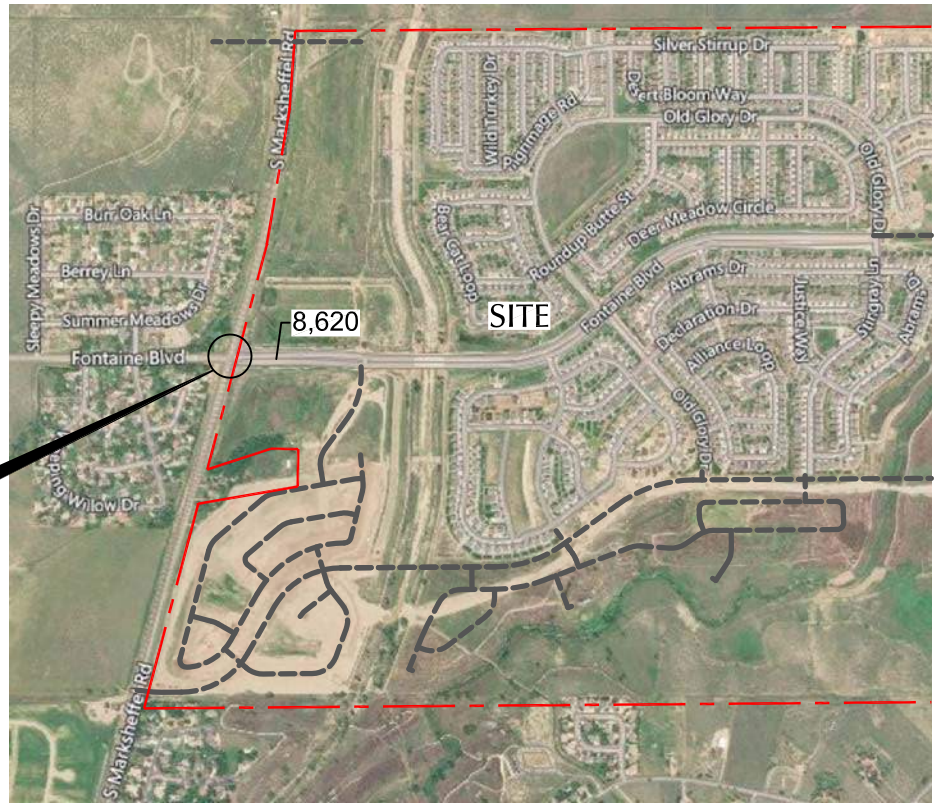
Based on counts by LSC March 2018

Figure 3

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

Creekside at Lorson Ranch Filing No. 1 (LSC #184520)





Approximate Scale
Scale: 1"= 1,500'

LEGEND:

= Stop Sign

= Traffic Signal

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

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

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

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

Figure 3

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

Lorson Ranch Sketch Plan 2018 Amendment (LSC #184890)

Appendix B

Trip Generation Calculations

PROJECT DETAILS

Project Name:	Creekside at Lorson Ranch F2	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Scott Barnhart	Clients Name:	The Landhuis Company
Date:	10/29/2021	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	3
Analysis Region:			

SCENARIO SUMMARY

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	Daily Trips	1	1	0		213	213	426
Scenario - 2	AM Peak Hour	1	1	0		8	24	32
Scenario - 3	PM Peak Hour	1	1	0		25	15	40

Scenario - 1

Scenario Name: Daily Trips
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	38	Weekday	Best Fit (LOG)	213	213	426
Data Source: Trip Generation Manual, 10th Ed					Ln(T) =0.92Ln(X) + 2.71	50%	50%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	50	50

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	213	213	0	0	213	213
	426		0		426	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	213	213	426

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	213	213	426
External Vehicle Trips	213	213	426
New Vehicle Trips	213	213	426

Scenario - 2

Scenario Name: AM Peak Hour
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	38	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	8	24	32
Data Source: Trip Generation Manual, 10th Ed					T = 0.71(X) + 4.80	25%	75%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	25	75

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	8	24	0	0	8	24
	32		0		32	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	8	24	32

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	8	24	32
External Vehicle Trips	8	24	32
New Vehicle Trips	8	24	32

Scenario - 3

Scenario Name: PM Peak Hour
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	38	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	25	15	40
Data Source: Trip Generation Manual, 10th Ed					Ln(T) =0.96Ln(X) + 0.20	63%	37%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
210 - Single-Family Detached Housing	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
210 - Single-Family Detached Housing	25	15	0	0	25	15
	40		0		40	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
210 - Single-Family Detached Housing	25	15	40

RESULTS

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	25	15	40
External Vehicle Trips	25	15	40
New Vehicle Trips	25	15	40

Appendix C

Existing (2021) LOS Reports

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	253	33	16	198	55	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	33	16	198	55	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	8	4	50	14	6
Total Analysis Volume [veh/h]	253	33	16	198	55	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.10	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.86	0.00	12.49	9.71
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.34	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.95	0.00	8.53	2.16
d_A, Approach Delay [s/veh]	0.00		0.59		11.70	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.78					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	308	77	12	350	43	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	77	12	350	43	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	19	3	88	11	5
Total Analysis Volume [veh/h]	308	77	12	350	43	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.10	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.10	0.00	14.77	10.05
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.35	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.77	0.00	8.69	2.00
d_A, Approach Delay [s/veh]	0.00		0.27		13.33	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	B					

Appendix D

Build-out (2025) LOS Reports

Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	0	0	30	0	0	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	30	0	0	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	8	0	0	16
Total Analysis Volume [veh/h]	0	0	30	0	0	62
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.96	8.45	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.71		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	35.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.637

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	465	64	19	394	194	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	465	64	19	394	194	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	16	5	99	49	21
Total Analysis Volume [veh/h]	465	64	19	394	194	85
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.64	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	8.53	0.00	35.42	12.02
Movement LOS	A	A	A	A	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.00	4.07	0.49
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.40	0.00	101.63	12.35
d_A, Approach Delay [s/veh]	0.00		0.39		28.29	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.60					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	0	0	66	0	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	66	0	0	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	17	0	0	10
Total Analysis Volume [veh/h]	0	0	66	0	0	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.04	8.61	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	425	220	65	384	132	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	425	220	65	384	132	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	55	16	96	33	15
Total Analysis Volume [veh/h]	425	220	65	384	132	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.07	0.00	0.48	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	9.11	0.00	29.98	11.32
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.22	0.00	2.47	0.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.56	0.00	61.69	7.87
d_A, Approach Delay [s/veh]	0.00		1.32		24.15	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.07					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	0	0	30	0	0	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	0	30	8	0	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	8	2	0	16
Total Analysis Volume [veh/h]	24	0	30	8	0	62
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.07	8.45	0.00	0.00	7.29	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.03	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.07		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.76					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	2	6	17	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	0	0	2	6	17	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	1	2	4	0	0	0	0	0
Total Analysis Volume [veh/h]	0	7	0	0	2	6	17	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.23	0.00	0.00	8.64	9.14	8.40	8.58	9.09	8.35
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	1.29	1.29	1.29	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			8.64			8.67		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.59											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	7	0	0	0	0	0	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	0	0	7	0	0	0	0	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.23	0.00	0.00	8.62	9.11	8.32	8.61	9.11	8.32
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.00	0.00	0.14	0.14	0.14
d_A, Approach Delay [s/veh]	2.41			7.23			8.68			8.32		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.47											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	2	7	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	2	0
Total Analysis Volume [veh/h]	0	0	0	2	7	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.55	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.52	0.52
d_A, Approach Delay [s/veh]	3.61		0.00		8.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.65					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	38.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.676

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	465	64	19	394	194	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	5	0	8	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	465	67	24	394	202	101
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	17	6	99	51	25
Total Analysis Volume [veh/h]	465	67	24	394	202	101
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.68	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	8.56	0.00	38.85	12.25
Movement LOS	A	A	A	A	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.00	4.54	0.60
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.78	0.00	113.59	15.11
d_A, Approach Delay [s/veh]	0.00		0.49		29.98	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.41					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	0	0	66	0	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	25	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	66	25	0	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	17	6	0	10
Total Analysis Volume [veh/h]	15	0	66	25	0	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	8.61	0.00	0.00	7.39	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.28	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.94					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	0	7	18	11	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	0	0	7	18	11	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	2	5	3	0	0	0	0	0
Total Analysis Volume [veh/h]	0	4	0	0	7	18	11	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	7.23	0.00	0.00	8.66	9.16	8.43	8.62	9.17	8.33
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.84	0.84	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.00			8.66			8.71		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.38											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	4	0	0	0	0	0	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	4	0	0	0	0	0	0	0	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	0	0	0	0	0	0	2
Total Analysis Volume [veh/h]	0	0	0	4	0	0	0	0	0	0	0	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.22	0.00	0.00	8.61	9.07	8.32	8.59	9.09	8.34
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.00	0.00	0.49	0.49	0.49
d_A, Approach Delay [s/veh]	2.41			7.22			8.67			8.34		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	7.93											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	7	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	1	0
Total Analysis Volume [veh/h]	0	0	0	7	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	0.00	8.55	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	3.62		0.00		8.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.11					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Two-way stop	Delay (sec / veh):	34.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	1	0
Entry Pocket Length [ft]	100.00	245.00	400.00	100.00	250.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Marksheffel Rd		Marksheffel Rd		Lorson Bl	
Base Volume Input [veh/h]	425	220	65	384	132	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	16	0	5	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	425	229	81	384	137	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	57	20	96	34	18
Total Analysis Volume [veh/h]	425	229	81	384	137	70
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.09	0.00	0.53	0.11
d_M, Delay for Movement [s/veh]	0.00	0.00	9.23	0.00	34.14	11.44
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.28	0.00	2.89	0.37
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.11	0.00	72.25	9.34
d_A, Approach Delay [s/veh]	0.00		1.61		26.46	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.69					
Intersection LOS	D					

Appendix E

Horizon (2040) LOS Reports

Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	263	23	78	101	12	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	23	78	101	12	200
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	6	20	25	3	50
Total Analysis Volume [veh/h]	263	23	78	101	12	200
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.38	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.52	8.75	0.00	0.00	7.60	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.81	0.07	0.00	0.00	0.03	0.00
95th-Percentile Queue Length [ft/ln]	45.32	1.80	0.00	0.00	0.65	0.00
d_A, Approach Delay [s/veh]	13.14		0.00		0.43	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.68					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	233	1	9	96	0	0	0	0	1	0	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	233	1	9	96	0	0	0	0	1	0	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	58	0	2	24	0	0	0	0	0	0	7
Total Analysis Volume [veh/h]	0	233	1	9	96	0	0	0	0	1	0	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.72	0.00	0.00	11.30	11.30	8.75	11.13	11.46	9.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73
d_A, Approach Delay [s/veh]	0.00			0.66			10.45			9.69		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.93											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	87	0	0	69	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	87	0	0	69	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	22	0	0	17	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	87	0	0	69	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.22	0.00	0.00	9.37	9.45	8.75	9.39	9.35	8.65
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.32	0.25	0.25	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	8.04	8.04	8.04	6.24	6.24	6.24
d_A, Approach Delay [s/veh]	2.41			2.41			9.45			9.35		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.41											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.118

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	1	197	28	68	86	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	197	28	68	86	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	7	17	22	0
Total Analysis Volume [veh/h]	1	197	28	68	86	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	0.00	10.62	9.26
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.40	0.40
95th-Percentile Queue Length [ft/ln]	0.05	0.00	0.00	0.00	10.10	10.10
d_A, Approach Delay [s/veh]	0.04		0.00		10.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.44					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	245.00	400.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Base Volume Input [veh/h]	157	714	128	35	999	23	49	18	69	400	11	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	714	128	35	999	23	49	18	69	400	11	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	179	32	9	250	6	12	5	17	100	3	38
Total Analysis Volume [veh/h]	157	714	128	35	999	23	49	18	69	400	11	151
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	23	0	12	22	0	0	30	0	15	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	21	0	0	21	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	36	36	3	30	30	14	14	11	29
g / C, Green / Cycle	0.11	0.45	0.45	0.03	0.38	0.38	0.17	0.17	0.14	0.36
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.09	0.02	0.31	0.02	0.04	0.06	0.13	0.11
s, saturation flow rate [veh/h]	1603	3204	1431	1603	3204	1431	1101	1476	3113	1445
c, Capacity [veh/h]	180	1456	650	54	1204	537	161	257	428	523
d1, Uniform Delay [s]	34.93	15.33	13.08	38.17	22.66	15.85	36.67	28.97	34.14	18.34
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.03	1.18	0.68	12.11	6.71	0.15	1.06	0.77	9.75	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.49	0.20	0.65	0.83	0.04	0.31	0.34	0.93	0.31
d, Delay for Lane Group [s/veh]	46.96	16.51	13.76	50.28	29.37	16.00	37.73	29.74	43.90	18.68
Lane Group LOS	D	B	B	D	C	B	D	C	D	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.53	4.48	1.42	0.85	9.09	0.28	0.97	1.49	4.32	2.11
50th-Percentile Queue Length [ft/ln]	88.33	111.96	35.49	21.19	227.21	6.97	24.17	37.15	107.91	52.80
95th-Percentile Queue Length [veh/ln]	6.36	7.95	2.56	1.53	14.03	0.50	1.74	2.67	7.72	3.80
95th-Percentile Queue Length [ft/ln]	159.00	198.72	63.88	38.14	350.81	12.55	43.50	66.86	193.09	95.04

Movement, Approach, & Intersection Results

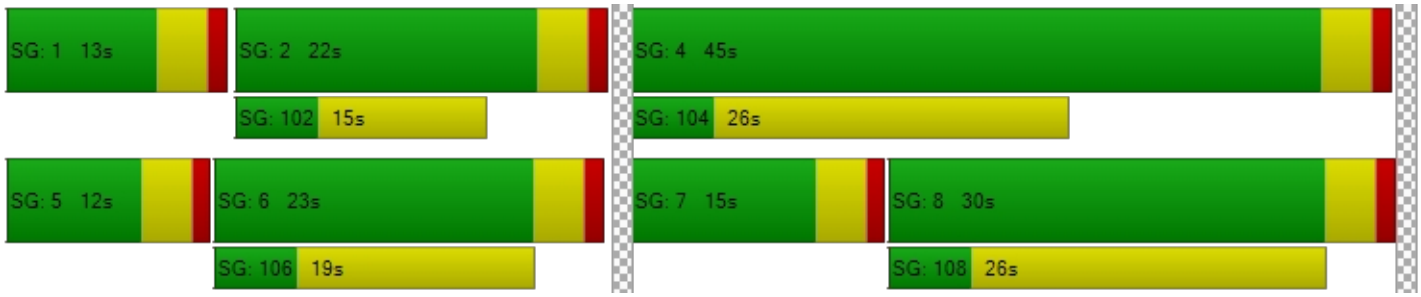
d_M, Delay for Movement [s/veh]	46.96	16.51	13.76	50.28	29.37	16.00	37.73	29.74	29.74	43.90	18.68	18.68
Movement LOS	D	B	B	D	C	B	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	20.95			29.77			32.62			36.63		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	28.11											
Intersection LOS	C											
Intersection V/C	0.597											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.849	2.839	2.042	2.308
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	475	450	650	1025
d_b, Bicycle Delay [s]	23.26	24.03	18.23	9.51
l_b,int, Bicycle LOS Score for Intersection	2.384	2.432	1.784	2.487
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	188	2	224	343	5	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	2	224	343	5	137
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	1	56	86	1	34
Total Analysis Volume [veh/h]	188	2	224	343	5	137
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.19	9.43	0.00	0.00	8.60	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.26	0.01	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	31.44	0.18	0.00	0.00	0.37	0.00
d_A, Approach Delay [s/veh]	13.15		0.00		0.30	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.83					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	156	1	31	291	0	0	0	0	1	1	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	156	1	31	291	0	0	0	0	1	1	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	0	8	73	0	0	0	0	0	0	5
Total Analysis Volume [veh/h]	0	156	1	31	291	0	0	0	0	1	1	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.83	0.00	0.00	7.59	0.00	0.00	13.02	12.89	9.81	12.84	13.00	9.17
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	1.98	1.98	1.98
d_A, Approach Delay [s/veh]	0.00			0.73			11.91			9.52		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.87											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	57	0	0	196	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	57	0	0	196	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	14	0	0	49	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	57	0	0	196	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.22	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.22	0.00	0.00	10.17	9.29	8.59	9.98	10.14	9.44
Movement LOS	A	A	A	A	A	A	B	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.83	0.83	0.83
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	5.09	5.09	5.09	20.80	20.80	20.80
d_A, Approach Delay [s/veh]	2.41			2.41			9.29			10.14		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.95											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	1	100	96	195	56	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	100	96	195	56	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	24	49	14	0
Total Analysis Volume [veh/h]	1	100	96	195	56	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	10.64	9.70
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.00	6.66	6.66
d_A, Approach Delay [s/veh]	0.08		0.00		10.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.37					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Signalized	Delay (sec / veh):	41.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	100.00	100.00	245.00	400.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Base Volume Input [veh/h]	159	742	456	123	610	34	47	15	41	282	20	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	742	456	123	610	34	47	15	41	282	20	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	186	114	31	153	9	12	4	10	71	5	26
Total Analysis Volume [veh/h]	159	742	456	123	610	34	47	15	41	282	20	105
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	43	0	19	41	0	0	30	0	18	48	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	21	0	0	21	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	39	39	15	37	37	26	26	14	44
g / C, Green / Cycle	0.15	0.35	0.35	0.14	0.34	0.34	0.24	0.24	0.13	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.32	0.08	0.19	0.02	0.04	0.04	0.09	0.09
s, saturation flow rate [veh/h]	1603	3204	1431	1603	3204	1431	1139	1490	3113	1466
c, Capacity [veh/h]	248	1136	507	219	1078	481	250	352	396	586
d1, Uniform Delay [s]	43.64	29.82	33.64	44.43	29.92	24.81	40.26	33.32	46.06	21.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.11	2.93	21.47	10.08	2.15	0.28	1.66	0.96	10.39	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.65	0.90	0.56	0.57	0.07	0.19	0.16	0.71	0.21
d, Delay for Lane Group [s/veh]	55.76	32.75	55.10	54.51	32.07	25.10	41.92	34.29	56.45	22.48
Lane Group LOS	E	C	E	D	C	C	D	C	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.88	8.59	14.30	3.74	6.87	0.64	1.23	1.28	4.26	2.25
50th-Percentile Queue Length [ft/ln]	122.11	214.78	357.38	93.59	171.87	16.09	30.71	32.10	106.48	56.16
95th-Percentile Queue Length [veh/ln]	8.51	13.40	20.50	6.74	11.17	1.16	2.21	2.31	7.64	4.04
95th-Percentile Queue Length [ft/ln]	212.72	334.96	512.40	168.46	279.37	28.97	55.29	57.79	191.09	101.09

Movement, Approach, & Intersection Results

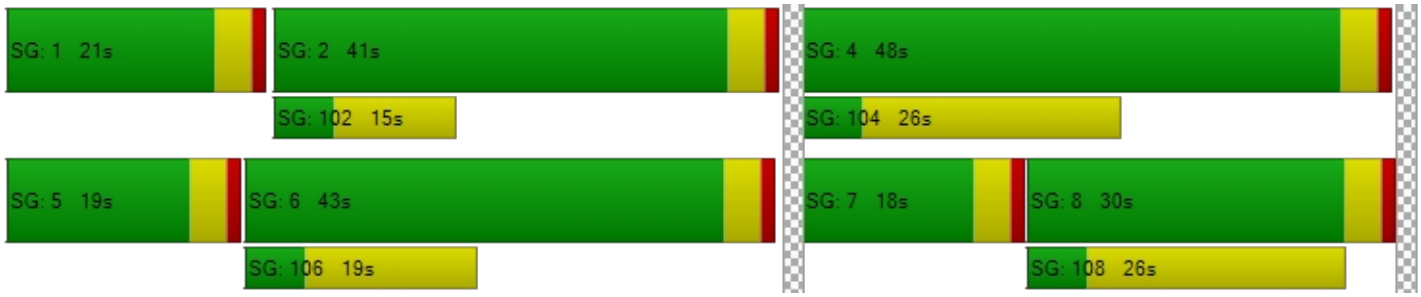
d_M, Delay for Movement [s/veh]	55.76	32.75	55.10	54.51	32.07	25.10	41.92	34.29	34.29	56.45	22.48	22.48
Movement LOS	E	C	E	D	C	C	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	42.95			35.36			37.77			46.02		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	41.01											
Intersection LOS	D											
Intersection V/C	0.527											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
l_p,int, Pedestrian LOS Score for Intersection	2.836	2.801	2.054	2.386
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	709	673	473	800
d_b, Bicycle Delay [s]	22.91	24.22	32.07	19.80
l_b,int, Bicycle LOS Score for Intersection	2.679	2.192	1.730	2.231
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	263	23	78	101	12	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	287	23	78	109	12	200
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	6	20	27	3	50
Total Analysis Volume [veh/h]	287	23	78	109	12	200
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.42	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	14.02	8.75	0.00	0.00	7.62	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.08	0.07	0.00	0.00	0.03	0.00
95th-Percentile Queue Length [ft/ln]	52.08	1.80	0.00	0.00	0.65	0.00
d_A, Approach Delay [s/veh]	13.63		0.00		0.43	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	233	1	9	96	0	0	0	0	1	0	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	2	6	17	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	240	1	9	98	6	17	0	0	1	0	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	60	0	2	25	2	4	0	0	0	0	7
Total Analysis Volume [veh/h]	0	240	1	9	98	6	17	0	0	1	0	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.42	0.00	0.00	7.73	0.00	0.00	11.61	11.59	8.97	11.24	11.58	9.68
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.00	0.00	0.09	0.09	0.09	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.51	0.00	0.00	2.34	2.34	2.34	2.76	2.76	2.76
d_A, Approach Delay [s/veh]	0.00			0.62			11.61			9.73		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	1.35											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.099

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	87	0	0	69	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	7	0	0	0	87	0	0	69	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	0	0	22	0	0	17	1
Total Analysis Volume [veh/h]	0	0	0	7	0	0	0	87	0	0	69	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.23	0.00	0.00	9.50	9.56	8.77	9.52	9.46	8.68
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.33	0.33	0.33	0.26	0.26	0.26
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.32	0.32	0.32	8.24	8.24	8.24	6.55	6.55	6.55
d_A, Approach Delay [s/veh]	2.41			7.23			9.56			9.44		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.41											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	1	197	28	68	86	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	197	28	70	93	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	7	18	23	0
Total Analysis Volume [veh/h]	1	197	28	70	93	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	0.00	10.69	9.32
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.44	0.44
95th-Percentile Queue Length [ft/ln]	0.05	0.00	0.00	0.00	11.05	11.05
d_A, Approach Delay [s/veh]	0.04		0.00		10.67	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.59					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Signalized	Delay (sec / veh):	25.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	245.00	400.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Base Volume Input [veh/h]	157	714	128	35	999	23	49	18	69	400	11	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	5	0	0	0	0	0	8	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	714	131	40	999	23	49	18	69	408	11	167
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	179	33	10	250	6	12	5	17	102	3	42
Total Analysis Volume [veh/h]	157	714	131	40	999	23	49	18	69	408	11	167
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	23	0	12	22	0	0	30	0	15	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	21	0	0	21	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	40	40	3	34	34	10	10	11	25	25
g / C, Green / Cycle	0.11	0.51	0.51	0.04	0.43	0.43	0.12	0.12	0.14	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.09	0.02	0.31	0.02	0.05	0.06	0.13	0.01	0.12
s, saturation flow rate [veh/h]	1603	3204	1431	1603	3204	1431	1085	1476	3113	1683	1431
c, Capacity [veh/h]	180	1617	722	60	1376	614	194	178	428	518	441
d1, Uniform Delay [s]	34.93	12.63	10.80	38.02	18.92	13.23	34.24	32.88	34.24	19.28	21.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.03	0.88	0.55	12.16	3.37	0.11	0.67	2.07	11.85	0.02	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.44	0.18	0.67	0.73	0.04	0.25	0.49	0.95	0.02	0.38
d, Delay for Lane Group [s/veh]	46.96	13.50	11.35	50.18	22.29	13.35	34.91	34.95	46.10	19.30	22.22
Lane Group LOS	D	B	B	D	C	B	C	C	D	B	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.53	3.92	1.28	0.96	7.74	0.25	0.92	1.64	4.53	0.14	2.43
50th-Percentile Queue Length [ft/ln]	88.33	97.94	31.97	24.04	193.49	6.20	23.01	41.11	113.18	3.52	60.78
95th-Percentile Queue Length [veh/ln]	6.36	7.05	2.30	1.73	12.30	0.45	1.66	2.96	8.02	0.25	4.38
95th-Percentile Queue Length [ft/ln]	159.00	176.29	57.54	43.27	307.56	11.16	41.41	73.99	200.42	6.34	109.41

Movement, Approach, & Intersection Results

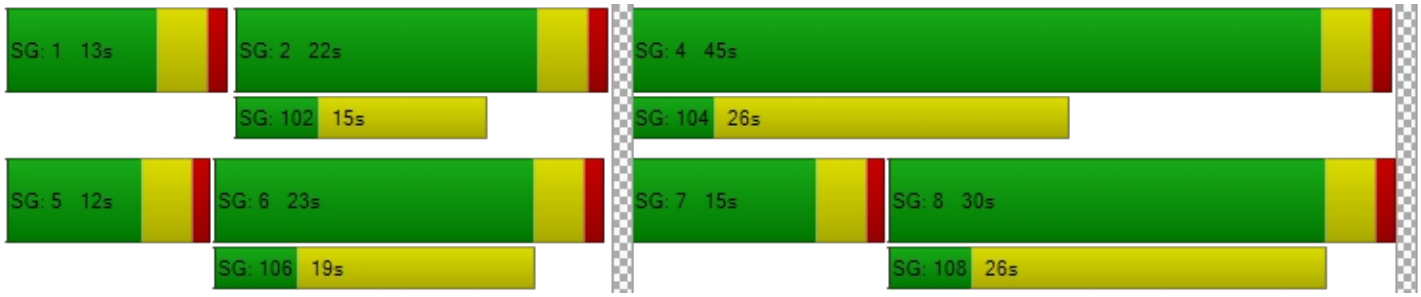
d_M, Delay for Movement [s/veh]	46.96	13.50	11.35	50.18	22.29	13.35	34.91	34.95	34.95	46.10	19.30	22.22
Movement LOS	D	B	B	D	C	B	C	C	C	D	B	C
d_A, Approach Delay [s/veh]	18.47			23.15			34.94			38.79		
Approach LOS	B			C			C			D		
d_I, Intersection Delay [s/veh]	25.33											
Intersection LOS	C											
Intersection V/C	0.600											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.851	2.842	2.042	2.447
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	475	450	650	1025
d_b, Bicycle Delay [s]	23.26	24.03	18.23	9.51
l_b,int, Bicycle LOS Score for Intersection	2.386	2.436	1.784	2.527
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Lorson Bl/Trappe Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Lorson Bl		Lorson Bl	
Base Volume Input [veh/h]	188	2	224	343	5	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	25	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	2	224	368	5	137
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	1	56	92	1	34
Total Analysis Volume [veh/h]	203	2	224	368	5	137
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.48	9.43	0.00	0.00	8.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.40	0.01	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	35.04	0.18	0.00	0.00	0.38	0.00
d_A, Approach Delay [s/veh]	13.44		0.00		0.31	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.98					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Trappe Dr/Magothy Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trappe Dr			Trappe Dr			Magothy Dr			Magothy Dr		
Base Volume Input [veh/h]	0	156	1	31	291	0	0	0	0	1	1	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	0	0	7	18	11	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	160	1	31	298	18	11	0	0	1	1	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	40	0	8	75	5	3	0	0	0	0	5
Total Analysis Volume [veh/h]	0	160	1	31	298	18	11	0	0	1	1	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.89	0.00	0.00	7.60	0.00	0.00	13.49	13.31	10.13	13.08	13.31	9.19
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.07	0.00	0.00	0.08	0.08	0.08	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.68	0.00	0.00	1.94	1.94	1.94	2.00	2.00	2.00
d_A, Approach Delay [s/veh]	0.00			0.68			13.49			9.57		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	1.08											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Luneth Dr/Akela Ln

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

Intersection Setup

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Akela Ln			Akela Ln			Luneth Dr			Luneth Dr		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	57	0	0	196	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	4	0	0	0	0	0	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	4	0	0	0	57	0	0	196	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	0	0	14	0	0	49	2
Total Analysis Volume [veh/h]	0	0	0	4	0	0	0	57	0	0	196	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.22	0.01
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.22	0.00	0.00	10.32	9.35	8.60	10.10	10.26	9.51
Movement LOS	A	A	A	A	A	A	B	A	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.21	0.21	0.21	0.88	0.88	0.88
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.19	0.19	0.19	5.15	5.15	5.15	21.92	21.92	21.92
d_A, Approach Delay [s/veh]	2.41			7.22			9.35			10.23		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	10.00											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 5: Trappe Dr/Luneth Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Trappe Dr		Trappe Dr		Luneth Dr	
Base Volume Input [veh/h]	1	100	96	195	56	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	100	96	202	60	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	24	51	15	0
Total Analysis Volume [veh/h]	1	100	96	202	60	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	7.85	0.00	0.00	0.00	10.70	9.76
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.29	0.29
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.00	7.20	7.20
d_A, Approach Delay [s/veh]	0.08		0.00		10.69	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.43					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Marksheffel Rd/Lorson Bl

Control Type:	Signalized	Delay (sec / veh):	41.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Entry Pocket Length [ft]	100.00	100.00	245.00	400.00	100.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marksheffel Rd			Marksheffel Rd						Lorson Bl		
Base Volume Input [veh/h]	159	742	456	123	610	34	47	15	41	282	20	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	16	0	0	0	0	0	5	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	742	465	139	610	34	47	15	41	287	20	115
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	186	116	35	153	9	12	4	10	72	5	29
Total Analysis Volume [veh/h]	159	742	465	139	610	34	47	15	41	287	20	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	0	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	43	0	19	41	0	0	30	0	18	48	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	21	0	0	21	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No			No		No	No	
Maximum Recall	No	No		No	No			No		No	No	
Pedestrian Recall	No	No		No	No			No		No	No	
Detector Location [ft]	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 Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	39	39	15	37	37	26	26	14	44	44
g / C, Green / Cycle	0.15	0.35	0.35	0.14	0.34	0.34	0.24	0.24	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.33	0.09	0.19	0.02	0.04	0.04	0.09	0.01	0.08
s, saturation flow rate [veh/h]	1603	3204	1431	1603	3204	1431	1129	1490	3113	1683	1431
c, Capacity [veh/h]	248	1136	507	219	1078	481	304	352	396	673	572
d1, Uniform Delay [s]	43.64	29.82	33.95	44.92	29.92	24.81	35.73	33.32	46.15	20.04	21.53
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.11	2.93	23.88	13.31	2.15	0.28	1.08	0.96	10.97	0.08	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.65	0.92	0.64	0.57	0.07	0.15	0.16	0.72	0.03	0.20
d, Delay for Lane Group [s/veh]	55.76	32.75	57.83	58.22	32.07	25.10	36.81	34.29	57.12	20.12	22.32
Lane Group LOS	E	C	E	E	C	C	D	C	E	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.88	8.59	14.96	4.39	6.87	0.64	1.13	1.28	4.36	0.33	2.06
50th-Percentile Queue Length [ft/ln]	122.11	214.78	374.12	109.63	171.87	16.09	28.31	32.10	109.08	8.20	51.44
95th-Percentile Queue Length [veh/ln]	8.51	13.40	21.31	7.82	11.17	1.16	2.04	2.31	7.79	0.59	3.70
95th-Percentile Queue Length [ft/ln]	212.72	334.96	532.73	195.49	279.37	28.97	50.95	57.79	194.72	14.76	92.59

Movement, Approach, & Intersection Results

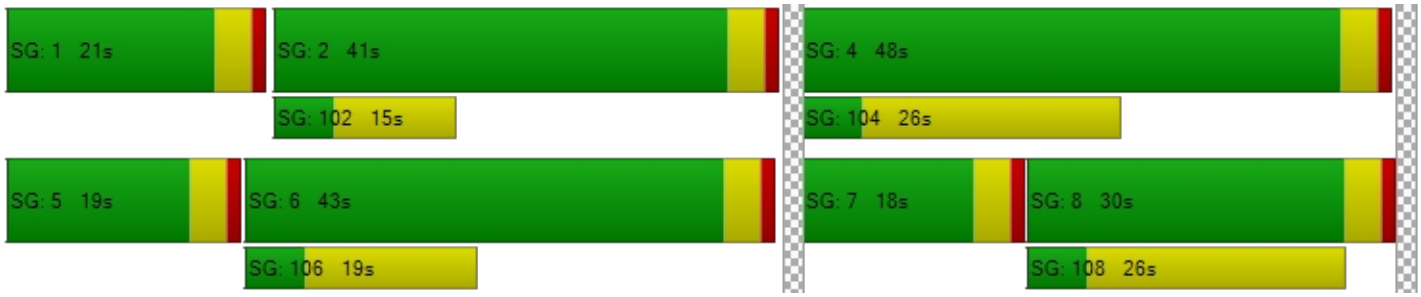
d_M, Delay for Movement [s/veh]	55.76	32.75	57.83	58.22	32.07	25.10	36.81	34.29	34.29	57.12	20.12	22.32
Movement LOS	E	C	E	E	C	C	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	43.96			36.41			35.44			45.88		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	41.73											
Intersection LOS	D											
Intersection V/C	0.546											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	46.37
I_p,int, Pedestrian LOS Score for Intersection	2.838	2.805	2.054	2.514
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	709	673	473	800
d_b, Bicycle Delay [s]	22.91	24.22	32.07	19.80
I_b,int, Bicycle LOS Score for Intersection	2.687	2.206	1.730	2.256
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix F

Figure 4-16 ***NCHRP Report 812 Signal Timing Manual, Second Edition***

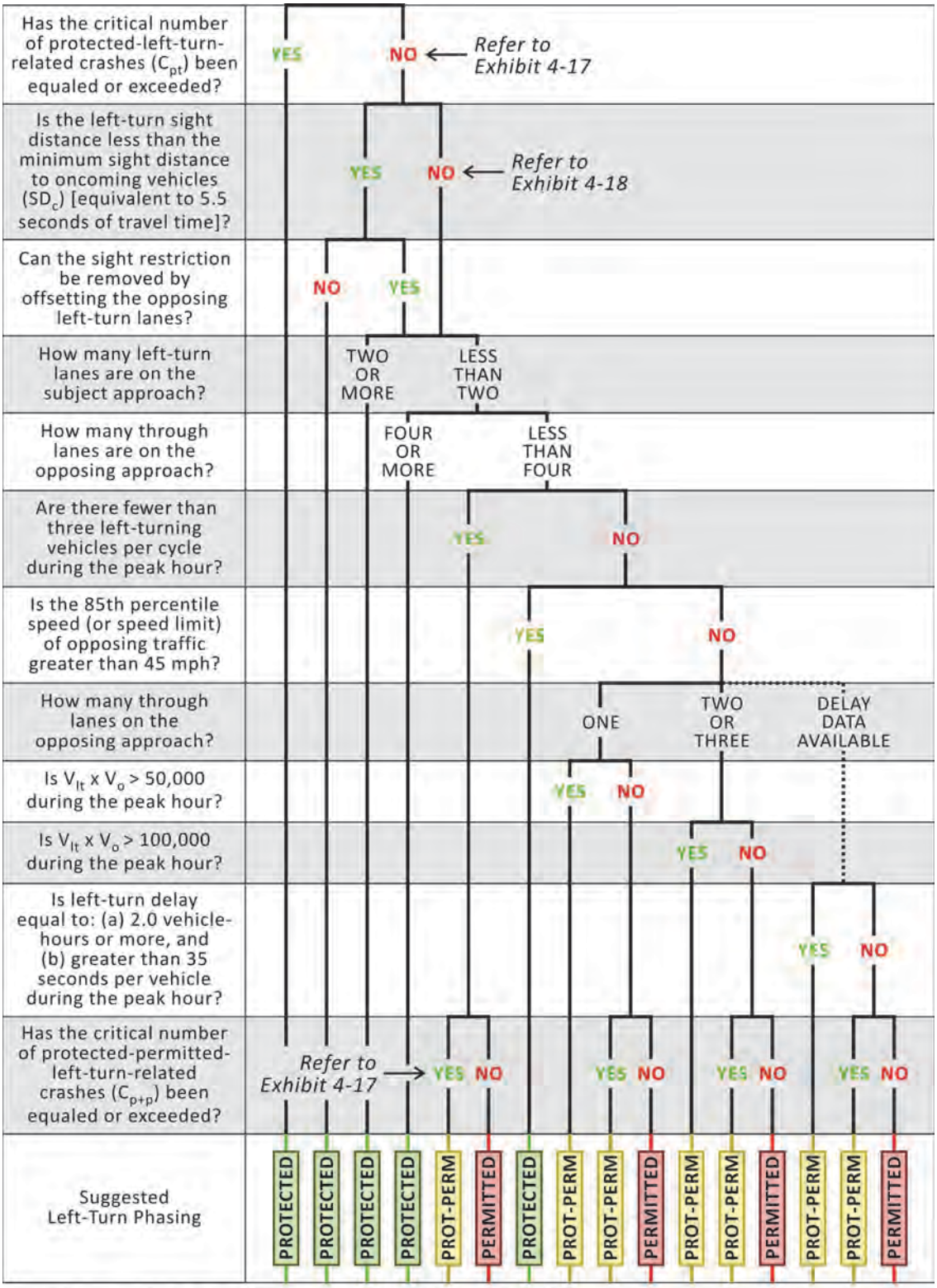


Exhibit 4-16 Left-Turn Phasing Guidelines

V_{lt} = Left-turn volume on subject approach (vehicles per hour)
V_o = Through plus right-turn volume on approach opposing subject left-turn movement (veh per hour)
Prot-Perm = Protected-Permitted (Desirable) or Protected

Source: Adapted from the *Manual of Traffic Signal Design*, 2nd Edition (*11*), *The Traffic Signal Book* (*12*), and the *Traffic Engineering Manual* (*13*).

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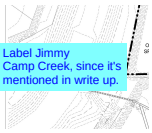

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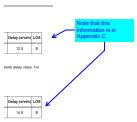

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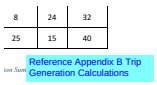

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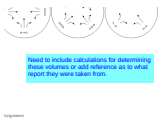
Reference Appendix B Trip Generation Calculations



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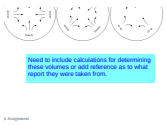

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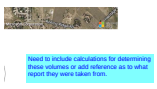

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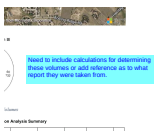

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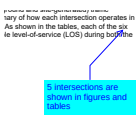

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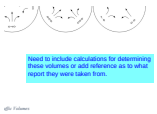

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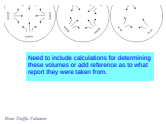

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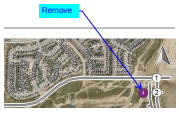

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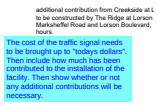

Subject: Text Box
Page Label: 17
Author: CDurham
Date: 6/1/2022 1:35:36 PM
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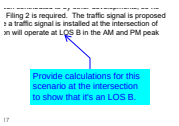
The cost of the traffic signal needs to be brought up to "todays dollars". Then include how much has been contributed to the installation of the facility. Then show whether or not any additional contributions will be necessary.



Subject: Callout
Page Label: 17
Author: CDurham
Date: 6/1/2022 1:36:26 PM
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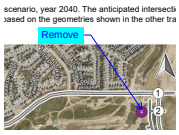
Provide calculations for this scenario at the intersection to show that it's an LOS B.



Subject: Callout
Page Label: 18
Author: CDurham
Date: 6/1/2022 1:37:06 PM
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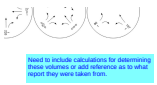
Remove



Subject: Text Box
Page Label: 20
Author: CDurham
Date: 6/1/2022 1:37:22 PM
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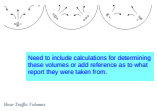
Need to include calculations for determining these volumes or add reference as to what report they were taken from.



Subject: Text Box
Page Label: 21
Author: CDurham
Date: 6/1/2022 1:37:30 PM
Status:
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Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Subject: Callout
Page Label: 21
Author: CDurham
Date: 6/1/2022 1:37:41 PM
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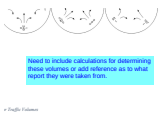
Remove

Subject: Callout
Page Label: 22
Author: CDurham
Date: 6/1/2022 1:38:08 PM
Status:
Color:
Layer:
Space:

Remove



Subject: Text Box
Page Label: 22
Author: CDurham
Date: 6/1/2022 1:38:18 PM
Status:
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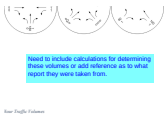
Layer:
Space:

Need to include calculations for determining these volumes or add reference as to what report they were taken from.



Subject: Text Box
Page Label: 23
Author: CDurham
Date: 6/1/2022 1:38:31 PM
Status:
Color:
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Need to include calculations for determining these volumes or add reference as to what report they were taken from.

Subject: Callout
Page Label: 23
Author: CDurham
Date: 6/1/2022 1:38:40 PM
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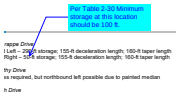
Space:

Remove



Subject: Callout
Page Label: 25
Author: CDurham
Date: 6/1/2022 1:39:55 PM
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Color:
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Per Table 2-30 Minimum storage at this location should be 100 ft.

Subject: Highlight
Page Label: 25
Author: CDurham
Date: 6/1/2022 1:40:15 PM
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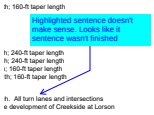
All turn lanes and intersections
have been built and no additional improvements are required for the development of Creekside at Lorson
Ranch



Subject: Callout
Page Label: 25
Author: CDurham
Date: 6/1/2022 1:41:39 PM
Status:
Color:
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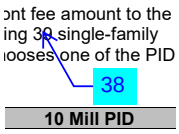
Highlighted sentence doesn't make sense. Looks like it sentence wasn't finished



Subject: Callout
Page Label: 25
Author: CDurham
Date: 6/1/2022 1:42:03 PM
Status:
Color:
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Space:

38

Subject: Text Box
Page Label: 25
Author: CDurham
Date: 6/1/2022 1:44:15 PM
Status:
Color:
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Include:
- discussion on pedestrian/bicycle needs and provisions
- school & pedestrian routing plan
- state whether or not there are any deviations
- statement if there are any planned MTCP improvements in the area (include if they are reimbursible if there are any)
- crash history
- discussion & exhibit showiong roadway classification in area and being proposed for project site

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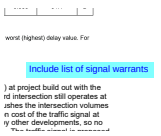

Subject: Text Box
Page Label: 17
Author: CDurham
Date: 6/1/2022 1:45:07 PM
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Include list of signal warrants

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scott_barnhart (1)

Subject: Barnhart P.E. Stamp
Page Label: 26
Author: scott_barnhart
Date: 5/10/2022 9:58:49 AM
Status:
Color:
Layer:
Space: