CONSULTING, INC.

A Better Environment

Traffic Impact Study

for

The Trails – Douglas County Mixed Use Planned Unit Development

Foxfield Douglass, LLC

DRI # 3544

2553 Hwy 92 – Fairburn Road, Douglasville, GA 30135

Prepared By:

Abe Abouhamdan, PE

ABE Consulting, Inc.

2410 Hog Mountain Road, Suite 103

Watkinsville, GA 30677

PH: 706-613-8900 - Fax : 706-425-9631 - E-mail: abe@ABEconsultinginc.com

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Executive Summary

There will be level of service failures in the study network under background growth no-build and full build out scenarios. The failure at Lee Rd and SR92 can be addressed with planned intersections improvements. The stop control at Old Lee Rd may need to be signalized in the future.

Table E-1
Level of Service (LOS) Summary of Failures

Intersection Name	Existing Control	Existing		2028 No-Build		2028 Full-Build		2028 w/Improvements*	
		AM	PM	AM	PM	AM	PM		
Lee Rd at SR92	Signalized	C	E	C	F	C	F	B	C
Old Lee Rd at SR92	Stop Sign	B	C	B	F	D	F	A	C

*Improvements include signalization at Old Lee Rd/SR92 and programmed improvements for Lee Rd.

Table E-2
Storage Lane Failure

Intersection Name	Existing Control	Existing		2028 No-Build		2028 Full-Build	
		AM	PM	AM	PM	AM	PM
Lee Rd at SR92	Signalized	Good	Exceeds	Exceeds	Exceeds	Exceeds	Exceeds
Old Lee Rd at SR92	Stop Sign	Good	Good	Good	Exceeds	Good	Exceeds
Bomar/Mack at SR92	Signalized	Good	Good	Exceeds	Exceeds	Exceeds	Exceeds
Pope Rd at SR92	Signalized	Good	Good	Exceeds	Exceeds	Exceeds	Exceeds

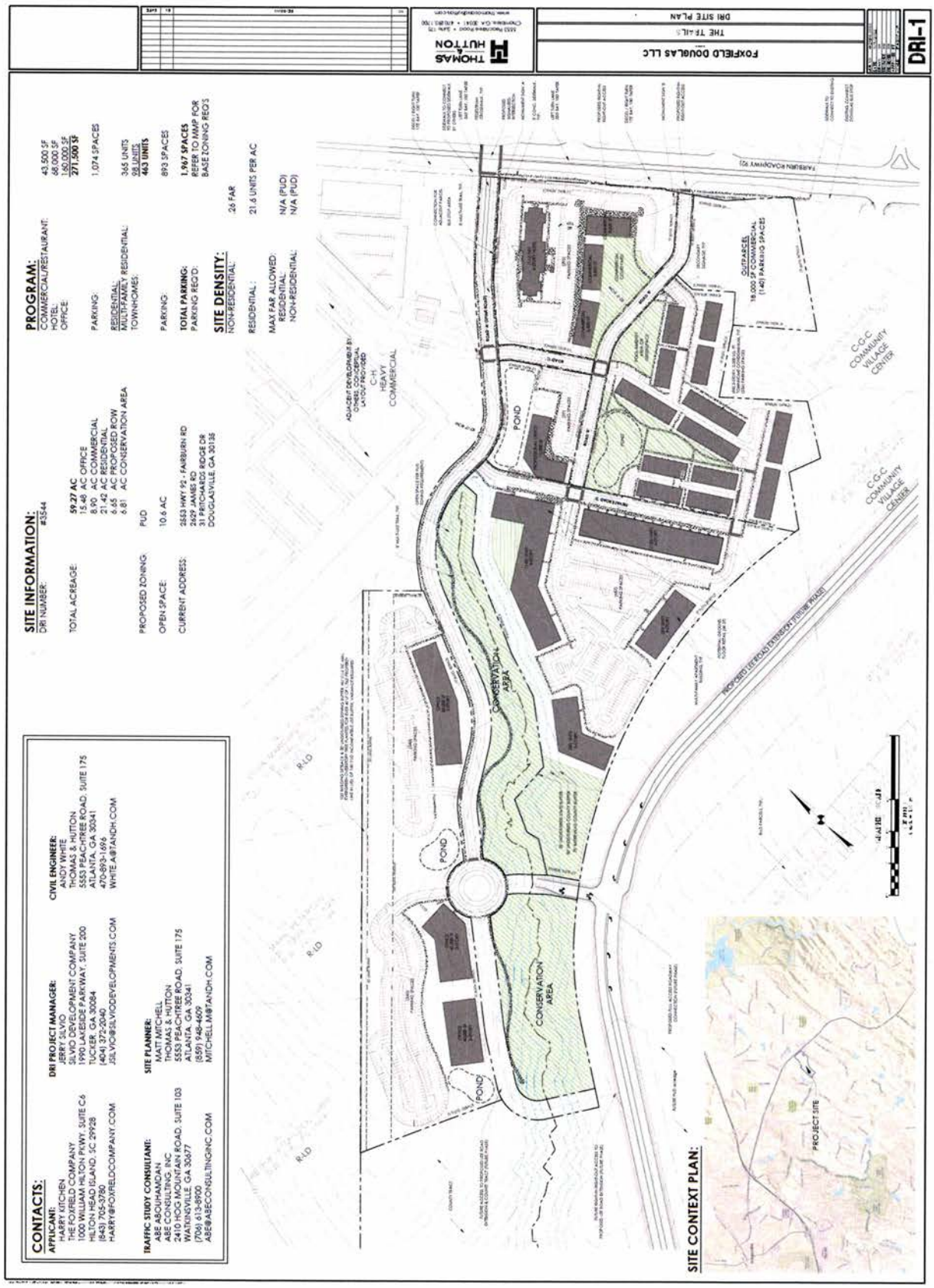
Project Description

The proposed PUD development (The Trails - DRI #3544) is a mixed-use commercial, residential and office space project. The PUD encompasses 43,500 SF of commercial and restaurant space, 160,000 SF of office space, 68,000 SF hotel (112 Key), 365 units of multi-family residential and 98 units of townhomes.

Adjacent land uses vary from Low density single family residential (R-LD) districts to heavy commercial (C-H), commercial general (C-H) and redistricted light industrial. Existing roadways in the vicinity consists of a major arterial divided highway (SR 92), collector (Lee Road) and minor and local streets Mount Vernon Rd, Lake Monroe Rd, Old Lee Rd, etc.). The majority of the existing roadways are stop-controlled intersections. Lee Road is a signalized intersection with SR 92. Transit stations are not found within the project vicinity.

Pedestrian facilities are typically provided with individual projects and subdivisions. However, SR 92 does not seem to have sidewalks or pedestrian paths within the vicinity of the project. The proposed development includes sidewalks throughout and nature trails. Intersection designs will provide pedestrian crossings with proper crosswalks, ramps and warning and safety signage. The proposed development will be connected to the major collector SR 92 via a proposed signalized intersection. The proposed development roadway will include a 3-lane configuration- left turn, right turn and right thru lane since it would be a 3-legged "T" intersection.

Site Plan


CONTACTS:
APPLICANT:
HARRY KITCHEN
THE FOXFIELD COMPANY
1000 WILLIAM HILTON PKWY, SUITE C-6
HILTON HEAD ISLAND, SC 29928
(843) 705-3780
HARRY@FOXFIELDCOMPANY.COM
DRI PROJECT MANAGER:
JERRY SILVIO
SILVIO DEVELOPMENT COMPANY
1990 LAKESIDE PARKWAY, SUITE 200
TUCKER, GA 30084
(404) 372-2040
JSILVIO@SILVIODEVELOPMENTS.COM
CIVIL ENGINEER:
ANDY WHITE
THOMAS & HUTTON
5555 PEACHTREE ROAD, SUITE 175
ATLANTA, GA 30341
470-893-1696
WHITE.A@TANDH.COM
TRAFFIC STUDY CONSULTANT:
ABE ABOUHAMDAN
ABE CONSULTING, INC
2410 HOG MOUNTAIN ROAD, SUITE 103
WATKINSVILLE, GA 30677
(706) 613-9900
ABE@ABECONSULTINGINC.COM
SITE PLANNER:
MATT MITCHELL
THOMAS & HUTTON
5555 PEACHTREE ROAD, SUITE 175
ATLANTA, GA 30341
(859) 948-4609
MITCHELL.M@TANDH.COM
SITE INFORMATION:
DRI NUMBER: #3544
TOTAL ACREAGE: 59.27 AC
15.48 AC OFFICE
8.90 AC COMMERCIAL
21.42 AC RESIDENTIAL
6.65 AC PROPOSED ROW
6.81 AC CONSERVATION AREA
PROPOSED ZONING: PUD
OPEN SPACE: 10.6 AC
CURRENT ADDRESS: 2553 HWY 92 - FAIRBURN RD
2429 JAMES RD
31 PRITCHARDS RIDGE DR
DOUGLASVILLE, GA 30135
PROGRAM:
COMMERCIAL/RESTAURANT: 43,500 SF
HOTEL 68,000 SF
OFFICE 160,000 SF
271,500 SF
PARKING: 1,074 SPACES
RESIDENTIAL:
MULTI-FAMILY RESIDENTIAL: 365 UNITS
TOWNHOMES: 98 UNITS
463 UNITS
PARKING: 893 SPACES
TOTAL PARKING: 1,967 SPACES
PARKING REQ'D: REFER TO MAP FOR BASE ZONING REQ'S
SITE DENSITY:
NON-RESIDENTIAL: 0.6 FAR
RESIDENTIAL: 21.6 UNITS PER AC
MAX FAR ALLOWED:
RESIDENTIAL N/A (PUD)
NON-RESIDENTIAL: N/A (PUD)
SITE CONTEXT PLAN:
PROJECT SITE
FOXFIELD DOUGLAS LLC
THE TF JILL'S
DRI SITE PLAN
THOMAS HUTTON
DRI-1
C-H HEAVY COMMERCIAL
C-G-C COMMUNITY VILLAGE CENTER
OUTPARCEL 18,000 SF COMMERCIAL (140) PARKING SPACES
CONSERVATION AREA
POND
R-LD

Comprehensive Plan

The Comprehensive Plan calls for higher intensity of commercial activity intended to serve more than one neighborhood, and includes uses such as retail, office, and services for this area.

Project Phasing

The project will be completed in one phase by 2028.

Bicycle and Pedestrian Facilities

There is an existing 5' sidewalk in front of adjacent Tractor Supply Co. property connecting project to Lee Road @ Highway 92 intersection. The programmed Lee Rd Widening project will provide a continuous sidewalk connection from the Lee Rd @ Hwy 92 intersection to I-20 with an 8' multi-use trail being constructed from County Line Road to the Lee Rd. @ I-20 interchange. Sidewalks are not present heading northwest on Fairburn (Hwy 92) from the site and terminate shortly after the Lee Rd. @ Fairburn intersection when heading southeast away from the site on Fairburn

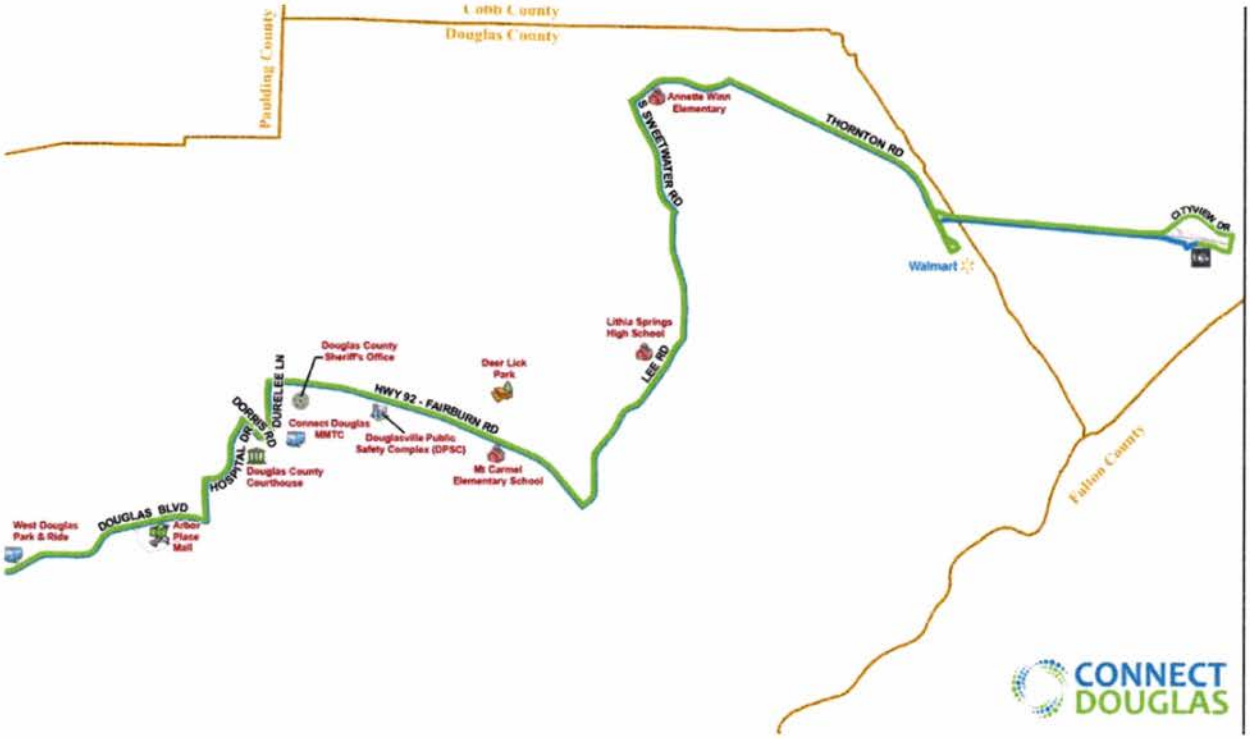
Potential destinations include Publix and associated commercial businesses across the street at the corner of Lee Rd and Highway 92 (0.4 miles),and Sweetwater Creek State Park (3.15 miles). A 5-foot sidewalk shall be provided within the right-of-way of any arterial or collector road adjacent to any residential, commercial, or industrial development. The sidewalks shall be installed prior to final plat approval for residential developments or certificate of occupancy for commercial or industrial developments. The sidewalk must be located at least 4 feet from the back of the street curb. A setback of less than 4 feet from back of the street curb may be approved at the discretion of the Director of Transportation for specific site conditions, provided there is sufficient justification acceptable to the Director of Transportation.

Transit Facilities and Capacity

The nearest bus station is located just outside the project boundary in front of Tractor Supply on Highway 92 (Fairburn Rd.) on Connect Douglas Route 40. There currently is no high-capacity transit service. There is no existing ridership but there are projections of 15-20 riders per day. No transit amenities are proposed.

Exhibit H – Bus Route Map:

Exhibit I – Connect Douglas Route 40:



Trip Generation

Table 2 summarizes the total and AM and PM peak volume for the project. The project will include office, residential, retail and restaurant. The ITE Trip Generation[1] codes are provided and the units for the proposed development are in 1000's square feet except for residential which are in dwelling units. Pass-by trips, which are assumed vehicle already on the road, have been subtracted out of the total new generated traffic based on ITE data for the impacted land uses. Additionally, internal capture[2] was estimated and removed from the new trip total. For purposes of calculating internal capture, it was assumed 5% would be walking and there would be no transit trips. **Table 2** below provides additional specific breakdown of proposed PUD uses. Also, please refer to the attached Site for additional acreage and information for the proposed development. Formula and ITE Code is provided in **Table 1**.

Table 1

ITE Codes, Units used and Formulas

ITE Code	Description	Units	Time	
750	Office Park	160	24-Hour	Ln(T) = 0.89 Ln(X) + 3.10
	Rear of Development	160	AM	T = 0.94(X) + 194.06
	Square Feet	160	PM	T = 1.26(X) + 20.98
310	Hotels	112	24-Hour	T = 2.90(X) + 151.69
	Front of Development	112	AM	T = 0.30(X) + 6.94
	Number of Rooms	112	PM	T = 0.21(X) + 12.03
270	Residential PUD	463	24-Hour	Ln(T) = 1.00 Ln(X) + 2.00
	Middle of Development	463	AM	Ln(T) = 0.89 Ln(X) + 0.25
	Square Feet	463	PM	Ln(T) = 0.97 Ln(X) - 0.14
822	Retail	32.5	24-Hour	T = 42.20(X) + 229.68
	Front of Development	32.5	AM	Ln(T) = 0.66 Ln(X) + 1.84
	Square Feet	32.5	PM	Ln(T) = 0.71 Ln(X) + 2.72
934	Restaurant	11	24-Hour	T=467.48(x)
	Front of Development	11	AM	T=44.61(x)
	Square Feet	11	PM	T=33.03(x)

[1] Institute of Transportation Engineers 11th Edition

[2] Internal trips estimated using the NCHRP 684 Internal Trip Capture Estimation Tool

Table 2
Trip Generation of Project

				Two-way	Percentage		Vehicle per Hour		Internal Trips		Adj Vehicle per Hour		Pass-by	Thru-trip Reductions		Adj Vehicle per Hour	
ITE Code	Description	Units	Time	Volume	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	All			Enter	Exit
750	Office Park	160	24-Hour	2,033													
	Rear of Development	160	AM	345	89%	11%	307	38	67	33	240	5	0%	-	-	240	5
	Square Feet	160	PM	223	14%	86%	31	192	12	16	19	176	0%	-	-	19	176
310	Hotels	112	24-Hour	477													
	Front of Development	112	AM	41	39%	61%	16	25	1	12	15	13	0%	-	-	15	13
	Number of Rooms	112	PM	36	55%	45%	20	16	17	11	3	5	0%	-	-	3	5
270	Residential PUD	463	24-Hour	3,422													
	Middle of Development	463	AM	303	22%	78%	67	236	4	54	63	182	0%	-	-	63	182
	Square Feet	463	PM	335	65%	35%	218	117	58	42	160	75	0%	-	-	160	75
822	Retail	32.5	24-Hour	1,602													
	Front of Development	32.5	AM	63	44%	56%	28	35	14	16	14	19	26%	4	5	10	14
	Square Feet	32.5	PM	180	53%	47%	95	85	68	52	27	33	34%	9	11	18	22
934	Restaurant	11	24-Hour	5,143													
	Front of Development	11	AM	491	51%	49%	250	241	78	49	172	192	49%	84	94	88	98
	Square Feet	11	PM	364	52%	48%	189	175	63	97	126	78	50%	63	39	63	39
	Total Trips		24-Hour	12,200													
			AM	1,202	56%	48%	668	575	163	152	489	398		88	99	401	299
			PM	1,102	50%	53%	553	585	201	207	332	362		72	50	260	312

Trip Distribution and Assignment

For purposes of this analysis, it has been assumed that the Main Entrance (Entrance "A") on SR92 would take the largest portion (90%) of the new traffic. The remaining volume would be distributed onto the additional right in/out only (Entrance "B") for the SR 92 access proposed east of the main access point. For this analysis, it is assumed all left turning vehicles will utilize the main entrance[3]. Additionally, the left and right turns were distributed 50% each[4], based on current traffic patterns on SR92. The resulting distribution of new traffic is shown in **Table 3**.

It is the opinion of ABE Consulting (ABE) that this would represent the lowest volume case for purposes testing if Signal Warrant #8 (peak hour) of the Manual of Uniform Traffic Control Devices (MUTCD) would be satisfied.

Table 3
Peak Hour Trip Distribution

		Entrance	Direction West	Right Turn	Left Turn
AM	Entrance "A" Exiting Vehicles	90%	56%	158	201
AM	Entrance "B" Exiting Vehicles	10%	0%	40	0
				198	**201**
PM	Entrance "A" Exiting Vehicles	90%	56%	143	182
PM	Entrance "B" Exiting Vehicles	10%	0%	36	0
				179	**182**
		Entrance	Direction West	Right Turn	Left Turn
AM	Entrance "A" Entering Vehicles	90%	56%	194	246
AM	Entrance "B" Entering Vehicles	10%	0%	49	0
				243	**246**
PM	Entrance "A" Entering Vehicles	90%	56%	131	167
PM	Entrance "B" Entering Vehicles	10%	0%	33	0
				164	**167**

Table 4
Hourly Distribution other Day Hours

Hour of Day	**9:00**	**10:00**	**11:00**	**12:00**	**1:00**	**2:00**	**3:00**	**4:00**
Percent of Traffic	4.59	5.62	6.32	6.62	6.75	6.86	6.88	6.90
Road A exiting	312	382	430	450	459	466	468	469
Road B exiting	27	33	38	39	40	41	41	41
Total	339	415	467	489	499	507	509	510

[3] Until the Lee Rd Extension is complete 100% of left turners would be required to use the proposed main entrance with the median cut.

[4] The secondary entrance is right in/right out only, so all left turners will be required to use the main entrance driving the percentage turning west to 56%.

Signal Warrant Analysis for Entrance A

Based on the hourly distribution of traffic exiting the development using Road A, it is anticipated that Warrant #1 and Warrant #2 of the MUTCD will be satisfied for signal installation. The threshold volumes are exceeded for both the 8 hour and 4-hour time periods.

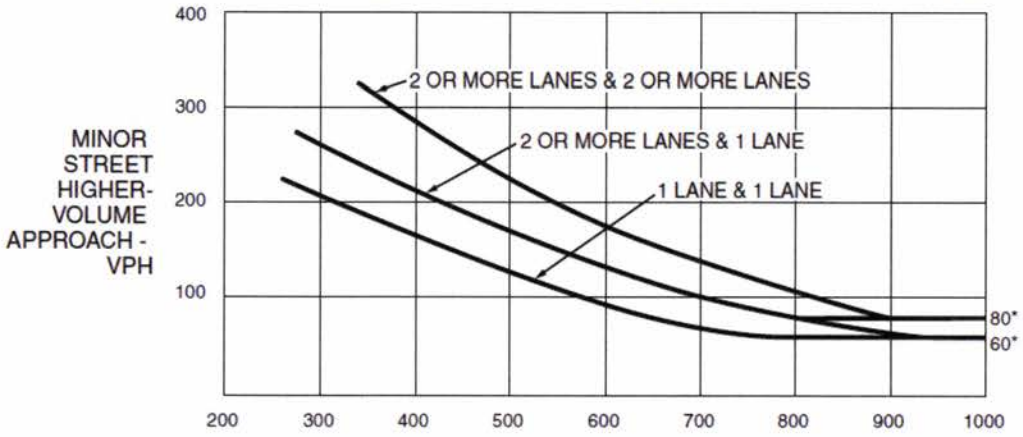
Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

The resulting turning movements are added to the proposed main entrance for operations analysis using McTrans Highway Capacity Software. The LOS of service and delay was calculated for a non-signalized intersection with an assumed left and right lane to determine if Warrant #3 of the MUTCD would be satisfied.

The need for a traffic control signal shall be considered if an engineering study find either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

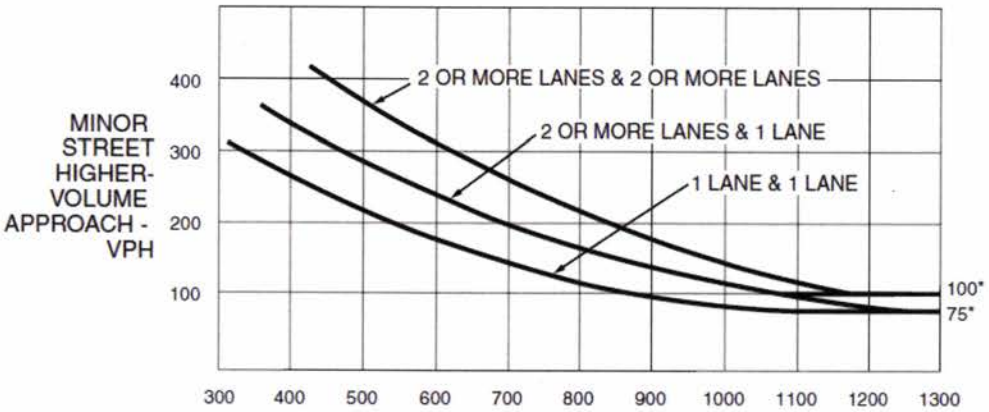
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

The MUTCD also provides that since SR95 is posted at 45 miles per hour, **Figure 4C-4** of the MUTCD manual can be used in lieu of **Figure 4C3**. Since traffic on SR92 exceeds 1,500 vehicles for the total of the east and west approaches, a signal would be warranted based on the anticipated exiting volumes exceeding 100 for both the AM and PM peak hours. This satisfies condition B above.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Though warrant #3 was satisfied, an analysis of a non-signalized entrance was performed and summarized below. Significant delay can be anticipated for exiting traffic in both the AM and PM peak hour periods. The results are summarized in the following tables.

Stop Sign Controlled Entrance AM Peak Hour

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		158	124		124			
C(m) (vph)		651	59		490			
v/c		0.24	2.10		0.25			
95% queue length		0.95	12.00		0.99			
Control Delay		12.3	659.1		14.8			
LOS		B	F		B			
Approach Delay				337.0				
Approach LOS				F				

Stop Sign Controlled Entrance PM Peak Hour

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config		L	L		R			
v (vph)		114	138		138			
C(m) (vph)		632	46		478			
v/c		0.18	3.00		0.29			
95% queue length		0.65	14.96		1.18			
Control Delay		11.9			15.6			
LOS		B	F		C			
Approach Delay				552.0				
Approach LOS				F				

Signal Controlled Analysis

The entrance on S.R. 92 was then analyzed with a signal. This will be a T intersection access point. The GDOT will need to allow a median break at this location. Queueing is anticipated, and storage lanes will have to be a minimum of 6 vehicles for left turns from westbound traffic. Vehicles turning left out of the development is expected to have a queue of 8 vehicles. The intersection will operate at a LOS of "B" during AM peak and "B" during PM peak hour. The traffic operations analysis for project build-out is summarized in the intersection analysis section.

Trip Reductions

Trip reductions are summarized in the in **table 4**. Internal trip reductions were calculated using the NCHRP 684 Internal Trip Capture Estimation Tool. The output is provided in the appendix. Pass-by trips were estimated using ITE reduction rates.

Table 5
Trip Reductions

Trip Generation	**12,200**	
Internal Trip Reductions	3,705	30%
Adjusted New Trips	8,495	
Pass-by Reductions	1,104	13%
Total New Trips (SR92)	7,391	

Study Network

The study network was determined by taking the total new trips after reductions and distributing on the existing network and comparing road capacity needs for each road segment at each intersection. Intersections for the

study network were identified by distributing traffic based on existing traffic patterns until the percent of capacity used fell below 7% for any road segment **(Table 5).** The distribution percentages are summarized in **Figure 1**.

Figure 1
New Trip Distribution

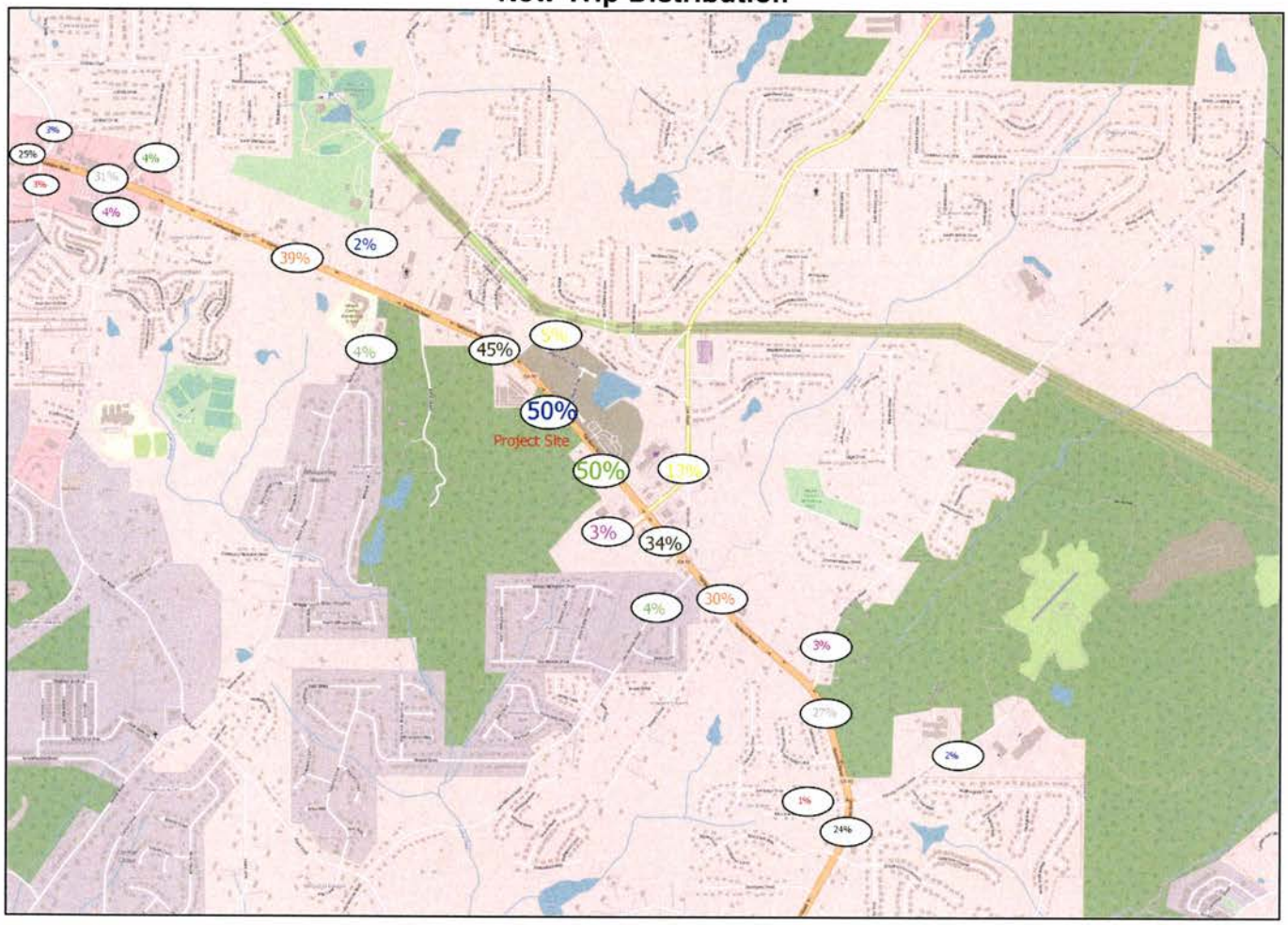


Table 6 – Seven Percent Table

Roadway Segment	Facility Type	Facility LOS Standard	Facility Service Volume @ Standard (vpd)	Adjusted Facility Service Volume @ Standard (vpd)	Projected Traffic Distribution	Project Trips Assigned	% Service Volume Consumed	Presumptive Impact (>7%)
Traffic going East								
SR92 (East)	4LD-2	C	33,500	35,175	50%	3,455	10%	Yes
Lee Rd (South)	2L-1	D	24,800	24,800	3%	249	1%	No
Lee Rd (North)	2L-0	D	24,800	24,800	13%	881	4%	No
SR92 (East)	4LD-1	C	33,200	34,860	34%	2,325	7%	No
Lake Monroe (South)	2L-0	D	24,800	24,800	4%	233	1%	No
SR92 (East)	4LD-1	C	33,200	34,860	30%	2,093	6%	No
Mt Vernon Rd (North)	2L-0	D	24,800	24,800	3%	209	1%	No
SR92 (South)	4LD-1	C	33,200	34,860	27%	1,884	6%	No
Factory Shoals Dr. (East)	2L-0	D	24,800	24,800	2%	188	1%	No
Del Ridge Dr. (West)	2L-0	D	24,800	24,800	1%	57	0%	No
SR92 (South)	4LD-1	C	33,200	34,860	24%	1,639	5%	No
Traffic going West								
SR92 (West)	4LD-2	C	33,500	35,175	50%	3,455	10%	Yes
Old Lee Rd (East)	2L-0	D	24,800	24,800	5%	380	2%	No
SR92 (West)	4LD-2	C	33,500	35,175	45%	3,075	9%	Yes
Bomar Rd (South)	2L-0	D	24,800	24,800	4%	274	1%	No
Mack Rd (North)	2L-0	D	24,800	24,800	2%	86	0%	No
SR92 (West)	4LD-2	C	33,500	35,175	39%	2,715	8%	Yes
Pope Rd (South)	2L-0	D	24,800	24,800	4%	272	1%	No
W County Line Rd (North)	2L-0	D	24,800	24,800	4%	272	1%	No
SR92 (West)	4LD-2	C	33,500	35,175	31%	2,172	6%	No
Midway Rd (South)	2L-0	D	24,800	24,800	3%	217	1%	No
Midway Rd (North)	2L-0	D	24,800	24,800	3%	217	1%	No
SR92 (West)	4LD-2	C	33,500	35,175	25%	1,738	5%	No

The following intersection were analyzed as part of this study.

1. Lee Rd at SR92
2. Old Lee Rd at SR92
3. Bomar/Mack Rd at SR 92
4. Proposed Road "A" at SR92
5. Proposed Road "B" at SR92 (right in/right out only)
6. Pope Rd at SR92

Existing Conditions

The new development is proposed on SR 92 between Lee Rd and Old Lee Road. The Lee Rd/SR92 intersection is currently signalized. The Old Lee Rd/SR92 intersection is unsignalized. Prior to the Covid19 pandemic, total bidirectional traffic on SR92 was 28,500 vehicles per day per GDOT counts in November 2019. Subsequent counts performed in 2021 reported in November 2021 by Kimley Horn shown traffic had dropped to under 18,000. Currently, there is not a driveway or roadway for the proposed development. The existing SR 92 / Fairburn Road is a four-lane divided State highway.

Traffic Counts

Traffic counts were conducted in December 2021 on SR92. Tube counts (48 hours) were collected on west and east of Lee Rd and east of Old Lee Rd. The counts in December showed traffic between 27,116 (west of Lee Rd) and 35,765 (east of Lee Rd) per day along SR29. In addition to the tube counts, turning movement counts were conducted during the AM and PM peak hours on SR92 at Lee and Old Lee Roads. The increase in traffic matching GDOT levels may be driven by seasonal factors. Traffic counts are provided in the appendix.

Planned and Programmed Improvements

The Lee Rd widening from I-20 to SR92 is planned to be constructed in FY2022. The GDOT PI Number is 0004428 and TIP# is DO-220A. The Lee Rd extension is planned to be constructed in FY2050. The project will provide an intersection upgrade at Lee Rd and SR92.

Other Development

In addition to this project, the adjacent property to the north is a proposed development for warehousing and a general office building. The project will generate about 160 AM peak hour trips and 150 PM peak hour trips. A traffic impact study by Kimley Horn dated November 2021 assumes 75% of traffic will utilize the proposed project intersection for Project Silver DRI #3544. The table for trip generation from the study is provided below.

Table 7
Project Trip Generation Summary Adjacent New Development[5]

Land Use(Intensity)	ITE Code	Daily Traffic		AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit	Enter	Exit
Warehousing (370,200 SF)	*150*	315	315	54	16	19	53
General Office Building (64,500 SF)	*710*	347	347	75	12	12	63
Total Gross Trips		**662**	**662**	**129**	**28**	**31**	**116**

[5] Final Report Traffic Impact Study Project Silver Douglas County, Georgia November 2021 by Kimley Horn.

The 75% of the peak hour traffic from this proposed development using "The Trails" were assumed to use the main entrance and are added to the site traffic diagram. The distribution of traffic is provided in **Table 7**.

Table 8
Adjacent Development Traffic Assignment

	Adjacent New Development (@75%)					
	Left	**Right**	**Exit**	**Enter**	**Left**	**Right**
AM	11	10	21	97	48	49
PM	44	43	87	23	12	11

Analysis Summary

The analysis of intersection level of service includes existing, 2028 no-build and 2028 full build scenarios. The traffic diagrams on the following pages were used for input into the Highway Capacity Software (HCS). Default values were modified based on current or proposed conditions as applicable. Output of the HCS software is provided in the appendix. A summary of the LOS is provided in the following Table. The studied intersections operate at LOS of "D" or better with the exception of Lee Rd at SR92. Additionally, Lee Rd exceeds capacity for left turning vehicles onto SR92. Details are provided in the intersection analysis section of this study.

Table 9
Level of Service (LOS) Summary

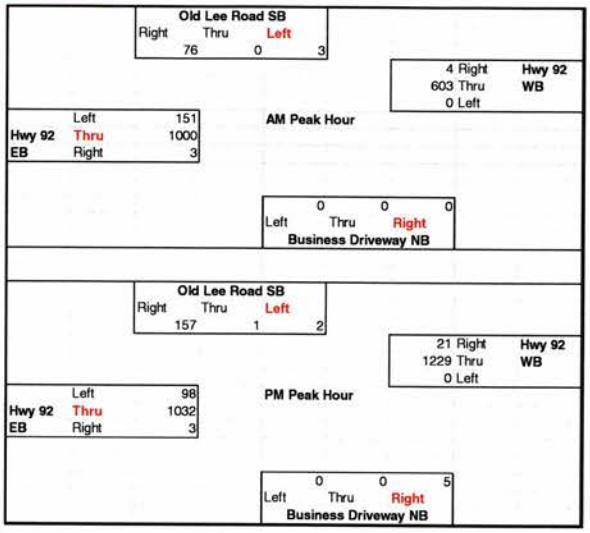
Intersection Name	**Control**	Existing		2028 No-Build		2028 Full-Build		**2028 w/Improvements***	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**		
Lee Rd at SR92	Signalized	C	E	**C**	**F**	**C**	**F**	**B**	**C**
Old Lee Rd at SR92	Stop Sign	B	C	**B**	**F**	**D**	**F**	**A**	**C**
Bomar/Mack Rd at SR92	Signalized	B	B	**C**	**D**	**C**	**D**	N/A	N/A
Entrance "A"	Signalized	N/A	N/A	**N/A**	**N/A**	**C**	**B**	N/A	N/A
Entrance "B"	RI/RO	N/A	N/A	**N/A**	**N/A**	**C**	**C**	N/A	N/A
Pope Rd at SR92	Signalized	B	C	**C**	**C**	**C**	**D**	N/A	N/A

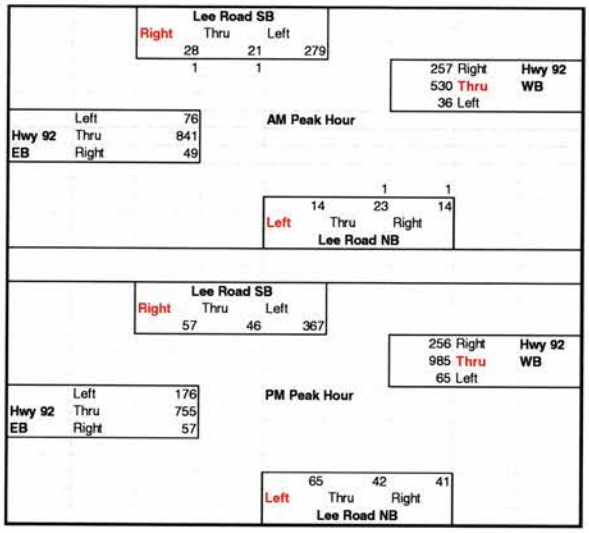
*Improvements include signalization at Old Lee Rd/SR92, Entrance "A" and "B" of proposed development and programmed improvements for Lee Rd.

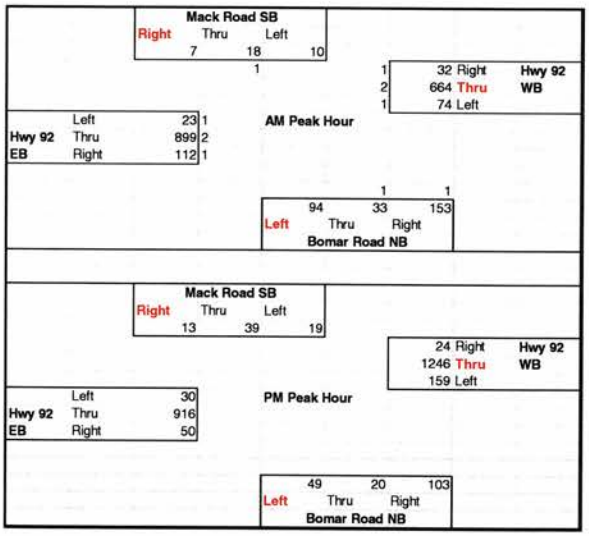
Traffic Diagrams (Peak Hour)

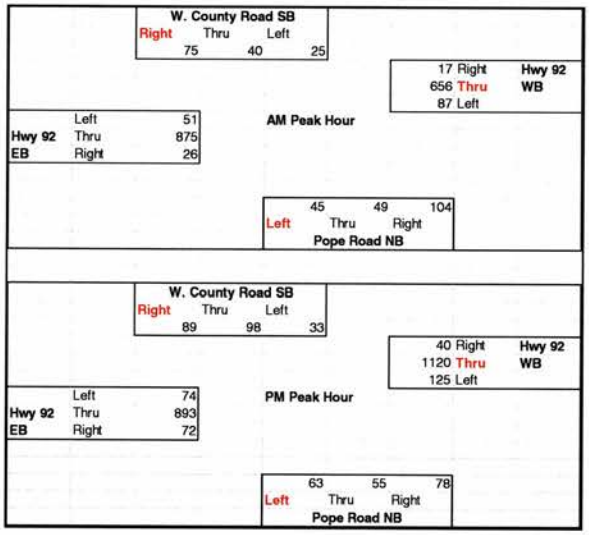
The diagrams on the following pages provide the existing traffic, and 2028 traffic no-build, site specific traffic and traffic with build-out for 2028.

Existing

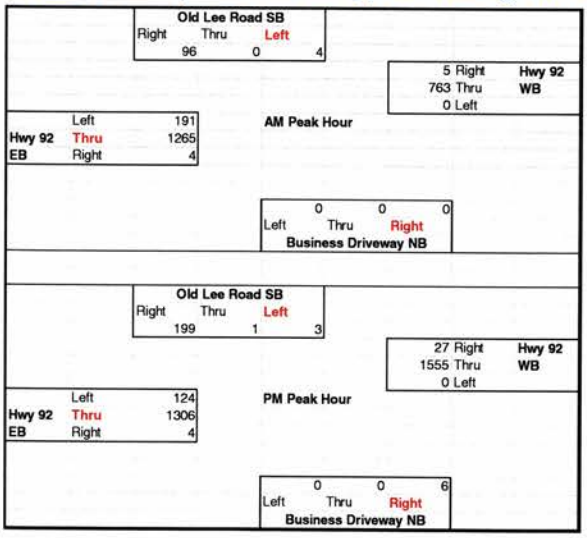


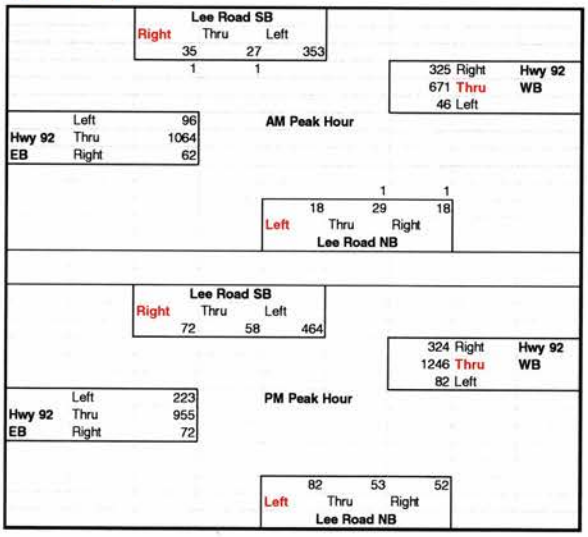


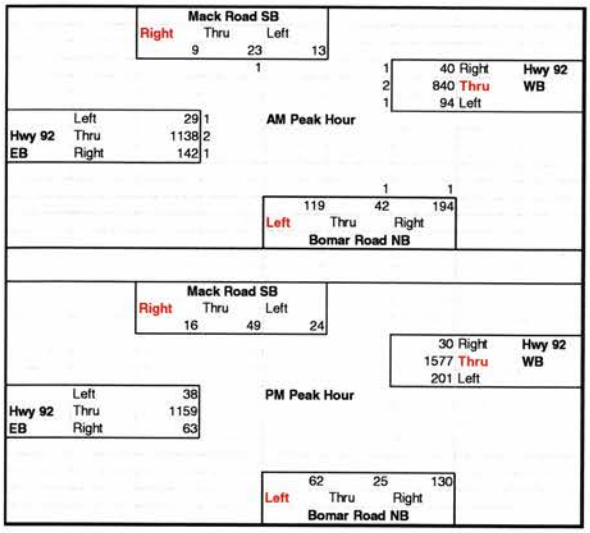


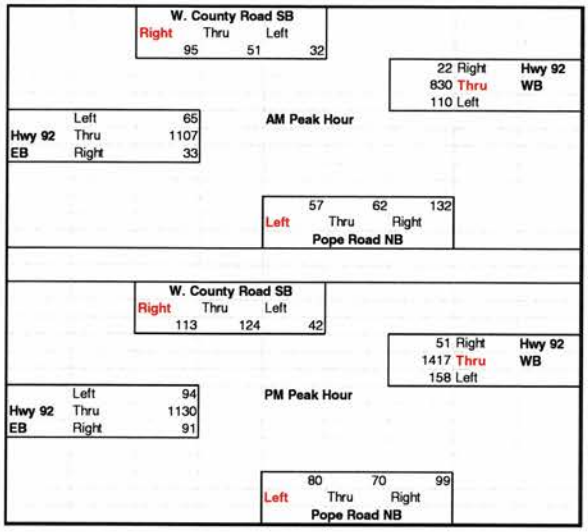


2028 Traffic (no-build 4%/year background growth)

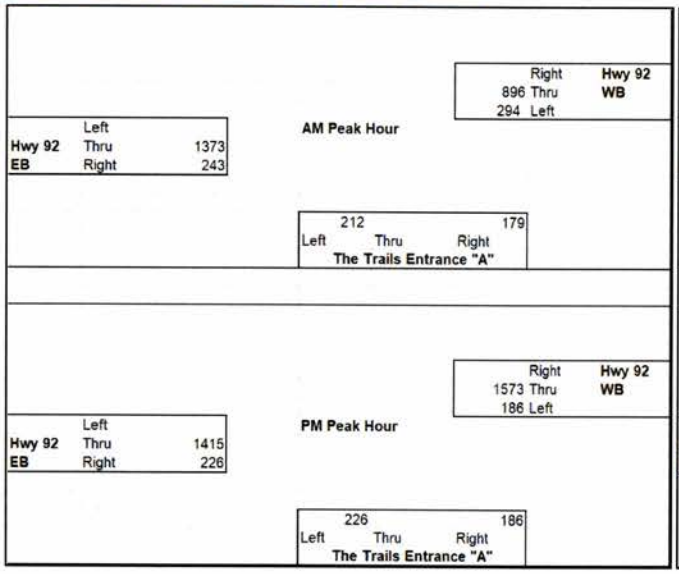


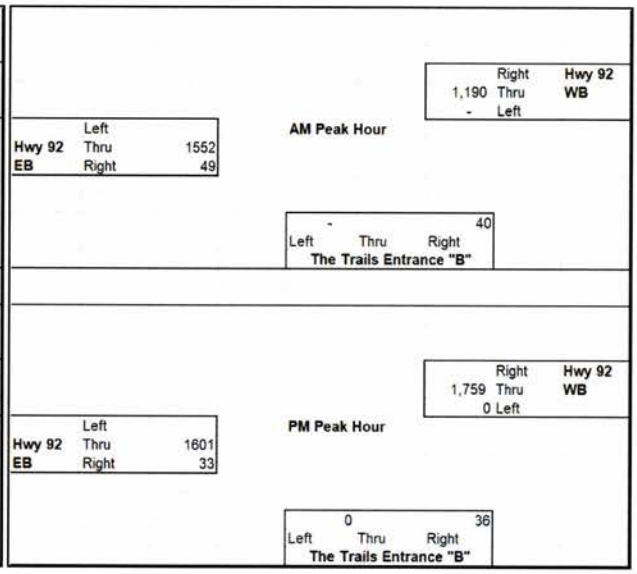


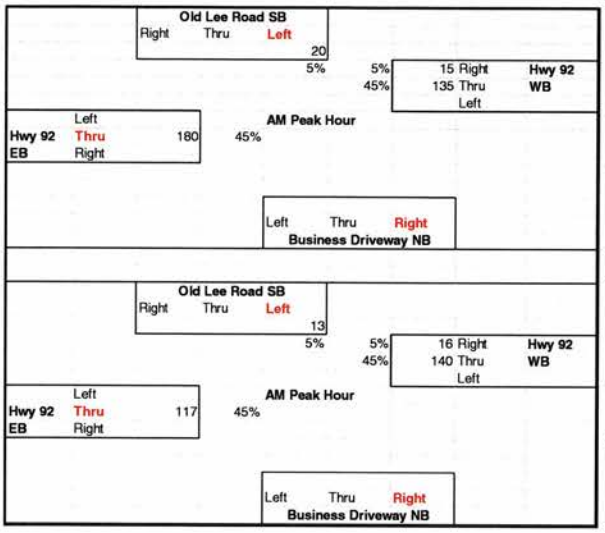


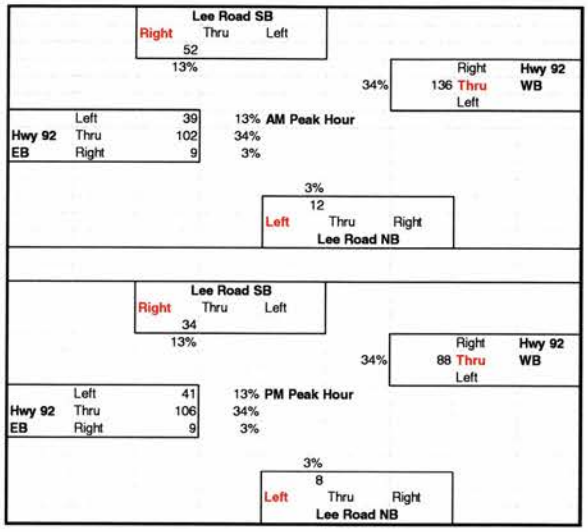


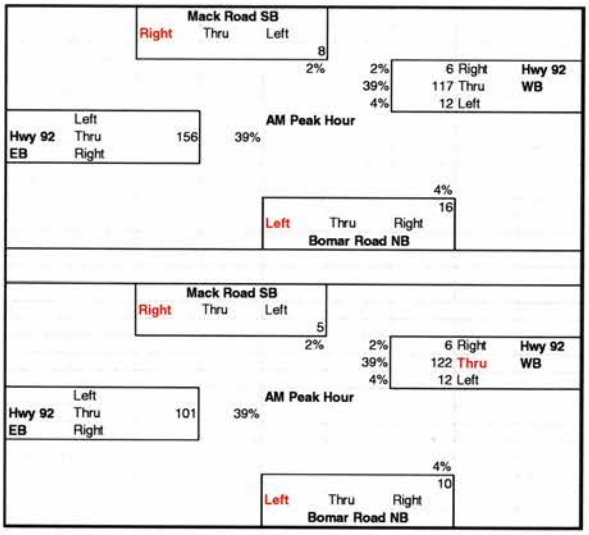
Site Traffic Distribution (Peak Hour)

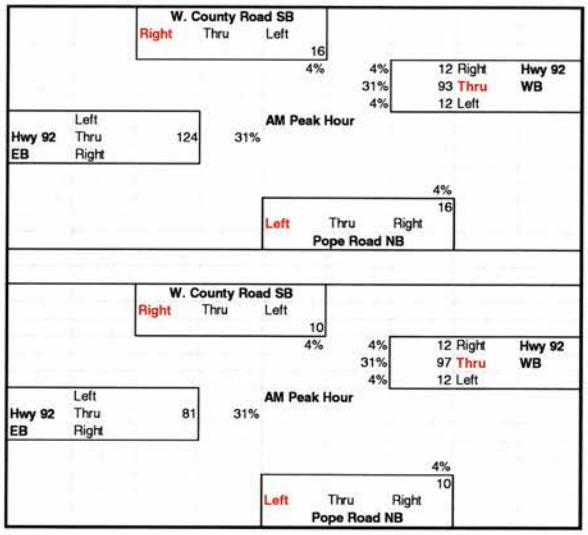




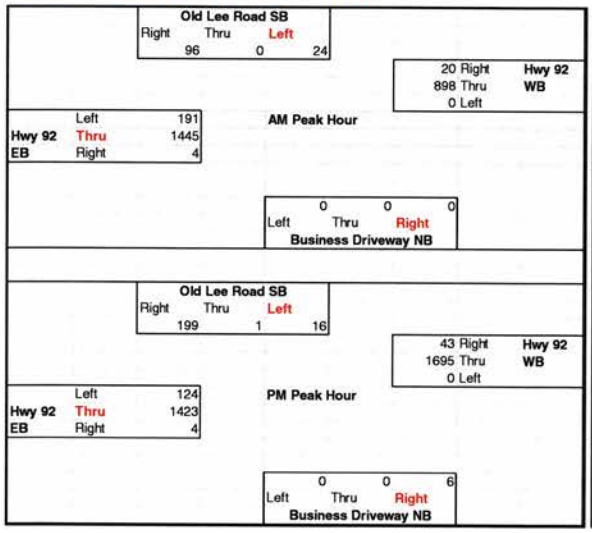

Old Lee Road SB
Right Thru Left
20
5%
5% 15 Right Hwy 92
45% 135 Thru WB
Left
Left
Hwy 92 Thru 180 45%
EB Right
AM Peak Hour
Left Thru Right
Business Driveway NB
Old Lee Road SB
Right Thru Left
13
5%
5% 16 Right Hwy 92
45% 140 Thru WB
Left
Left
Hwy 92 Thru 117 45%
EB Right
AM Peak Hour
Left Thru Right
Business Driveway NB

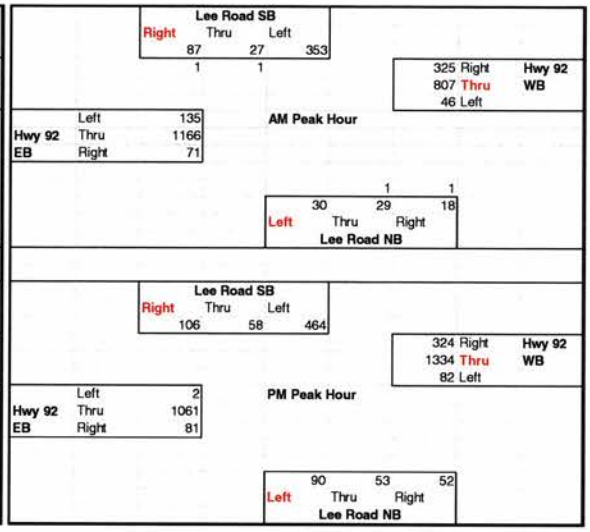

Lee Road SB
Right Thru Left
52
13%
34% Right Hwy 92
136 Thru WB
Left
Left 39 13% AM Peak Hour
Hwy 92 Thru 102 34%
EB Right 9 3%
3%
12
Left Thru Right
Lee Road NB
Lee Road SB
Right Thru Left
34
13%
34% Right Hwy 92
88 Thru WB
Left
Left 41 13% PM Peak Hour
Hwy 92 Thru 106 34%
EB Right 9 3%
3%
8
Left Thru Right
Lee Road NB

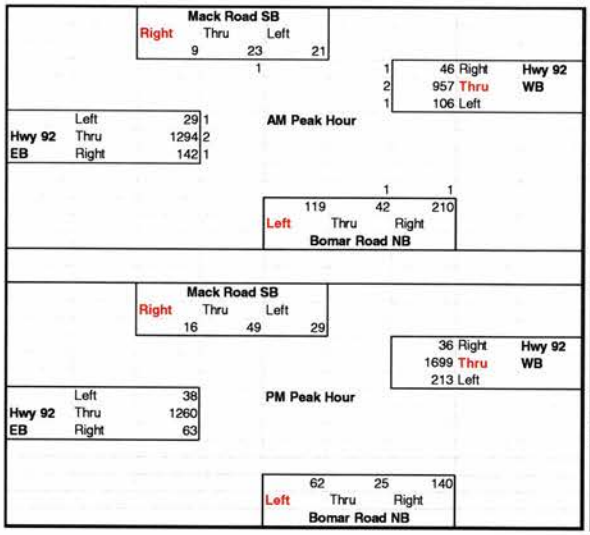

Mack Road SB
Right Thru Left
8
2%
2% 6 Right Hwy 92
39% 117 Thru WB
4% 12 Left
Left
Hwy 92 Thru 156 39%
EB Right
AM Peak Hour
4%
16
Left Thru Right
Bomar Road NB
Mack Road SB
Right Thru Left
5
2%
2% 6 Right Hwy 92
39% 122 Thru WB
4% 12 Left
Left
Hwy 92 Thru 101 39%
EB Right
AM Peak Hour
4%
10
Left Thru Right
Bomar Road NB

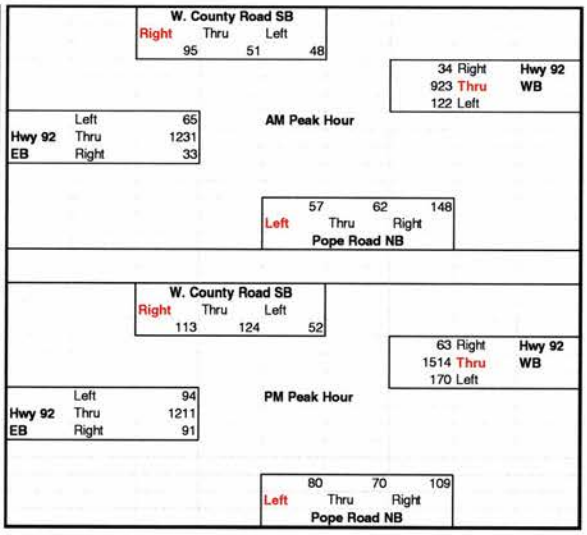

W. County Road SB
Right Thru Left
16
4%
4% 12 Right Hwy 92
31% 93 Thru WB
4% 12 Left
Left
Hwy 92 Thru 124 31%
EB Right
AM Peak Hour
4%
16
Left Thru Right
Pope Road NB
W. County Road SB
Right Thru Left
10
4%
4% 12 Right Hwy 92
31% 97 Thru WB
4% 12 Left
Left
Hwy 92 Thru 81 31%
EB Right
AM Peak Hour
4%
10
Left Thru Right
Pope Road NB

Total 2028 with Site Traffic









Study Intersections Level of Service

Existing AM and PM

The existing LOS for the adjacent intersections for the development are at "E" or better. **Table 6** summarizes existing LOS. The SR 92 / Lee Rd intersection has a PM peak LOS of E. The stop-controlled intersection at Old Lee Rd has a business with minimal traffic. The approach LOS for Old Lee Rd is D during the PM peak hour.

Table 10
Existing Level of Service (LOS) Lee Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	30.3	241	19	14.9	156.7	180.4		27.6	6.6		208.5	12.6
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	8.9	0.7	0.6	5.8	6.9		1.1	0.3		8.0	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.15	0.24	0.02	0.07	0.16	0.18		0.03	0.01		0.21	0.01
Control Delay (*d*), s/veh	13.2	18.9	13.9	15.4	19.0	25.8		29.4	28.4		25.1	19.3
Level of Service (LOS)	B	B	B	B	B	C		C	C		C	B
Approach Delay, s/veh / LOS	18.2	B		20.9	C		29.2	C		24.7	C	
Intersection Delay, s/veh / LOS	20.5						C					

Table 11
Existing Level of Service (LOS) Lee Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	191.5	446.4	54	73.4	744.9	351.5		443.4	96.9		666.5	76.4
Back of Queue (*Q*), veh/ln (95 th percentile)	7.4	16.5	2.1	2.8	27.6	13.5		17.1	3.7		25.6	3.0
Queue Storage Ratio (*RQ*) (95 th percentile)	1.91	0.45	0.05	0.73	0.75	0.35		0.44	0.97		0.67	0.76
Control Delay (*d*), s/veh	47.8	28.8	21.6	26.8	49.0	39.3		445.3	103.7		59.1	40.1
Level of Service (LOS)	D	C	C	C	D	D		F	F		E	D
Approach Delay, s/veh / LOS	31.8	C		46.0	D		359.3	F		56.9	E	
Intersection Delay, s/veh / LOS	58.4						E					

Table 12
Existing Level of Service (LOS) Old Lee Rd AM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		168				4					0				88	
Capacity, c (veh/h)		888				600									594	
v/c Ratio		0.19				0.01									0.15	
95% Queue Length, Q_{95} (veh)		0.7				0.0									0.5	
Control Delay (s/veh)		10.0				11.0									12.1	
Level of Service (LOS)		A				B									B	
Approach Delay (s/veh)	1.3				0.1								12.1			
Approach LOS													B			

Table 13
Existing Level of Service (LOS) Old Lee Rd PM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		109				0					6				178	
Capacity, c (veh/h)		469				581					444				364	
v/c Ratio		0.23				0.00					0.01				0.49	
95% Queue Length, Q_{95} (veh)		0.9				0.0					0.0				2.6	
Control Delay (s/veh)		15.0				11.2					13.2				24.0	
Level of Service (LOS)		B				B					B				C	
Approach Delay (s/veh)	1.3				0.0				13.2				24.0			
Approach LOS									B				C			

Table 14
Existing Level of Service (LOS) Bomar/Mack Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	7.4	221	39.9	22.5	147.9	9.8		81.2	104.7		21.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	8.2	1.5	0.9	5.5	0.4		3.1	4.0		0.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.04	0.22	0.04	0.11	0.15	0.01		0.08	0.10		0.02	
Control Delay (*d*), s/veh	10.8	15.7	12.0	11.7	13.6	10.0		24.0	27.5		28.3	
Level of Service (LOS)	B	B	B	B	B	B		C	C		C	
Approach Delay, s/veh / LOS	15.2	B		13.3	B		25.9	C		28.3	C	
Intersection Delay, s/veh / LOS	16.1						B					

Table 15
Existing Level of Service (LOS) Bomar/Mack Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	9.6	228	15.7	53	297.9	5.7		53.2	125		59.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	8.4	0.6	2.0	11.0	0.2		2.0	4.8		2.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.23	0.02	0.26	0.30	0.01		0.05	0.13		0.06	
Control Delay (*d*), s/veh	13.2	14.7	10.1	12.5	14.6	8.4		29.6	58.2		32.5	
Level of Service (LOS)	B	B	B	B	B	A		C	E		C	
Approach Delay, s/veh / LOS	14.4	B		14.2	B		46.4	D		32.5	C	
Intersection Delay, s/veh / LOS	16.8						B					

Table 16
Existing Level of Service (LOS) Pope Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	17	226.8	7.8	28.7	164.9	4.8	29.3	31.7	68.6		80.4	12.8
Back of Queue (*Q*), veh/ln (95 th percentile)	0.7	8.4	0.3	1.1	6.1	0.2	1.1	1.2	2.6		3.1	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08	0.23	0.01	0.14	0.17	0.00	0.15	0.03	0.07		0.08	0.01
Control Delay (*d*), s/veh	11.4	16.8	11.9	12.6	15.9	11.3	24.7	24.7	27.1		27.4	24.6
Level of Service (LOS)	B	B	B	B	B	B	C	C	C		C	C
Approach Delay, s/veh / LOS	16.4	B		15.4	B		25.9	C		27.0	C	
Intersection Delay, s/veh / LOS	17.7						B					

Table 17
Existing Level of Service (LOS) Pope Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume-to-Capacity Ratio (*X*)	0.504	0.782	0.152	0.556	0.945	0.077	0.399	0.329	0.536		0.637	0.492
Back of Queue (*Q*), ft/ln (95 th percentile)	27.1	259.7	27.4	44.6	400.6	15.2	44.9	38.4	53		93.9	58.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	9.6	1.1	1.7	14.8	0.6	1.7	1.5	2.0		3.6	2.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.14	0.26	0.03	0.22	0.40	0.02	0.22	0.04	0.05		0.09	0.06
Control Delay (*d*), s/veh	15.9	20.2	12.9	14.0	33.2	12.2	27.2	26.8	28.1		27.4	26.5
Level of Service (LOS)	B	C	B	B	C	B	C	C	C		C	C
Approach Delay, s/veh / LOS	19.5	B		30.7	C		27.4	C		27.0	C	
Intersection Delay, s/veh / LOS	25.9						C					

Projected 2028 AM and PM No-Build

Traffic was projected at 4% per year to determine the level of service for 2028. Based on HCS modeling, under background growth with no-build conditions, the studied intersections will exhibit either high levels of delay or exceed storage capacity for turning lanes.

Table 18
No-build 2028 Level of Service (LOS) Lee Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Back of Queue (*Q*), ft/ln (50 th percentile)	44.5	349.4	24.1	19.6	270.9	230.9		59	9.3		266.4	43.7
Back of Queue (*Q*), veh/ln (50 th percentile)	1.7	12.9	0.9	0.8	10.0	8.9		2.3	0.4		10.2	1.7
Queue Storage Ratio (*RQ*) (50 th percentile)	0.45	0.35	0.24	0.20	0.27	2.31		0.06	0.09		0.27	0.44
Control Delay (*d*), s/veh	18.3	26.4	16.1	24.6	35.3	42.6		74.6	47.0		39.3	29.3
Level of Service (LOS)	B	C	B	C	D	D		E	D		D	C
Approach Delay, s/veh / LOS	25.1	C		36.8	D		69.6	E		37.6	D	
Intersection Delay, s/veh / LOS	32.5						C					

Table 19
No-build 2028 Level of Service (LOS) Lee Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	773.1	584.9	71	75.2	950.9	364.7		492.9	90.1		1178.9	160.7
Back of Queue (*Q*), veh/ln (95 th percentile)	29.7	21.7	2.7	2.9	35.2	14.0		19.0	3.5		45.3	6.3
Queue Storage Ratio (*RQ*) (95 th percentile)	7.73	0.59	0.07	0.75	0.95	0.37		0.49	0.90		1.18	1.61
Control Delay (*d*), s/veh	208.5	26.7	17.6	25.4	56.2	35.1		359.6	75.8		183.4	45.0
Level of Service (LOS)	F	C	B	C	E	D		F	E		F	D
Approach Delay, s/veh / LOS	61.9	E		51.0	D		291.1	F		158.5	F	
Intersection Delay, s/veh / LOS	82.5						F					

Table 20
No-build 2028 Level of Service (LOS) Old Lee Rd AM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		212				0					0				111	
Capacity, c (veh/h)		756				460									500	
v/c Ratio		0.28				0.00									0.22	
95% Queue Length, Q_{95} (veh)		1.2				0.0									0.8	
Control Delay (s/veh)		11.6				12.8									14.3	
Level of Service (LOS)		B				B									B	
Approach Delay (s/veh)	1.5				0.0								14.3			
Approach LOS													B			

Table 21
No-build 2028 Level of Service (LOS) Old Lee Rd PM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		138				0					7				226	
Capacity, c (veh/h)		336				442									271	
v/c Ratio		0.41				0.00									0.83	
95% Queue Length, Q_{95} (veh)		1.9				0.0									6.8	
Control Delay (s/veh)		23.0				13.1									60.8	
Level of Service (LOS)		C				B									F	
Approach Delay (s/veh)	2.0				0.0								60.8			
Approach LOS													F			

Table 22
No-build 2028 Level of Service (LOS) Bomar/Mack Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (Q), ft/ln (95 th percentile)	11	361.3	62.2	35.7	233.9	14.9		130.5	204.4		34.1	
Back of Queue (Q), veh/ln (95 th percentile)	0.4	13.4	2.4	1.4	8.7	0.6		5.0	7.9		1.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.05	0.36	0.62	0.18	0.23	0.15		0.13	2.04		0.03	
Control Delay (d), s/veh	12.3	22.6	13.2	16.4	16.4	11.0		29.1	45.2		33.2	
Level of Service (LOS)	B	C	B	B	B	B		C	D		C	
Approach Delay, s/veh / LOS	21.4	C		16.2	B		37.8	D		33.2	C	
Intersection Delay, s/veh / LOS	21.9						C					

Table 23
No-build 2028 Level of Service (LOS) Bomar/Mack Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), veh/ln (95 th percentile)	0.8	17.4	1.2	7.8	29.2	0.4		3.3	5.0		3.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.47	0.32	1.01	0.79	0.12		0.09	1.30		0.09	
Control Delay (*d*), s/veh	21.2	29.0	14.8	26.1	50.4	10.6		34.6	37.3		39.4	
Level of Service (LOS)	C	C	B	C	F	B		C	D		D	
Approach Delay, s/veh / LOS	28.1	C		47.2	D		36.2	D		39.4	D	
Intersection Delay, s/veh / LOS	39.1						D					

Table 24
No-build 2028 Level of Service (LOS) Pope Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	24.2	330.5	11.6	47.9	242.5	7.5	43.3	47.2	122		68.6	90.6
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	12.2	0.4	1.8	9.0	0.3	1.7	1.8	4.7		2.6	3.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.33	0.12	0.24	0.24	0.08	0.22	0.05	1.22		0.07	0.91
Control Delay (*d*), s/veh	12.6	19.4	12.1	18.5	17.9	11.6	27.8	27.8	37.6		31.2	39.9
Level of Service (LOS)	B	B	B	B	B	B	C	C	D		C	D
Approach Delay, s/veh / LOS	18.9	B		17.9	B		32.9	C		35.7	D	
Intersection Delay, s/veh / LOS	21.0						C					

Table 25
No-build 2028 Level of Service (LOS) Pope Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	83.9	425.5	49.1	120.4	628	26.8	106	91.5	132.7		225.4	142.3
Back of Queue (*Q*), veh/ln (95 th percentile)	3.2	15.8	1.9	4.6	23.3	1.0	4.1	3.5	5.1		8.7	5.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.42	0.43	0.49	0.60	0.63	0.27	0.53	0.09	1.33		0.23	1.42
Control Delay (*d*), s/veh	35.4	19.2	12.3	30.9	27.4	11.9	46.7	46.0	51.1		50.2	45.5
Level of Service (LOS)	D	B	B	C	C	B	D	D	D		D	D
Approach Delay, s/veh / LOS	19.9	B		27.3	C		48.2	D		48.3	D	
Intersection Delay, s/veh / LOS	27.7						C					

Projected 2028 AM and PM Build-Out

Table 26
Build-out 2028 Level of Service (LOS) Lee Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (50 th percentile)	44.5	349.4	24.1	19.6	270.9	230.9		59	9.3		266.4	43.7
Back of Queue (*Q*), veh/ln (50 th percentile)	1.7	12.9	0.9	0.8	10.0	8.9		2.3	0.4		10.2	1.7
Queue Storage Ratio (*RQ*) (50 th percentile)	0.45	0.35	0.24	0.20	0.27	2.31		0.06	0.09		0.27	0.44
Control Delay (*d*), s/veh	18.3	26.4	16.1	24.6	35.3	42.6		74.6	47.0		39.3	29.3
Level of Service (LOS)	B	C	B	C	D	D		E	D		D	C
Approach Delay, s/veh / LOS	25.1	C		36.8	D		69.6	E		37.6	D	
Intersection Delay, s/veh / LOS	32.5						C					

Table 27
Build-out 2028 Level of Service (LOS) Lee Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (50 th percentile)	283.4	395	37	50.5	968.9	295.3		173.7	47.2		1122.4	91.3
Back of Queue (*Q*), veh/ln (50 th percentile)	10.9	14.6	1.4	1.9	35.9	11.4		6.7	1.8		43.2	3.6
Queue Storage Ratio (*RQ*) (50 th percentile)	2.83	0.40	0.37	0.50	0.97	2.95		0.17	0.47		1.12	0.91
Control Delay (*d*), s/veh	60.8	26.6	17.7	28.1	118.3	44.7		80.8	60.9		375.3	51.1
Level of Service (LOS)	E	C	B	C	F	D		F	E		F	D
Approach Delay, s/veh / LOS	32.5	C		100.5	F		75.9	E		322.7	F	
Intersection Delay, s/veh / LOS	110.3						F					

Table 28
Build-out 2028 Level of Service (LOS) Old Lee Rd AM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		212				0					0				133	
Capacity, c (veh/h)		652				384									302	
v/c Ratio		0.33				0.00									0.44	
95% Queue Length, Q_{95} (veh)		1.4				0.0									2.2	
Control Delay (s/veh)		13.2				14.4									26.0	
Level of Service (LOS)		B				B									D	
Approach Delay (s/veh)	1.5				0.0								26.0			
Approach LOS													D			

Table 29
Build-out 2028 Level of Service (LOS) Old Lee Rd PM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		138				0					0				239	
Capacity, c (veh/h)		287				393									208	
v/c Ratio		0.48				0.00									1.15	
95% Queue Length, Q_{95} (veh)		2.5				0.0									11.6	
Control Delay (s/veh)		28.6				14.2									156.8	
Level of Service (LOS)		D				B									F	
Approach Delay (s/veh)	2.3				0.0								156.8			
Approach LOS													F			

Table 30
Build-out 2028 Level of Service (LOS) Bomar/Mack Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	13	467.7	73.2	67.4	307.7	20.4		158.5	237.3		54.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	17.3	2.8	2.6	11.4	0.8		6.1	9.1		2.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.47	0.73	0.34	0.31	0.20		0.16	2.37		0.05	
Control Delay (*d*), s/veh	13.2	22.0	13.4	29.3	17.7	11.4		33.2	45.8		42.8	
Level of Service (LOS)	B	C	B	C	B	B		C	D		D	
Approach Delay, s/veh / LOS	21.0	C		18.5	B		40.3	D		42.8	D	
Intersection Delay, s/veh / LOS	22.8						C					

Table 31
Build-out 2028 Level of Service (LOS) Bomar/Mack Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	22.9	631.4	36.9	244.4	945	15.9		100.6	167.9		111.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	23.4	1.4	9.4	35.0	0.6		3.9	6.5		4.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.63	0.37	1.22	0.95	0.16		0.10	1.68		0.11	
Control Delay (*d*), s/veh	24.6	38.3	15.9	35.1	53.4	10.6		39.9	43.8		45.8	
Level of Service (LOS)	C	D	B	D	F	B		D	D		D	
Approach Delay, s/veh / LOS	36.9	D		50.7	D		42.3	D		45.8	D	
Intersection Delay, s/veh / LOS	44.9						D					

Table 32
Build-out 2028 Level of Service (LOS) Entrance "A" AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		545.4	152.8	339.8	142.3		251.4		155.4			
Back of Queue (*Q*), veh/ln (95 th percentile)		20.2	5.9	13.1	5.3		9.7		6.0			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.55	0.87	0.97	0.14		0.97		0.60			
Control Delay (*d*), s/veh		22.9	14.9	42.6	5.8		44.5		24.8			
Level of Service (LOS)		C	B	D	A		D		C			
Approach Delay, s/veh / LOS	21.7	C		14.9	B		35.6	D		0.0		
Intersection Delay, s/veh / LOS	20.8						C					

Table 33
Build-out 2028 Level of Service (LOS) Entrance "A" PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		423	98	112	328.5		224.7		151.9			
Back of Queue (*Q*), veh/ln (95 th percentile)		15.7	3.8	4.3	12.2		8.6		5.8			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.42	0.56	0.32	0.33		0.86		0.58			
Control Delay (*d*), s/veh		16.5	10.5	27.8	11.5		36.3		26.0			
Level of Service (LOS)		B	B	C	B		D		C			
Approach Delay, s/veh / LOS	15.7	B		13.2	B		31.7	C		0.0		
Intersection Delay, s/veh / LOS	16.3						B					

Table 34
Build-out 2028 Level of Service (LOS) Entrance "B" AM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)												43				
Capacity, c (veh/h)												305				
v/c Ratio												0.14				
95% Queue Length, Q_{95} (veh)												0.5				
Control Delay (s/veh)												18.8				
Level of Service (LOS)												C				
Approach Delay (s/veh)										18.8						
Approach LOS										C						

Table 35
Build-out 2028 Level of Service (LOS) Entrance "B" PM

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)												39				
Capacity, c (veh/h)												289				
v/c Ratio												0.14				
95% Queue Length, Q_{95} (veh)												0.5				
Control Delay (s/veh)												19.4				
Level of Service (LOS)												C				
Approach Delay (s/veh)										19.4						
Approach LOS										C						

Table 36
Build-out 2028 Level of Service (LOS) Pope Rd AM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (Q), ft/ln (95 th percentile)	26.2	405.6	12.6	68.6	286.9	13.8	49.5	53.9	162.8		115.5	120.7
Back of Queue (Q), veh/ln (95 th percentile)	1.0	15.0	0.5	2.6	10.6	0.5	1.9	2.1	6.3		4.4	4.6
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.41	0.13	0.34	0.29	0.14	0.25	0.05	1.63		0.12	1.21
Control Delay (d), s/veh	13.0	20.5	11.9	26.0	18.2	11.5	30.8	30.8	44.4		46.1	56.2
Level of Service (LOS)	B	C	B	C	B	B	C	C	D		D	E
Approach Delay, s/veh / LOS	19.9		B	18.9		B	38.2		D	50.9		D
Intersection Delay, s/veh / LOS	23.3						C					

Table 37
Build-out 2028 Level of Service (LOS) Pope Rd PM

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), veh/ln (95 th percentile)	2.7	21.2	2.2	7.9	33.7	1.4	3.6	3.2	4.9		8.1	4.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.36	0.57	0.57	1.03	0.91	0.36	0.47	0.08	1.29		0.21	1.27
Control Delay (*d*), s/veh	30.6	33.3	16.8	30.9	60.8	14.2	41.6	41.1	44.0		42.6	40.4
Level of Service (LOS)	C	C	B	C	F	B	D	D	D		D	D
Approach Delay, s/veh / LOS	32.1	C		56.3	E		42.4	D		41.8	D	
Intersection Delay, s/veh / LOS	45.1						D					

Build-out 2028 with Improvements

Table 38
Build-out 2028 Level of Service (LOS) Lee Rd AM
With Improvements

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	22.8	268.1	19.5	30.9	263.6	143.2	23.3	11.2	10.2	134.6	18.9	46.6
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	9.9	0.8	1.2	9.8	5.5	0.9	0.4	0.4	5.3	0.7	1.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08	0.27	0.10	0.10	0.26	0.14	0.12	0.01	0.10	0.67	0.02	0.47
Control Delay (*d*), s/veh	12.2	13.3	7.8	22.9	21.8	12.4	30.1	29.6	29.7	28.2	24.9	18.3
Level of Service (LOS)	B	B	A	C	C	B	C	C	C	C	C	B
Approach Delay, s/veh / LOS	12.9	B		19.2	B		29.9	C		26.2	C	
Intersection Delay, s/veh / LOS	17.7						B					

Table 39
Build-out 2028 Level of Service (LOS) Lee Rd PM
With Improvements

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	180.7	327.8	35	79.6	782.9	164.3	117.8	32.7	60	264.7	64.5	98.6
Back of Queue (*Q*), veh/ln (95 th percentile)	6.9	12.1	1.3	3.1	29.0	6.3	4.6	1.3	2.3	10.4	2.5	3.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.60	0.33	0.18	0.27	0.78	0.16	0.59	0.03	0.60	1.32	0.06	0.99
Control Delay (*d*), s/veh	40.1	13.9	9.4	26.7	52.3	10.1	48.7	44.1	45.6	42.0	36.2	29.4
Level of Service (LOS)	D	B	A	C	F	B	D	D	D	D	D	C
Approach Delay, s/veh / LOS	18.6	B		43.3	D		46.6	D		39.4	D	
Intersection Delay, s/veh / LOS	34.1						C					

Table 40
Build-out 2028 Level of Service (LOS) Old Lee Rd AM
Signalized

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	40.8	205.2	0.6	0	204.1	6.5	0	0		37.4	166.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	7.6	0.0	0.0	7.6	0.3	0.0	0.0		1.5	6.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.14	0.21	0.01	0.00	0.20	0.07	0.00	0.00		0.19	0.17	
Control Delay (*d*), s/veh	4.7	3.9	1.9	0.0	6.5	4.3	0.0			54.8	61.0	
Level of Service (LOS)	A	A	A		A	A				D	E	
Approach Delay, s/veh / LOS	4.0	A		6.4	A		0.0			59.8	E	
Intersection Delay, s/veh / LOS	7.3						A					

Table 41
Build-out 2028 Level of Service (LOS) Old Lee Rd PM
Signalized

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	180.1	519.6	1.8	0	1038.3	30.9	0	12.8		27.5	370.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	6.9	19.2	0.1	0.0	38.5	1.2	0.0	0.5		1.1	14.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.60	0.52	0.02	0.00	1.04	0.31	0.00	0.01		0.14	0.37	
Control Delay (*d*), s/veh	61.1	12.4	6.2	0.0	32.1	11.5	0.0	75.8		55.7	72.9	
Level of Service (LOS)	E	B	A		C	B		E		E	E	
Approach Delay, s/veh / LOS	16.3	B		31.6	C		75.8	E		71.6	E	
Intersection Delay, s/veh / LOS	27.4						C					

Findings and Recommendations

The proposed development will generate approximately 12 thousand trips with the AM and PM peak hours having over 1,200 vehicles per hour. New peak hour trips were estimated by reducing anticipated trip generated from pass-by traffic. Also, since this is a mixed-use development, internal capture was estimated and excluded from new trip onto SR92. New peak hour trips are estimated to be approximately 705 in the AM period and 629 for the PM period. The entrance will require a signal based on satisfaction of Warrants #1 - 3 of the MUTCD. New traffic on SR92 will increase delay at the Lee Rd and Old Lee Rd intersections. The intersection of Old Lee Rd and SR92 will also exhibit significant delay upon build-out and is recommended to be signalized.

Main Entrance

The main entrance to the development will need to be signalized and include enough left turn storage for the anticipated queues. Based on the traffic study, the westbound left on SR92 will require a minimum of 175 feet storage and 100' taper. However, minimum GDOT requirements for 45 MPH speed limit will require a total of 350 feet of storage and 100-foot taper. The left turn exit on the Spine Road should include at least 260 feet of storage and 100' taper for left turning vehicles. Deceleration lane on SR 92 will require a minimum of 175-feet of full-width decel lane plus 100-foot taper. In addition, all left-turn and decel lanes are recommended to be standard 12' wide. Additional paved shoulder may be required on SR 92 where curb and gutter are not provided.

Stopping Site Distance (SSD) for the proposed Spine Road Intersection is 586 feet. The Intersection Site Distance (ISD) for the proposed Spine Road Intersection to the right is well over the minimum 500-feet. The ISD of the proposed intersection is well over the minimum 565-feet. These distances are based on stop-controlled intersection. The proposed intersection is a signal control three-legged operation which minimizes the effect or need for the ISD with the exception of ISD to the left.

The proposed development is planned to be constructed in 1 phase. The project will have 1,967 parking spaces The required number of spaces for the development will be approximately 1,965 parking spaces (based on the final rezone). The total off-street parking spaces provided for the development is 1,967.

Accident Data Summary and Analysis

Accident data has been obtained from the local law enforcement agency. No fatalities were noted. Based on the summary of the accident data, the proposed 3-legged signalized intersection with great visibility will provide a much safer approach and operations at the proposed intersection.

SR92/Lee Road

Traffic operations with the proposed modifications to this intersection due to the Lee Rd extension project will remain at LOS "C". When the extension is complete, traffic operations may be significantly changed. Without modification, the operations of this intersection will continue to experience significant delay.

Mitigation Measures

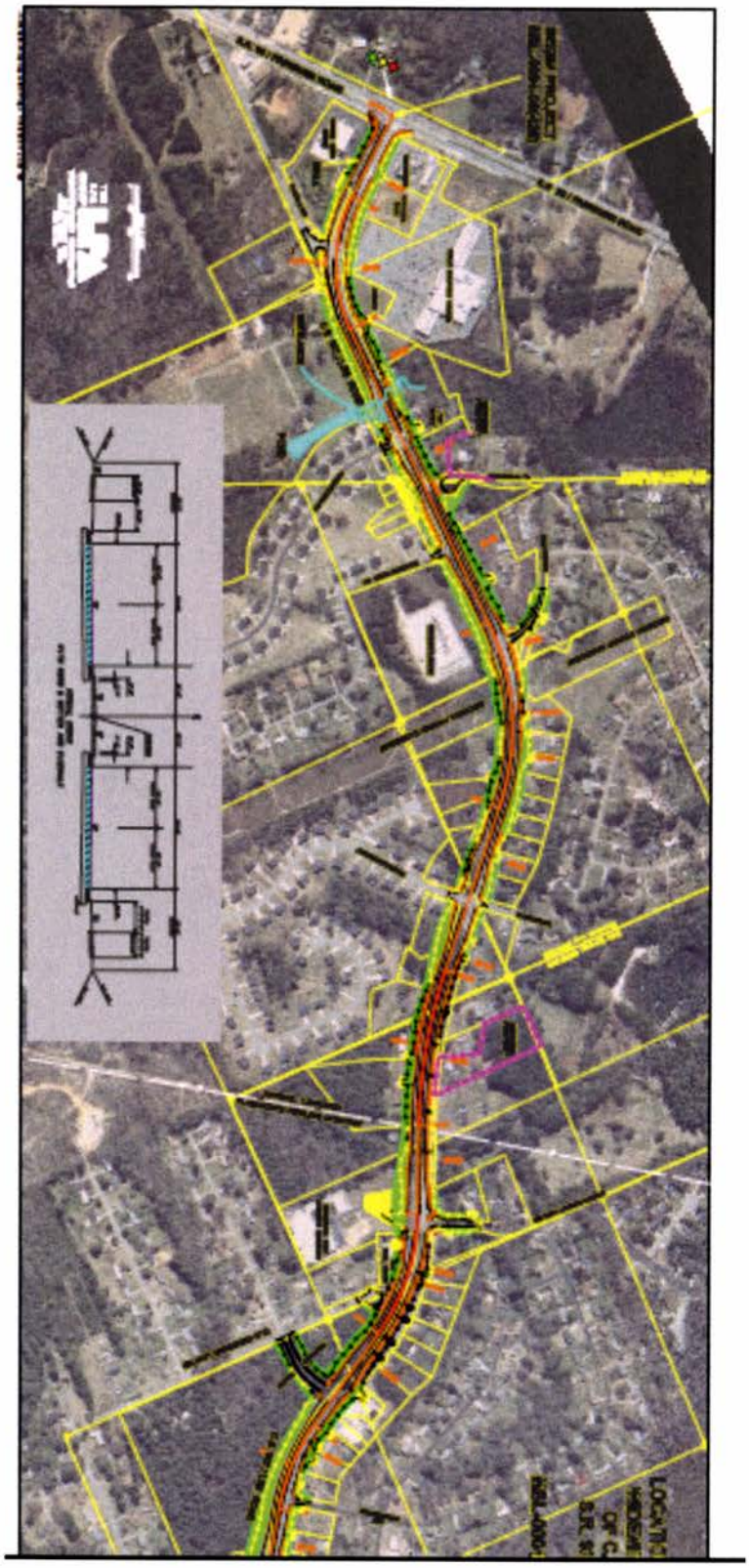
The proposed PUD Traffic impact is being mitigated by installing a signalized intersection, center turn lanes and decel lanes. Properly designed left turn and decel lanes are important for proper operation of the proposed intersection of Spine Road and SR 92. Signal phase timing will further enhance the intersection operation. GDOT and the County have programmed improvement and interconnecting projects which will help alleviate some of the traffic impact for this PUD and other users in the vicinity. These projects are listed below and have been taken from a TIA by others:

These programmed projects have been taken from the GDOT Website and some have been taken from a TIS by Kimley Horn Dated November 2021.

Programmed Projects

Project Name	From / To	Sponsor	GDOT PI NO	ARC ID #	Design	ROW /	CST
	Points:			(TIP)	FY	UTL FY	FY
Lee Rd Widening	I-20 to SR 92	GDOT/CO	0004428	DO-220A	2021	2021	2022

Lee Road Widening GDOT PI 0004428



Planned Projects

Project Name	From / To	Sponsor	GDOT PI NO	ARC ID #	Design	ROW /	CST
	Points:			(TIP)	FY	UTL FY	FY
Connector Rd	SR 92 to Bomar Rd	Douglas		DO-017	2050	2050	2050
Widening/Align't	Along Bomar Rd						
	Chapel Hill Rd	GDOT		DO-004	2030	2030	2030
	to S Douglas RD	Douglas					
Lee Rd Ext	SR 92 to West	GDOT			2050	2050	2050
Parallel to Spine	1,100 LF	Douglas			2050	2050	2050

Lee Road Extension Program | Douglas County, GA (celebratedouglascounty.com)

See Site Plan & Atlanta Regional Plan RTP Fact Sheets

DO-004

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	SOUTH DOUGLAS LOOP - PHASE 2 (WIDENING/NEW ALIGNMENT) FROM FROM INTERSECTION OF CHAPEL HILL ROAD AND CENTRAL CHURCH ROAD / BOMAR ROAD TO INTERSECTION OF LEE ROAD EXTENSION AND BOMAR ROAD (SEE DO-017)
GDOT Project No.	N/A
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	Douglas County
Jurisdiction	Douglas County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	2	**LCI**	☐	**Network Year**	2030
Planned Thru Lane	4	**Flex**	☐	**Corridor Length**	2.5 miles

Detailed Description and Justification

This project will widen and build new alignment along the Bomar Road corridor from Chapel Hill Road to the intersection of the South Douglas Loop Phase 1 (DO-017) north of Pope Road.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	Local Jurisdiction/Municipality Funds		LR 2026-2030	**$20,000,000**	$0,000	$0,000	$0,000	$20,000,000
				$20,000,000	**$0,000**	**$0,000**	**$0,000**	**$20,000,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquisition
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

DO-017

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	SOUTH DOUGLAS LOOP - PHASE 1 (LEE ROAD EXTENSION/NEW ALIGNMENT) FROM SR 92 (FAIRBURN ROAD) TO BOMAR ROAD
GDOT Project No.	N/A
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	Douglas County
Jurisdiction	Douglas County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	0	**LCI**		**Network Year**	2050
Planned Thru Lane	4	**Flex**		**Corridor Length**	1 miles

Detailed Description and Justification

This project will connect SR 92 and Bomar Road with a new 4 lane road from the intersection of SR 92 and Lee Road to Bomar Road north of Pope Road.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	General Federal Aid - 2026-2050		LR 2041-2050	**$25,050,000**	$20,040,000	$5,010,000	$0,000	$0,000
				$25,050,000	**$20,040,000**	**$5,010,000**	**$0,000**	**$0,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

Greater Traffic Company

File Name : 02
Site Code :
Start Date : 12/16/2021
Page No : 1

Groups Printed- Vehicles - Trucks - Buses

	Business ent/exit Northbound					Old Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	15	0	16	23	170	1	0	194	0	117	1	0	118	328
07:15 AM	0	0	0	0	0	0	0	19	0	19	31	241	0	0	272	0	141	2	0	143	434
07:30 AM	0	0	0	0	0	1	0	22	0	23	49	292	0	0	341	0	187	0	0	187	551
07:45 AM	0	0	0	0	0	1	0	20	0	21	48	297	2	0	347	0	158	1	0	159	527
Total	0	0	0	0	0	3	0	76	0	79	151	1000	3	0	1154	0	603	4	0	607	1840
08:00 AM	0	0	1	0	1	3	0	14	0	17	34	246	0	0	280	1	181	2	0	184	482
08:15 AM	2	0	0	0	2	0	0	24	0	24	27	197	0	0	224	0	164	1	0	165	415
08:30 AM	0	0	0	0	0	1	1	19	0	21	19	204	0	0	223	0	173	0	0	173	417
08:45 AM	1	0	0	0	1	0	1	15	0	16	12	172	3	0	187	0	152	1	0	153	357
Total	3	0	1	0	4	4	2	72	0	78	92	819	3	0	914	1	670	4	0	675	1671
*** BREAK ***																					
04:00 PM	0	0	2	0	2	2	1	31	0	34	23	230	0	0	253	0	258	1	0	259	548
04:15 PM	0	0	0	0	0	1	0	29	0	30	27	252	0	0	279	1	311	6	0	318	627
04:30 PM	0	0	0	0	0	1	0	38	0	39	22	250	0	0	272	0	311	0	0	311	622
04:45 PM	1	0	0	0	1	2	0	42	0	44	29	222	0	0	251	0	290	4	0	294	590
Total	1	0	2	0	3	6	1	140	0	147	101	954	0	0	1055	1	1170	11	0	1182	2387
05:00 PM	0	0	1	0	1	1	0	43	0	44	26	248	1	0	275	0	300	6	0	306	626
05:15 PM	0	0	1	0	1	0	1	37	0	38	23	287	1	0	311	0	287	7	0	294	644
05:30 PM	0	0	3	0	3	0	0	39	0	39	30	242	1	0	273	0	322	5	0	327	642
05:45 PM	0	0	0	0	0	1	0	38	0	39	17	255	0	0	272	0	320	3	0	323	634
Total	0	0	5	0	5	2	1	157	0	160	96	1032	3	0	1131	0	1229	21	0	1250	2546
Grand Total	4	0	8	0	12	15	4	445	0	464	440	3805	9	0	4254	2	3672	40	0	3714	8444
Apprch %	33.3	0	66.7	0		3.2	0.9	95.9	0		10.3	89.4	0.2	0		0.1	98.9	1.1	0		
Total %	0	0	0.1	0	0.1	0.2	0	5.3	0	5.5	5.2	45.1	0.1	0	50.4	0	43.5	0.5	0	44	
Vehicles	4	0	8	0	12	15	4	436	0	455	437	3506	7	0	3950	2	3449	39	0	3490	7907
% Vehicles	100	0	100	0	100	100	100	98	0	98.1	99.3	92.1	77.8	0	92.9	100	93.9	97.5	0	94	93.6
Trucks	0	0	0	0	0	0	0	5	0	5	2	285	2	0	289	0	190	1	0	191	485
% Trucks	0	0	0	0	0	0	0	1.1	0	1.1	0.5	7.5	22.2	0	6.8	0	5.2	2.5	0	5.1	5.7
Buses	0	0	0	0	0	0	0	4	0	4	1	14	0	0	15	0	33	0	0	33	52
% Buses	0	0	0	0	0	0	0	0.9	0	0.9	0.2	0.4	0	0	0.4	0	0.9	0	0	0.9	0.6

Greater Traffic Company

File Name : 02
Site Code :
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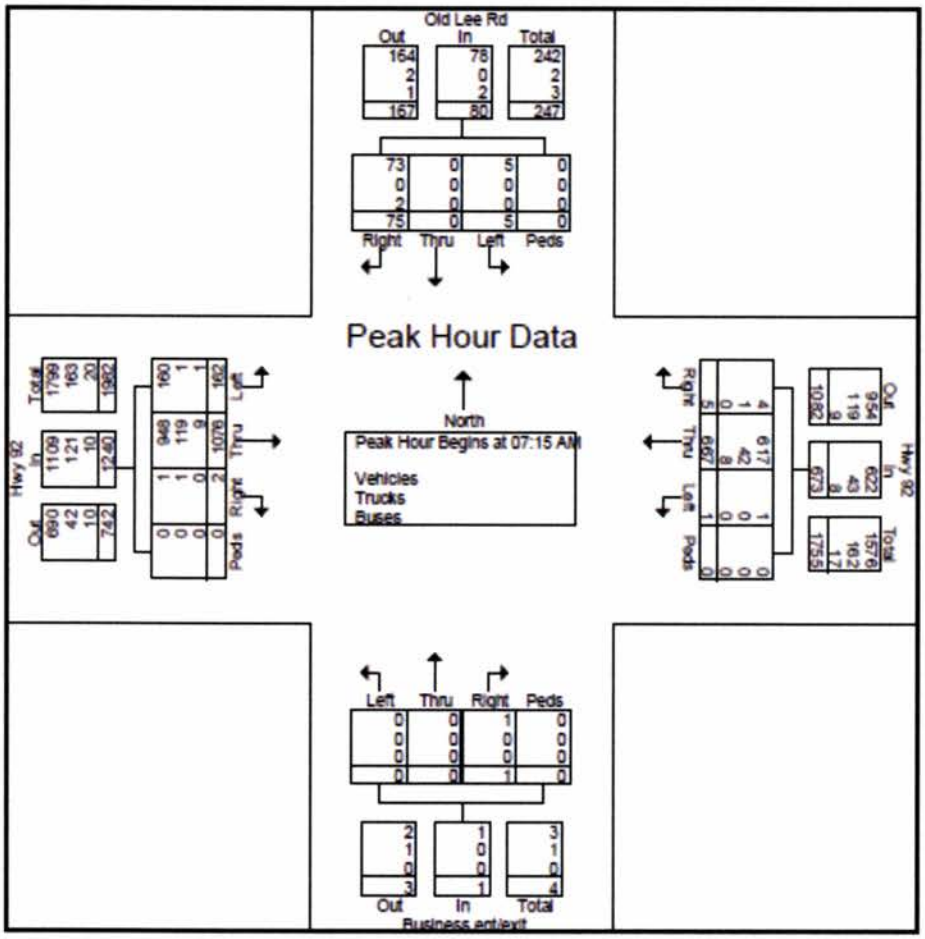
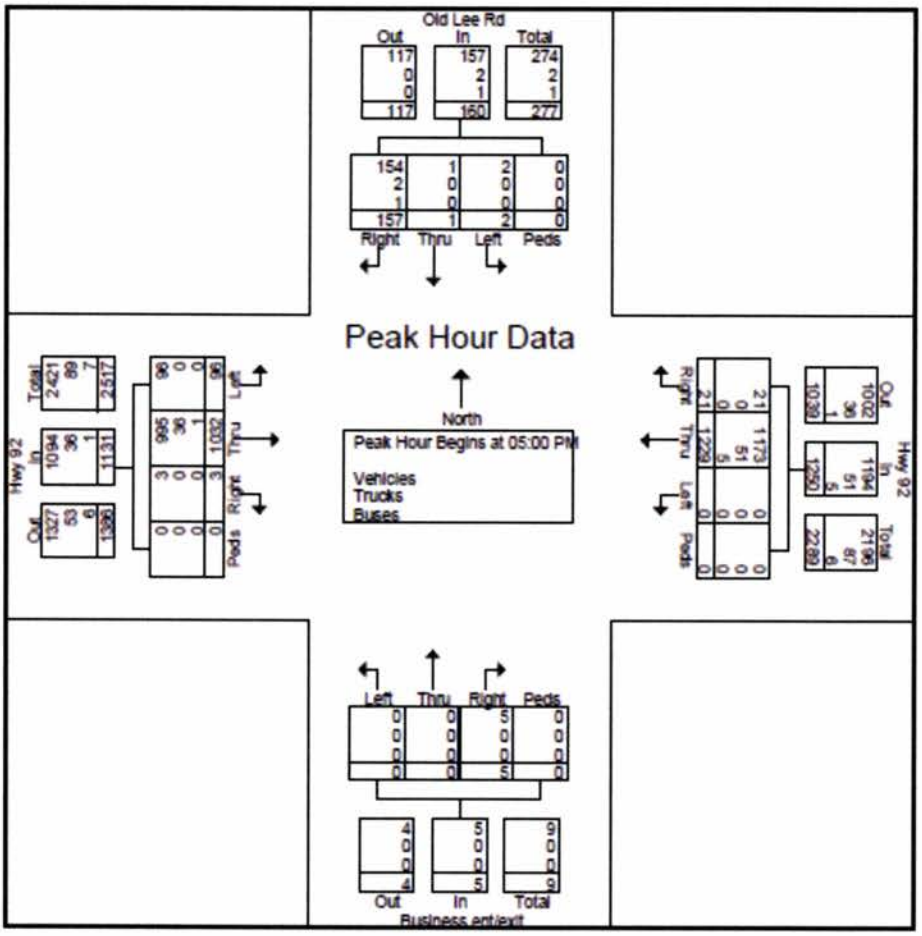
	Business ent/exit Northbound					Old Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	0	19	0	19	31	241	0	0	272	0	141	2	0	143	434
07:30 AM	0	0	0	0	0	1	0	22	0	23	49	292	0	0	341	0	187	0	0	187	551
07:45 AM	0	0	0	0	0	1	0	20	0	21	48	297	2	0	347	0	158	1	0	159	527
08:00 AM	0	0	1	0	1	3	0	14	0	17	34	246	0	0	280	1	181	2	0	184	482
Total Volume	0	0	1	0	1	5	0	75	0	80	162	1076	2	0	1240	1	667	5	0	673	1994
% App. Total	0	0	100	0		6.2	0	93.8	0		13.1	86.8	0.2	0		0.1	99.1	0.7	0		
PHF	.000	.000	.250	.000	.250	.417	.000	.852	.000	.870	.827	.906	.250	.000	.893	.250	.892	.625	.000	.900	.905
Vehicles	0	0	1	0	1	5	0	73	0	78	160	948	1	0	1109	1	617	4	0	622	1810
% Vehicles																					
Trucks	0	0	0	0	0	0	0	0	0	0	1	119	1	0	121	0	42	1	0	43	164
% Trucks	0	0	0	0	0	0	0	0	0	0	0.6	11.1	50.0	0	9.8	0	6.3	20.0	0	6.4	8.2
Buses	0	0	0	0	0	0	0	2	0	2	1	9	0	0	10	0	8	0	0	8	20
% Buses	0	0	0	0	0	0	0	2.7	0	2.5	0.6	0.8	0	0	0.8	0	1.2	0	0	1.2	1.0



Greater Traffic Company

File Name : 02
Site Code :
Start Date : 12/16/2021
Page No : 3

	Business ent/exit Northbound					Old Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	1	0	1	**1**	0	**43**	0	**44**	26	248	**1**	0	275	0	300	6	0	306	626
05:15 PM	0	0	1	0	1	0	**1**	37	0	38	23	**287**	1	0	**311**	0	287	**7**	0	294	**644**
05:30 PM	0	0	**3**	0	**3**	0	0	39	0	39	**30**	242	1	0	273	0	**322**	5	0	**327**	642
05:45 PM	0	0	0	0	0	1	0	38	0	39	17	255	0	0	272	0	320	3	0	323	634
Total Volume	0	0	5	0	5	2	1	157	0	160	96	1032	3	0	1131	0	1229	21	0	1250	2546
% App. Total	0	0	100	0		1.2	0.6	98.1	0		8.5	91.2	0.3	0		0	98.3	1.7	0		
PHF	.000	.000	.417	.000	.417	.500	.250	.913	.000	.909	.800	.899	.750	.000	.909	.000	.954	.750	.000	.956	.988
Vehicles	0	0	5	0	5	2	1	154	0	157	96	995	3	0	1094	0	1173				
% Vehicles	0	0	100	0	100	100	100	98.1	0	98.1	100	96.4	100	0	96.7	0	95.4	100	0	95.5	96.2
Trucks	0	0	0	0	0	0	0	2	0	2	0	36	0	0	36	0	51	0	0	51	89
% Trucks	0	0	0	0	0	0	0	1.3	0	1.3	0	3.5	0	0	3.2	0	4.1	0	0	4.1	3.5
Buses	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	5	0	0	5	7
% Buses	0	0	0	0	0	0	0	0.6	0	0.6	0	0.1	0	0	0.1	0	0.4	0	0	0.4	0.3



Greater Traffic Company

File Name : 01
Site Code :
Start Date : 12/16/2021
Page No : 1

Groups Printed- Vehicles - Trucks - Buses

	Lee Rd Northbound					Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	4	4	0	12	51	3	5	0	59	11	160	8	0	179	11	94	33	0	138	388
07:15 AM	1	1	5	0	7	78	3	4	0	85	17	205	14	0	236	8	147	69	0	224	552
07:30 AM	6	7	2	0	15	74	8	11	0	93	21	240	13	0	274	7	152	69	0	228	610
07:45 AM	3	11	3	0	17	76	7	8	0	91	27	236	14	0	277	10	137	86	0	233	618
Total	14	23	14	0	51	279	21	28	0	328	76	841	49	0	966	36	530	257	0	823	2168
08:00 AM	6	10	8	0	24	93	15	8	0	116	23	200	16	0	239	14	152	88	0	254	633
08:15 AM	9	7	11	0	27	66	7	7	0	80	17	160	12	0	189	16	142	55	0	213	509
08:30 AM	7	7	7	0	21	76	2	14	0	92	18	154	11	0	183	9	143	49	0	201	497
08:45 AM	5	11	2	0	18	66	3	14	0	83	20	141	2	0	163	16	151	48	0	215	479
Total	27	35	28	0	90	301	27	43	0	371	78	655	41	0	774	55	588	240	0	883	2118
*** BREAK ***																					
04:00 PM	19	12	7	0	38	93	6	11	0	110	36	159	11	0	206	11	227	63	0	301	655
04:15 PM	12	7	9	0	28	90	9	18	0	117	53	183	12	0	248	16	264	69	0	349	742
04:30 PM	13	5	13	0	31	96	13	16	0	125	43	174	7	0	224	15	238	67	0	320	700
04:45 PM	19	10	9	0	38	90	9	11	0	110	41	171	11	0	223	12	289	70	0	371	742
Total	63	34	38	0	135	369	37	56	0	462	173	687	41	0	901	54	1018	269	0	1341	2839
05:00 PM	10	10	9	0	29	100	13	13	0	126	31	184	12	0	227	16	236	51	0	303	685
05:15 PM	20	6	10	0	36	100	10	14	0	124	42	186	19	0	247	16	253	76	0	345	752
05:30 PM	16	12	11	0	39	80	7	16	0	103	55	192	8	0	255	22	274	58	0	354	751
05:45 PM	19	14	11	0	44	87	16	14	0	117	48	193	18	0	259	11	222	71	0	304	724
Total	65	42	41	0	148	367	46	57	0	470	176	755	57	0	988	65	985	256	0	1306	2912
Grand Total	169	134	121	0	424	1316	131	184	0	1631	503	2938	188	0	3629	210	3121	1022	0	4353	10037
Apprch %	39.9	31.6	28.5	0		80.7	8	11.3	0		13.9	81	5.2	0		4.8	71.7	23.5	0		
Total %	1.7	1.3	1.2	0	4.2	13.1	1.3	1.8	0	16.2	5	29.3	1.9	0	36.2	2.1	31.1	10.2	0	43.4	
Vehicles	160	132	118	0	410	1251	128	178	0	1557	493	2703	178	0	3374	204	2916	980	0	4100	9441
% Vehicles	94.7	98.5	97.5	0	96.7	95.1	97.7	96.7	0	95.5	98	92	94.7	0	93	97.1	93.4	95.9	0	94.2	94.1
Trucks	8	2	3	0	13	49	3	5	0	57	7	220	10	0	237	6	168	30	0	204	511
% Trucks	4.7	1.5	2.5	0	3.1	3.7	2.3	2.7	0	3.5	1.4	7.5	5.3	0	6.5	2.9	5.4	2.9	0	4.7	5.1
Buses	1	0	0	0	1	16	0	1	0	17	3	15	0	0	18	0	37	12	0	49	85
% Buses	0.6	0	0	0	0.2	1.2	0	0.5	0	1	0.6	0.5	0	0	0.5	0	1.2	1.2	0	1.1	0.8

Greater Traffic Company

File Name : 01
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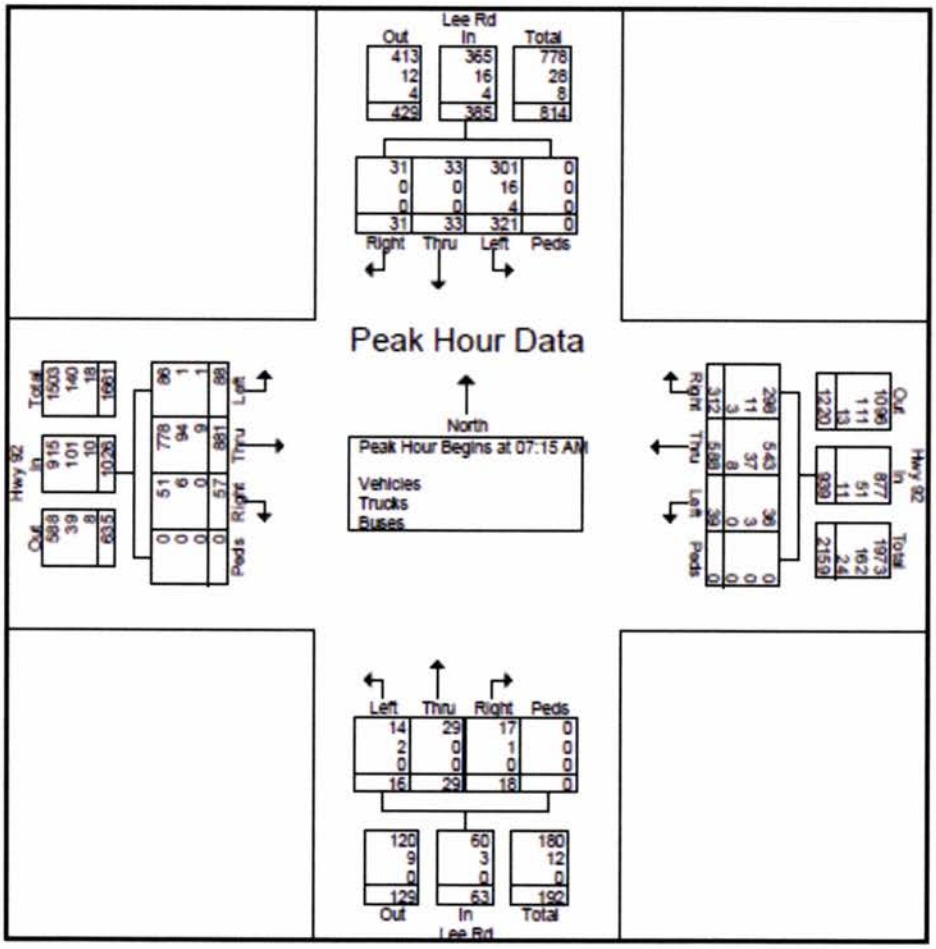
	Lee Rd Northbound					Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	1	5	0	7	78	3	4	0	85	17	205	14	0	236	8	147	69	0	224	552
07:30 AM	**6**	7	2	0	15	74	8	**11**	0	93	21	**240**	13	0	274	7	**152**	69	0	228	610
07:45 AM	3	**11**	3	0	17	76	7	8	0	91	**27**	236	14	0	**277**	10	137	86	0	233	618
08:00 AM	6	10	**8**	0	**24**	**93**	**15**	8	0	**116**	23	200	**16**	0	239	**14**	152	**88**	0	**254**	**633**
Total Volume	16	29	18	0	63	321	33	31	0	385	88	881	57	0	1026	39	588	312	0	939	2413
% App. Total	25.4	46	28.6	0		83.4	8.6	8.1	0		8.6	85.9	5.6	0		4.2	62.6	33.2	0		
PHF	.667	.659	.563	.000	.656	.863	.550	.705	.000	.830	.815	.918	.891	.000	.926	.696	.967	.886	.000	.924	.953
Vehicles	14	29	17	0	60	301	33	31	0	365	86	778	51	0	915	36	543	298	0	877	2217
% Vehicles																					
Trucks	2	0	1	0	3	16	0	0	0	16	1	94	6	0	101	3	37	11	0	51	171
% Trucks	12.5	0	5.6	0	4.8	5.0	0	0	0	4.2	1.1	10.7	10.5	0	9.8	7.7	6.3	3.5	0	5.4	7.1
Buses	0	0	0	0	0	4	0	0	0	4	1	9	0	0	10	0	8	3	0	11	25
% Buses	0	0	0	0	0	1.2	0	0	0	1.0	1.1	1.0	0	0	1.0	0	1.4	1.0	0	1.2	1.0



Greater Traffic Company

File Name : 01
Site Code :
Start Date : 12/16/2021
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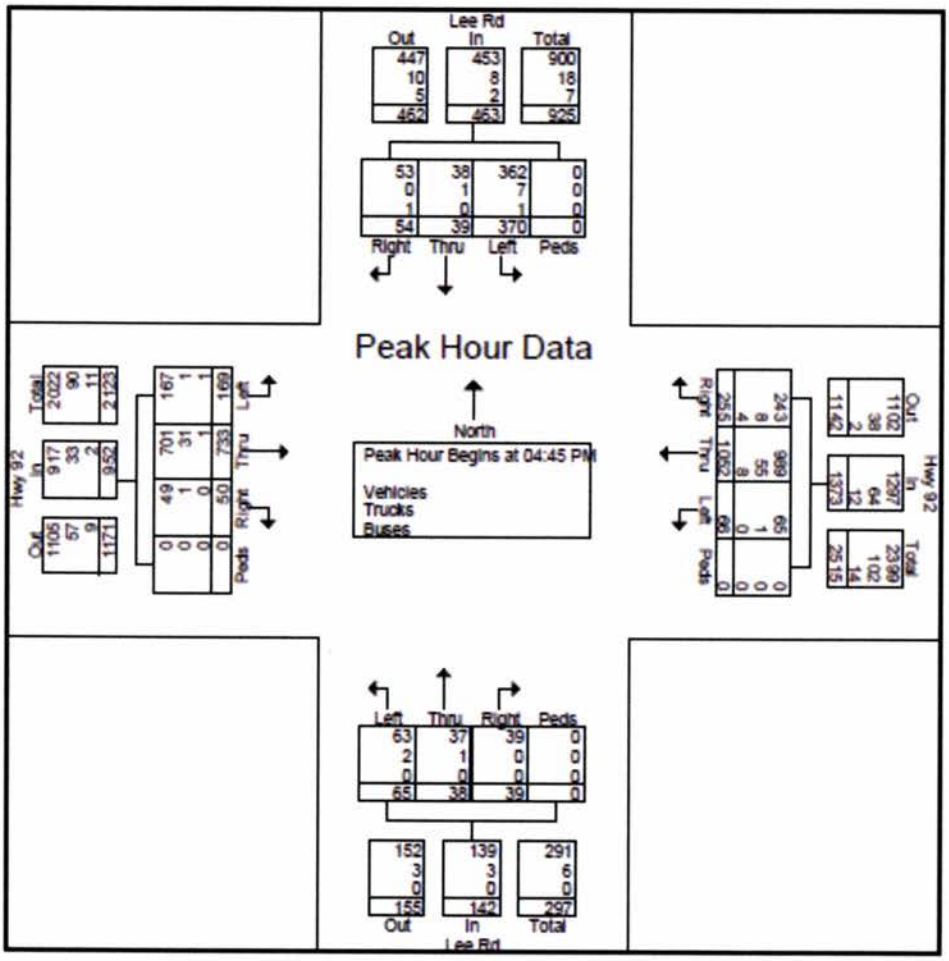
	Lee Rd Northbound					Lee Rd Southbound					Hwy 92 Eastbound					Hwy 92 Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	19	10	9	0	38	90	9	11	0	110	41	171	11	0	223	12	**289**	70	0	**371**	742
05:00 PM	10	10	9	0	29	**100**	**13**	13	0	**126**	31	184	12	0	227	16	236	51	0	303	685
05:15 PM	**20**	6	10	0	36	100	10	14	0	124	42	186	**19**	0	247	16	253	**76**	0	345	**752**
05:30 PM	16	**12**	**11**	0	**39**	80	7	**16**	0	103	**55**	**192**	8	0	**255**	**22**	274	58	0	354	751
Total Volume	65	38	39	0	142	370	39	54	0	463	169	733	50	0	952	66	1052	255	0	1373	2930
% App. Total	45.8	26.8	27.5	0		79.9	8.4	11.7	0		17.8	77	5.3	0		4.8	76.6	18.6	0		
PHF	.813	.792	.886	.000	.910	.925	.750	.844	.000	.919	.768	.954	.658	.000	.933	.750	.910	.839	.000	.925	.974
Vehicles	63	37	39	0	139	362	38	53	0	453	167	701	49	0	917	65	989	243	0	1297	2806
% Vehicles																					
Trucks	2	1	0	0	3	7	1	0	0	8	1	31	1	0	33	1	55	8	0	64	108
% Trucks	3.1	2.6	0	0	2.1	1.9	2.6	0	0	1.7	0.6	4.2	2.0	0	3.5	1.5	5.2	3.1	0	4.7	3.7
Buses	0	0	0	0	0	1	0	1	0	2	1	1	0	0	2	0	8	4	0	12	16
% Buses	0	0	0	0	0	0.3	0	1.9	0	0.4	0.6	0.1	0	0	0.2	0	0.8	1.6	0	0.9	0.5



Greater Traffic Company

Hwy 92 just west of Lee Rd

02

Start Time	17-Dec-21 Fri	eb AM	eb PM	Hour Totals AM	Hour Totals PM	wb AM	wb PM	Hour Totals AM	Hour Totals PM	
12:00		21	204			20	250			
12:15		38	193			27	225			
12:30		18	216			20	251			
12:45		29	224	106	837	22	205	89	931	
01:00		24	220			22	233			
01:15		28	242			26	208			
01:30		15	226			15	224			
01:45		20	208	87	896	13	190	76	855	
02:00		27	238			14	231			
02:15		20	231			13	231			
02:30		22	238			11	260			
02:45		11	201	80	908	29	264	67	986	
03:00		14	272			22	301			
03:15		15	311			24	240			
03:30		35	264			42	281			
03:45		28	**259**	92	1106	27	293	115	1115	
04:00		34	**255**			22	272			
04:15		48	**313**			48	307			
04:30		54	**291**			34	**296**			
04:45		54	84	190	943	27	**288**	131	1163	
05:00		71	40			43	**322**			
05:15		115	9			36	**337**			
05:30		126	215			58	237			
05:45		108	173	420	437	60	283	197	1179	
06:00		141	262			76	254			
06:15		164	203			79	244			
06:30		173	224			89	225			
06:45		180	227	658	916	101	206	345	929	
07:00		188	220			97	189			
07:15		**257**	182			148	177			
07:30		**292**	145			160	135			
07:45		**308**	140	1045	687	143	151	548	652	
08:00		**228**	165			176	128			
08:15		208	163			157	120			
08:30		192	97			165	96			
08:45		155	125	783	550	160	122	658	466	
09:00		173	115			134	93			
09:15		144	116			150	94			
09:30		179	120			176	87			
09:45		169	82	665	433	184	76	644	350	
10:00		162	96			137	76			
10:15		184	77			167	62			
10:30		165	81			175	65			
10:45		180	81	691	335	156	56	635	259	
11:00		163	59			**167**	59			
11:15		210	53			**165**	61			
11:30		188	41			**190**	45			
11:45		193	47	754	200	**186**	34	708	199	
Peak	-	07:15	03:45	-	-	11:00	04:30	-	-	-
Vol.	-	1085	1118	-	-	708	1243	-	-	-
P.H.F.		0.881	0.893			0.932	0.922			
Lane Total		13819				13297				

Greater Traffic Company

Hwy 92 just west of Lee Rd

02

Start Time	18-Dec-21 Sat	eb AM	eb PM	Hour Totals AM	Hour Totals PM	wb AM	wb PM	Hour Totals AM	Hour Totals PM	
12:00		43	180			31	162			
12:15		39	167			29	150			
12:30		36	174			35	169			
12:45		38	149	156	670	36	**179**	131	660	
01:00		32	171			29	**162**			
01:15		19	187			20	**167**			
01:30		24	178			18	**209**			
01:45		23	199	98	735	30	172	97	710	
02:00		21	198			27	158			
02:15		22	**213**			23	174			
02:30		21	**202**			14	169			
02:45		19	**224**	83	837	17	188	81	689	
03:00		19	**218**			19	144			
03:15		23	211			18	179			
03:30		23	199			24	153			
03:45		21	186	86	814	17	164	78	640	
04:00		25	177			19	170			
04:15		28	188			14	165			
04:30		35	204			17	161			
04:45		22	168	110	737	12	163	62	659	
05:00		23	201			20	171			
05:15		48	182			13	177			
05:30		46	200			20	143			
05:45		54	186	171	769	27	137	80	628	
06:00		48	218			30	143			
06:15		62	168			31	156			
06:30		45	189			30	171			
06:45		42	148	197	723	46	133	137	603	
07:00		43	151			48	132			
07:15		57	159			59	134			
07:30		58	171			71	110			
07:45		73	149	231	630	79	111	257	487	
08:00		79	115			88	76			
08:15		94	132			117	85			
08:30		100	114			134	90			
08:45		114	105	387	466	153	79	492	330	
09:00		114	101			115	78			
09:15		117	97			125	63			
09:30		125	117			155	63			
09:45		139	86	495	401	**150**	66	545	270	
10:00		149	79			**150**	69			
10:15		162	65			**168**	59			
10:30		158	59			**168**	53			
10:45		145	69	614	272	146	50	632	231	
11:00		**152**	57			141	50			
11:15		**182**	45			147	44			
11:30		**162**	43			137	43			
11:45		**158**	35	654	180	169	48	594	185	
Peak	-	11:00	02:15	-	-	09:45	00:45	-	-	-
Vol.	-	654	857	-	-	636	717	-	-	-
P.H.F.		0.898	0.956			0.946	0.858			
Lane Total		10516				9278				

Greater Traffic Company

Hwy 92 east of Lee Rd

01

Start Time	17-Dec-21 Fri	eb AM	PM	Hour Totals AM	PM	wb AM	PM	Hour Totals AM	PM	
12:00		33	217			40	352			
12:15		44	275			36	326			
12:30		32	288			29	344			
12:45		39	272	148	1052	31	284	136	1306	
01:00		31	288			30	298			
01:15		33	297			33	260			
01:30		34	287			23	268			
01:45		24	274	122	1146	17	284	103	1110	
02:00		42	263			20	300			
02:15		36	297			13	292			
02:30		26	306			17	374			
02:45		24	289	128	1155	36	416	86	1382	
03:00		17	284			37	344			
03:15		24	**342**			38	353			
03:30		42	**333**			46	318			
03:45		34	**329**	117	1288	35	**392**	156	1407	
04:00		47	**294**			31	**384**			
04:15		53	342			61	**405**			
04:30		66	285			49	**345**			
04:45		61	75	227	996	43	350	184	1484	
05:00		89	74			60	364			
05:15		121	31			61	365			
05:30		173	316			94	325			
05:45		133	256	516	677	93	355	308	1409	
06:00		152	358			123	322			
06:15		232	325			125	333			
06:30		228	235			113	302			
06:45		249	288	861	1206	162	285	523	1242	
07:00		252	273			142	251			
07:15		**341**	241			**241**	219			
07:30		**382**	220			**254**	193			
07:45		**394**	176	1369	910	**274**	202	911	865	
08:00		**357**	210			**279**	142			
08:15		284	180			218	190			
08:30		289	181			227	141			
08:45		240	132	1170	703	215	169	939	642	
09:00		188	162			178	173			
09:15		181	157			237	144			
09:30		210	148			206	110			
09:45		223	117	802	584	242	104	863	531	
10:00		192	121			188	93			
10:15		205	112			232	88			
10:30		247	92			235	90			
10:45		212	117	856	442	176	78	831	349	
11:00		213	93			220	83			
11:15		242	96			242	80			
11:30		232	78			239	62			
11:45		252	65	939	332	274	52	975	277	
Peak	-	07:15	03:15	-	-	07:15	03:45	-	-	-
Vol.	-	1474	1298	-	-	1048	1526	-	-	-
P.H.F.		0.935	0.949			0.939	0.942			
Lane Total		17746				18019				

Greater Traffic Company

Hwy 92 east of Lee Rd

01

Start Time	18-Dec-21 Sat	eb AM	eb PM	Hour Totals AM	Hour Totals PM	wb AM	wb PM	Hour Totals AM	Hour Totals PM
12:00		50	175			59	232		
12:15		64	205			52	236		
12:30		48	213			40	217		
12:45		56	171	218	764	47	224	198	909
01:00		44	176			40	**245**		
01:15		34	224			30	**221**		
01:30		34	230			22	**275**		
01:45		33	204	145	834	39	**232**	131	973
02:00		42	245			33	224		
02:15		30	230			31	211		
02:30		31	**246**			17	226		
02:45		25	**263**	128	984	19	246	100	907
03:00		26	**272**			24	196		
03:15		31	**262**			24	216		
03:30		28	235			34	213		
03:45		28	210	113	979	31	201	113	826
04:00		35	210			29	249		
04:15		36	236			22	238		
04:30		48	242			32	205		
04:45		39	212	158	900	19	215	102	907
05:00		36	234			24	197		
05:15		61	235			28	238		
05:30		50	226			36	241		
05:45		62	214	209	909	44	200	132	876
06:00		69	226			60	188		
06:15		69	211			44	187		
06:30		64	213			54	193		
06:45		52	198	254	848	73	185	231	753
07:00		58	211			67	184		
07:15		66	196			82	168		
07:30		65	220			96	160		
07:45		83	166	272	793	109	147	354	659
08:00		86	155			120	134		
08:15		114	177			144	127		
08:30		103	137			174	128		
08:45		127	125	430	594	191	109	629	498
09:00		114	145			165	126		
09:15		138	142			189	110		
09:30		155	145			212	105		
09:45		155	100	562	532	202	87	768	428
10:00		175	120			**201**	89		
10:15		165	115			**220**	79		
10:30		178	96			**236**	73		
10:45		166	92	684	423	**206**	77	863	318
11:00		**166**	96			191	74		
11:15		**183**	74			223	59		
11:30		**189**	67			183	68		
11:45		**177**	46	715	283	193	74	790	275
Peak	-	11:00	02:30	-	-	10:00	01:00	-	-
Vol.	-	715	1043	-	-	863	973	-	-
P.H.F.		0.946	0.959			0.914	0.885		
Lane Total		12731				12740			

Greater Traffic Company

Hwy 92 east of Old Lee Rd

03

Start Time	17-Dec-21 Fri	eb AM	eb PM	Hour Totals AM	Hour Totals PM	wb AM	wb PM	Hour Totals AM	Hour Totals PM	
12:00		25	203			22	276			
12:15		38	214			29	248			
12:30		23	228			22	277			
12:45		31	240	117	885	24	227	97	1028	
01:00		31	230			24	258			
01:15		27	256			28	230			
01:30		20	248			16	248			
01:45		20	232	98	966	15	210	83	946	
02:00		34	231			16	255			
02:15		22	258			15	255			
02:30		25	243			12	287			
02:45		12	231	93	963	32	292	75	1089	
03:00		14	261			24	333			
03:15		18	344			27	266			
03:30		39	264			46	310			
03:45		32	**285**	103	1154	29	324	126	1233	
04:00		38	**272**			24	301			
04:15		49	**304**			53	340			
04:30		61	**325**			38	**327**			
04:45		53	193	201	1094	29	**319**	144	1287	
05:00		79	64			48	**356**			
05:15		123	15			40	**372**			
05:30		130	177			64	262			
05:45		110	150	442	406	66	313	218	1303	
06:00		142	260			83	281			
06:15		177	209			87	270			
06:30		177	215			99	248			
06:45		198	240	694	924	112	228	381	1027	
07:00		191	213			107	210			
07:15		**280**	184			164	195			
07:30		**325**	187			177	149			
07:45		**317**	139	1113	723	158	167	606	721	
08:00		**271**	170			194	142			
08:15		212	158			174	133			
08:30		221	108			182	106			
08:45		166	113	870	549	177	135	727	516	
09:00		177	134			148	103			
09:15		163	117			166	104			
09:30		176	118			194	96			
09:45		188	93	704	462	204	83	712	386	
10:00		175	101			151	83			
10:15		184	85			184	68			
10:30		197	74			193	72			
10:45		180	87	736	347	173	62	701	285	
11:00		191	71			**184**	65			
11:15		207	49			**182**	67			
11:30		202	46			**210**	49			
11:45		208	50	808	216	**206**	38	782	219	
Peak	-	07:15	03:45	-	-	11:00	04:30	-	-	-
Vol.	-	1193	1186	-	-	782	1374	-	-	-
P.H.F.		0.918	0.912			0.931	0.923			
Lane Total		14668				14692				

Greater Traffic Company

Hwy 92 east of Old Lee Rd

03

Start Time	18-Dec-21 Sat	eb AM	eb PM	Hour Totals AM	Hour Totals PM	wb AM	wb PM	Hour Totals AM	Hour Totals PM	
12:00		48	192			34	178			
12:15		36	177			32	166			
12:30		39	180			39	187			
12:45		42	155	165	704	40	**198**	145	729	
01:00		35	170			32	**178**			
01:15		19	194			22	**184**			
01:30		28	196			20	**231**			
01:45		22	188	104	748	33	190	107	783	
02:00		23	219			29	175			
02:15		23	199			26	193			
02:30		18	**218**			16	187			
02:45		21	**257**	85	893	18	209	89	764	
03:00		23	**238**			21	159			
03:15		25	**215**			20	198			
03:30		22	191			27	170			
03:45		25	189	95	833	18	181	86	708	
04:00		27	201			21	188			
04:15		28	171			16	182			
04:30		41	221			18	178			
04:45		24	175	120	768	13	180	68	728	
05:00		23	215			22	189			
05:15		49	176			15	195			
05:30		49	208			22	158			
05:45		49	185	170	784	29	151	88	693	
06:00		54	217			33	158			
06:15		67	184			34	173			
06:30		45	192			33	189			
06:45		46	150	212	743	50	147	150	667	
07:00		46	162			53	146			
07:15		57	165			65	148			
07:30		69	174			79	121			
07:45		73	149	245	650	87	122	284	537	
08:00		73	124			98	83			
08:15		105	136			129	94			
08:30		98	114			148	100			
08:45		119	111	395	485	170	87	545	364	
09:00		110	102			127	86			
09:15		112	104			138	70			
09:30		144	115			172	70			
09:45		147	85	513	406	**166**	73	603	299	
10:00		170	86			**166**	77			
10:15		156	70			**186**	65			
10:30		181	62			**186**	59			
10:45		**163**	69	670	287	161	55	699	256	
11:00		**188**	56			156	55			
11:15		**212**	49			162	49			
11:30		**195**	48			151	48			
11:45		161	33	756	186	187	53	656	205	
Peak	-	10:45	02:30	-	-	09:45	00:45	-	-	-
Vol.	-	758	928	-	-	704	791	-	-	-
P.H.F.		0.894	0.903			0.946	0.856			
Lane Total		11017				10253				

Internal Capture Worksheets

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	The Trails	**Organization:**	ABE Consulting
Project Location:	Douglas County	**Performed By:**	RWS
Scenario Description:		**Date:**	4/4/2022
Analysis Year:	2028	**Checked By:**	
Analysis Period:	AM Street Peak Hour	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				345	307.00	38.00
Retail				63	28.00	35.00
Restaurant				491	250.00	241.00
Cinema/Entertainment				0	0.00	0.00
Residential				303	67.00	236.00
Hotel				41	16.00	25.00
All Other Land Uses[2]				0	0.00	0.00
				1,243	668	575

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	5%	1.00	0%	5%
Retail	1.00	0%	5%	1.00	0%	5%
Restaurant	1.00	0%	5%	1.00	0%	5%
Cinema/Entertainment	0.00	0%	0%	0.00	0%	0%
Residential	1.00	0%	5%	1.00	0%	5%
Hotel	1.00	0%	0%	0.00	0%	0%
All Other Land Uses[2]	0.00	0%	0%	0.00	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		9	24	0	0	0
Retail	10		5	0	1	0
Restaurant	43	2		0	3	1
Cinema/Entertainment	0	0	0		0	0
Residential	5	2	47	0		0
Hotel	9	1	2	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,243	668	575
Internal Capture Percentage	26%	25%	29%
External Vehicle-Trips[5]	870	479	391
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips	45	25	20

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	22%	87%
Retail	50%	46%
Restaurant	31%	20%
Cinema/Entertainment	N/A	N/A
Residential	6%	23%
Hotel	6%	48%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	The Trails
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	307	307	1.00	38	38
Retail	1.00	28	28	1.00	35	35
Restaurant	1.00	250	250	1.00	241	241
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	67	67	1.00	236	236
Hotel	1.00	16	16	1.00	25	25

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		11	24	0	0	0
Retail	10		5	0	5	0
Restaurant	75	34		0	10	7
Cinema/Entertainment	0	0	0		0	0
Residential	5	2	47	0		0
Hotel	19	4	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		9	58	0	0	0
Retail	12		125	0	1	0
Restaurant	43	2		0	3	1
Cinema/Entertainment	0	0	0		0	0
Residential	9	5	50	0		0
Hotel	9	1	15	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	67	240	307	228	0	12
Retail	14	14	28	13	0	1
Restaurant	78	172	250	163	0	9
Cinema/Entertainment	0	0	0	0	0	0
Residential	4	63	67	60	0	3
Hotel	1	15	16	15	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	33	5	38	5	0	0
Retail	16	19	35	18	0	1
Restaurant	49	192	241	182	0	10
Cinema/Entertainment	0	0	0	0	0	0
Residential	54	182	236	173	0	9
Hotel	12	13	25	13	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	The Trails	**Organization:**	ABE Consulting
Project Location:	Douglas County	**Performed By:**	RWS
Scenario Description:		**Date:**	4/4/2022
Analysis Year:	2028	**Checked By:**	
Analysis Period:	PM Street Peak Hour	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				223	31	192
Retail				180	95	85
Restaurant				364	189	175
Cinema/Entertainment				0		
Residential				335	218	117
Hotel				36	20	16
All Other Land Uses[2]				0		
				1,138	553	585

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	5%	1.00	0%	5%
Retail	1.00	0%	5%	1.00	0%	5%
Restaurant	1.00	0%	5%	1.00	0%	5%
Cinema/Entertainment	0.00	0%	0%	0.00	0%	0%
Residential	1.00	0%	5%	1.00	0%	5%
Hotel	0.00	0%	0%	0.00	0%	0%
All Other Land Uses[2]	0.00	0%	0%	0.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	4	0	4	0
Retail	2		25	0	22	3
Restaurant	5	48		0	32	12
Cinema/Entertainment	0	0	0		0	0
Residential	5	10	25	0		2
Hotel	0	2	9	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,138	553	585
Internal Capture Percentage	38%	39%	37%
External Vehicle-Trips[5]	667	319	348
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips	35	16	19

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	39%	8%
Retail	72%	61%
Restaurant	33%	55%
Cinema/Entertainment	N/A	N/A
Residential	27%	36%
Hotel	85%	69%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	The Trails
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	31	31	1.00	192	192
Retail	1.00	95	95	1.00	85	85
Restaurant	1.00	189	189	1.00	175	175
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	218	218	1.00	117	117
Hotel	1.00	20	20	1.00	16	16

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		38	8	0	4	0
Retail	2		25	3	22	4
Restaurant	5	72		14	32	12
Cinema/Entertainment	0	0	0		0	0
Residential	5	49	25	0		4
Hotel	0	3	11	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		8	4	0	9	0
Retail	10		55	0	100	3
Restaurant	9	48		0	35	14
Cinema/Entertainment	2	4	6		9	0
Residential	18	10	26	0		2
Hotel	0	2	9	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	12	19	31	18	0	1
Retail	68	27	95	26	0	1
Restaurant	63	126	189	120	0	6
Cinema/Entertainment	0	0	0	0	0	0
Residential	58	160	218	152	0	8
Hotel	17	3	20	3	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	16	176	192	167	0	9
Retail	52	33	85	31	0	2
Restaurant	97	78	175	74	0	4
Cinema/Entertainment	0	0	0	0	0	0
Residential	42	75	117	71	0	4
Hotel	11	5	16	5	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Signal Warrant #8 Analysis

The need for a traffic control signal shall be considered if an engineering study find either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

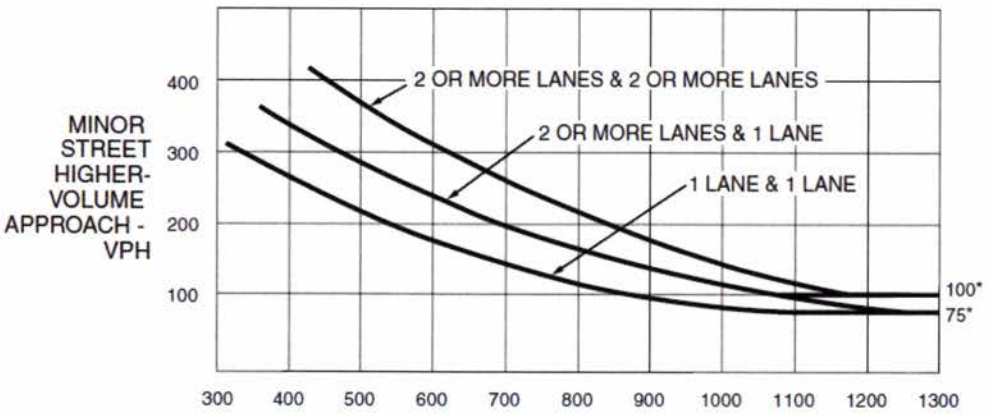
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

The MUTCD also provides that since SR95 is posted at 45 miles per hour, **Figure 4C-4** of the MUTCD manual can be used in lieu of **Figure 4C3**. Since traffic on SR92 exceeds 1,500 vehicles for the total of the east and west approaches, a signal would be warranted based on the anticipated exiting volumes exceeding 100 for both the AM and PM peak hours. This satisfies condition B above.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



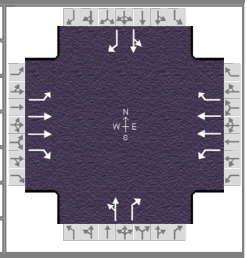
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Highway Capacity Software Output Appendix

1. Existing
2. 2028 No Build
3. 2028 Build-out
4. 2028 Build-out with Improvements

HCS7 Signalized Intersection Results Summary

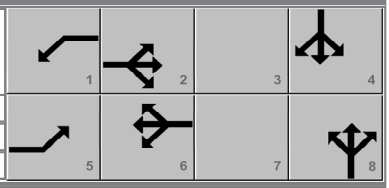
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd AM.xus		
Project Description	AM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	76	841	49	36	530	257	14	23	14	279	21	28

Signal Information			
Cycle, s	63.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.5	1.3	21.2	14.6	4.0	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



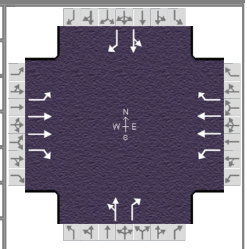
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		11.0
Phase Duration, s	8.9	27.5	7.5	26.2		9.0		19.6
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.1		3.1
Queue Clearance Time (g_s), s	4.0	18.0	2.9	13.9		3.4		13.6
Green Extension Time (g_e), s	0.0	4.5	0.0	3.1		0.0		0.6
Phase Call Probability	0.78	1.00	0.51	1.00		0.60		1.00
Max Out Probability	1.00	0.03	1.00	0.45		1.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	84	934	49	40	589	280		41	10		333	26
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1284	1739	1668	1283		1792	1479		1745	1548
Queue Service Time (g_s), s	2.0	16.0	1.6	0.9	9.1	11.9		1.4	0.4		11.6	0.8
Cycle Queue Clearance Time (g_c), s	2.0	16.0	1.6	0.9	9.1	11.9		1.4	0.4		11.6	0.8
Green Ratio (*g/C*)	0.39	0.35	0.35	0.37	0.33	0.33		0.06	0.06		0.23	0.23
Capacity (*c*), veh/h	316	1181	455	167	1110	427		112	93		400	355
Volume-to-Capacity Ratio (*X*)	0.267	0.791	0.108	0.239	0.530	0.655		0.366	0.108		0.833	0.072
Back of Queue (*Q*), ft/ln (95 th percentile)	30.3	241	19	14.9	156.7	180.4		27.6	6.6		208.5	12.6
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	8.9	0.7	0.6	5.8	6.9		1.1	0.3		8.0	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.15	0.24	0.02	0.07	0.16	0.18		0.03	0.01		0.21	0.01
Uniform Delay (d_1), s/veh	13.0	18.5	13.8	15.2	17.2	18.1		28.6	28.2		23.4	19.2
Incremental Delay (d_2), s/veh	0.2	0.5	0.0	0.3	1.8	7.6		0.7	0.2		1.8	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	13.2	18.9	13.9	15.4	19.0	25.8		29.4	28.4		25.1	19.3
Level of Service (LOS)	B	B	B	B	B	C		C	C		C	B
Approach Delay, s/veh / LOS	18.2	B		20.9	C		29.2	C		24.7	C	
Intersection Delay, s/veh / LOS	20.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.37	A	1.24	A	0.57	A	1.08	A

HCS7 Signalized Intersection Results Summary

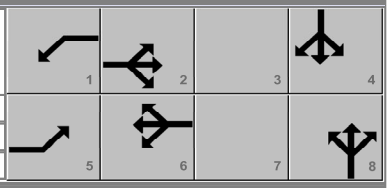
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	CBD
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd PM.xus		
Project Description	PM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	176	755	57	65	985	256	65	42	41	367	46	57

Signal Information			
Cycle, s	159.4	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.0	5.6	68.0	48.8	7.0	0.0	
Yellow	4.0	4.0	4.0	4.0	4.0	0.0	
Red	1.0	1.0	1.0	1.0	1.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		11.0
Phase Duration, s	20.6	83.6	10.0	73.0		12.0		53.8
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.2		3.1
Queue Clearance Time (g_s), s	15.1	33.4	6.2	54.6		9.0		47.6
Green Extension Time (g_e), s	0.3	0.0	0.0	5.3		0.0		1.1
Phase Call Probability	1.00	1.00	0.96	1.00		1.00		1.00
Max Out Probability	0.00	1.00	1.00	0.24		1.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	196	839	58	72	1094	279		119	40		459	58
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1565	1501	1160	1565	1501	1158		1595	1296		1573	1397
Queue Service Time (g_s), s	13.1	31.4	4.2	4.2	52.6	29.1		7.0	4.9		45.6	4.8
Cycle Queue Clearance Time (g_c), s	13.1	31.4	4.2	4.2	52.6	29.1		7.0	4.9		45.6	4.8
Green Ratio (*g/C*)	0.54	0.49	0.49	0.46	0.43	0.43		0.04	0.04		0.31	0.31
Capacity (*c*), veh/h	219	1480	572	235	1278	493		70	57		482	428
Volume-to-Capacity Ratio (*X*)	0.894	0.567	0.101	0.307	0.856	0.566		1.701	0.704		0.952	0.135
Back of Queue (*Q*), ft/ln (95 th percentile)	191.5	446.4	54	73.4	744.9	351.5		443.4	96.9		666.5	76.4
Back of Queue (*Q*), veh/ln (95 th percentile)	7.4	16.5	2.1	2.8	27.6	13.5		17.1	3.7		25.6	3.0
Queue Storage Ratio (*RQ*) (95 th percentile)	1.91	0.45	0.05	0.73	0.75	0.35		0.44	0.97		0.67	0.76
Uniform Delay (d_1), s/veh	42.8	28.5	21.6	26.5	41.5	34.7		76.4	75.3		54.2	40.1
Incremental Delay (d_2), s/veh	5.0	0.3	0.0	0.3	7.5	4.6		368.9	28.4		4.8	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	47.8	28.8	21.6	26.8	49.0	39.3		445.3	103.7		59.1	40.1
Level of Service (LOS)	D	C	C	C	D	D		F	F		E	D
Approach Delay, s/veh / LOS	31.8	C		46.0	D		359.3	F		56.9	E	
Intersection Delay, s/veh / LOS	58.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.94	B	2.50	B	2.49	B
Bicycle LOS Score / LOS	1.39	A	1.68	B	0.75	A	1.34	A

HCS7 Two-Way Stop-Control Report

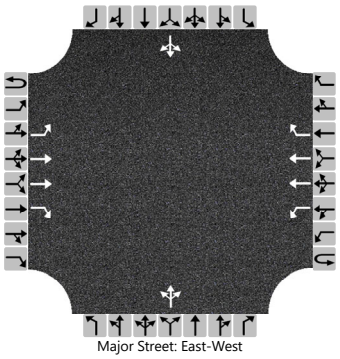
General Information

Analyst	RWS
Agency/Co.	ABE Consulting
Date Performed	2/20/2022
Analysis Year	2022
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	Existing

Site Information

Intersection	Old Lee Rd
Jurisdiction	Douglas County
East/West Street	SR 92
North/South Street	Old Lee Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	151	1000	3	0	4	603	0		0	0	0		3	0	76
Percent Heavy Vehicles (%)	10	5			10	5				5	5	5		5	5	5
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								4						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.20				4.20				7.60	6.60	7.00		7.60	6.60	7.00
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.25				3.55	4.05	3.35		3.55	4.05	3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		168				4					0				88	
Capacity, c (veh/h)		888				600									594	
v/c Ratio		0.19				0.01									0.15	
95% Queue Length, Q_{95} (veh)		0.7				0.0									0.5	
Control Delay (s/veh)		10.0				11.0									12.1	
Level of Service (LOS)		A				B									B	
Approach Delay (s/veh)		1.3				0.1								12.1		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

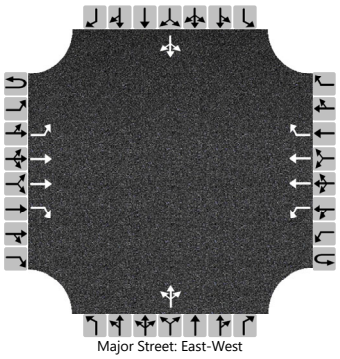
General Information

Analyst	RWS
Agency/Co.	ABE Consulting
Date Performed	2/20/2022
Analysis Year	2022
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	Existing

Site Information

Intersection	Old Lee Rd
Jurisdiction	Douglas County
East/West Street	SR 92
North/South Street	Old Lee Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	98	1032	3	0	0	1229	21		0	0	5		2	1	157
Percent Heavy Vehicles (%)	10	5			10	5				5	5	5		5	5	5
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								4						

Critical and Follow-up Headways

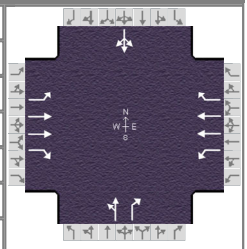
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.20				4.20				7.60	6.60	7.00		7.60	6.60	7.00
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.25				3.55	4.05	3.35		3.55	4.05	3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		109				0					6				178	
Capacity, c (veh/h)		469				581					444				364	
v/c Ratio		0.23				0.00					0.01				0.49	
95% Queue Length, Q_{95} (veh)		0.9				0.0					0.0				2.6	
Control Delay (s/veh)		15.0				11.2					13.2				24.0	
Level of Service (LOS)		B				B					B				C	
Approach Delay (s/veh)		1.3				0.0				13.2				24.0		
Approach LOS										B				C		

HCS7 Signalized Intersection Results Summary

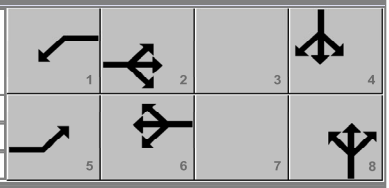
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Bomar/Mack	File Name	Bomar Mack AM.xus		
Project Description	AM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	23	899	112	74	664	32	94	33	153	10	18	7

Signal Information			
Cycle, s	60.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.7	2.0	24.0	3.1	9.1	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



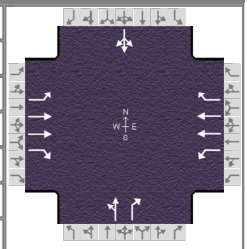
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	6.7	29.0	8.7	31.0		14.1		8.1
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.3		3.1
Queue Clearance Time (g_s), s	2.5	17.4	3.6	11.6		8.2		3.1
Green Extension Time (g_e), s	0.0	4.8	0.0	4.3		0.3		0.0
Phase Call Probability	0.35	1.00	0.75	1.00		0.99		0.43
Max Out Probability	1.00	0.03	1.00	0.11		0.70		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	26	999	119	82	738	30		141	164		33	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1286	1739	1668	1287		1761	1503		1769	
Queue Service Time (g_s), s	0.5	15.4	3.7	1.6	9.6	0.8		4.4	6.2		1.1	
Cycle Queue Clearance Time (g_c), s	0.5	15.4	3.7	1.6	9.6	0.8		4.4	6.2		1.1	
Green Ratio (*g/C*)	0.43	0.40	0.40	0.46	0.43	0.43		0.15	0.15		0.05	
Capacity (*c*), veh/h	278	1335	515	247	1446	558		268	228		92	
Volume-to-Capacity Ratio (*X*)	0.092	0.748	0.231	0.332	0.510	0.054		0.527	0.720		0.361	
Back of Queue (*Q*), ft/ln (95 th percentile)	7.4	221	39.9	22.5	147.9	9.8		81.2	104.7		21.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	8.2	1.5	0.9	5.5	0.4		3.1	4.0		0.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.04	0.22	0.04	0.11	0.15	0.01		0.08	0.10		0.02	
Uniform Delay (d_1), s/veh	10.7	15.4	11.9	11.4	12.4	9.9		23.4	24.2		27.5	
Incremental Delay (d_2), s/veh	0.1	0.3	0.1	0.3	1.3	0.2		0.6	3.3		0.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	10.8	15.7	12.0	11.7	13.6	10.0		24.0	27.5		28.3	
Level of Service (LOS)	B	B	B	B	B	B		C	C		C	
Approach Delay, s/veh / LOS	15.2	B		13.3	B		25.9	C		28.3	C	
Intersection Delay, s/veh / LOS	16.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	2.46	B	2.44	B
Bicycle LOS Score / LOS	1.43	A	1.19	A	0.99	A	0.54	A

HCS7 Signalized Intersection Results Summary

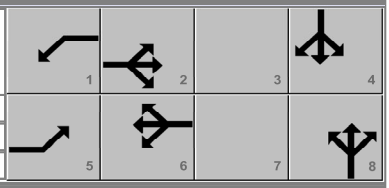
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 5:00
Intersection	Bomar/Mack	File Name	Bomar Mack PM.xus		
Project Description	PM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	916	50	159	1246	24	49	20	103	19	39	19

Signal Information			
Cycle, s	66.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.3	2.7	30.6	4.9	6.0	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



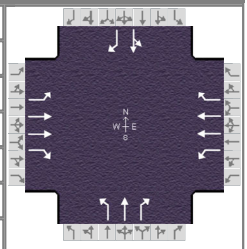
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	7.3	35.6	10.0	38.3		11.0		9.9
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.1
Queue Clearance Time (g_s), s	2.7	17.8	5.5	25.5		6.8		5.0
Green Extension Time (g_e), s	0.0	6.2	0.0	7.8		0.0		0.0
Phase Call Probability	0.46	1.00	0.96	1.00		0.97		0.77
Max Out Probability	1.00	0.26	1.00	0.04		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	33	1018	50	177	1384	21		77	109		80	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1288	1739	1668	1289		1763	1485		1724	
Queue Service Time (g_s), s	0.7	15.8	1.4	3.5	23.5	0.6		2.8	4.8		3.0	
Cycle Queue Clearance Time (g_c), s	0.7	15.8	1.4	3.5	23.5	0.6		2.8	4.8		3.0	
Green Ratio (*g/C*)	0.50	0.46	0.46	0.54	0.50	0.50		0.09	0.09		0.07	
Capacity (*c*), veh/h	159	1536	593	306	1672	646		159	134		126	
Volume-to-Capacity Ratio (*X*)	0.210	0.663	0.084	0.577	0.828	0.033		0.482	0.813		0.634	
Back of Queue (*Q*), ft/ln (95 th percentile)	9.6	228	15.7	53	297.9	5.7		53.2	125		59.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	8.4	0.6	2.0	11.0	0.2		2.0	4.8		2.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.23	0.02	0.26	0.30	0.01		0.05	0.13		0.06	
Uniform Delay (d_1), s/veh	12.9	13.9	10.1	10.7	14.1	8.4		28.8	29.7		29.9	
Incremental Delay (d_2), s/veh	0.2	0.7	0.0	1.8	0.4	0.0		0.8	28.5		2.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	13.2	14.7	10.1	12.5	14.6	8.4		29.6	58.2		32.5	
Level of Service (LOS)	B	B	B	B	B	A		C	E		C	
Approach Delay, s/veh / LOS	14.4	B		14.2	B		46.4	D		32.5	C	
Intersection Delay, s/veh / LOS	16.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.66	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.40	A	1.79	B	0.79	A	0.62	A

HCS7 Signalized Intersection Results Summary

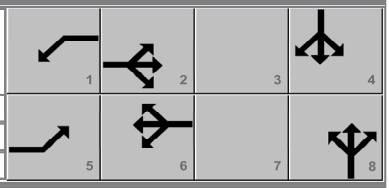
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope PM.xus		
Project Description	PM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	74	893	72	125	1120	40	63	55	78	33	98	89

Signal Information			
Cycle, s	63.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	0.9	24.1	8.0	6.4	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



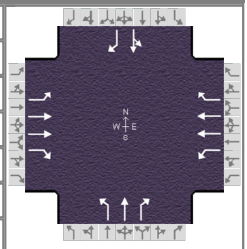
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	8.8	29.1	9.7	30.0		11.4		13.0
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.2		3.2
Queue Clearance Time (g_s), s	3.8	18.6	5.0	24.8		5.3		6.9
Green Extension Time (g_e), s	0.1	0.0	0.1	0.2		0.4		0.5
Phase Call Probability	0.76	1.00	0.91	1.00		0.98		0.99
Max Out Probability	0.00	1.00	0.00	1.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	82	992	74	139	1244	39	70	61	81		146	93
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1285	1739	1668	1286	1725	1826	1490		1803	1498
Queue Service Time (g_s), s	1.8	16.6	2.4	3.0	22.8	1.2	2.4	2.0	3.3		4.9	3.7
Cycle Queue Clearance Time (g_c), s	1.8	16.6	2.4	3.0	22.8	1.2	2.4	2.0	3.3		4.9	3.7
Green Ratio (*g/C*)	0.44	0.38	0.38	0.46	0.40	0.40	0.10	0.10	0.10		0.13	0.13
Capacity (*c*), veh/h	163	1269	489	250	1317	508	175	186	151		229	190
Volume-to-Capacity Ratio (*X*)	0.504	0.782	0.152	0.556	0.945	0.077	0.399	0.329	0.536		0.637	0.492
Back of Queue (*Q*), ft/ln (95 th percentile)	27.1	259.7	27.4	44.6	400.6	15.2	44.9	38.4	53		93.9	58.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	9.6	1.1	1.7	14.8	0.6	1.7	1.5	2.0		3.6	2.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.14	0.26	0.03	0.22	0.40	0.02	0.22	0.04	0.05		0.09	0.06
Uniform Delay (d_1), s/veh	15.0	17.3	12.9	13.2	18.5	12.0	26.6	26.4	27.0		26.3	25.7
Incremental Delay (d_2), s/veh	0.9	3.0	0.1	0.7	14.7	0.3	0.5	0.4	1.1		1.1	0.7
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	15.9	20.2	12.9	14.0	33.2	12.2	27.2	26.8	28.1		27.4	26.5
Level of Service (LOS)	B	C	B	B	C	B	C	C	C		C	C
Approach Delay, s/veh / LOS	19.5	B		30.7	C		27.4	C		27.0	C	
Intersection Delay, s/veh / LOS	25.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.90	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.44	A	1.66	B	0.84	A	0.88	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope AM.xus		
Project Description	AM Existing Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	51	875	26	87	656	17	45	49	104	75	40	25

Signal Information			
Cycle, s	60.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	3.1	0.9	23.1	6.6	7.0	0.0	5	6	7	8
Yellow	4.0	0.0	4.0	4.0	4.0	0.0				
Red	1.0	0.0	1.0	1.0	1.0	0.0				

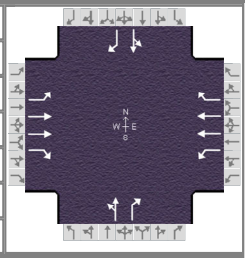
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	8.1	28.1	9.0	29.0		12.0		11.6
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.1
Queue Clearance Time (g_s), s	3.2	17.5	4.0	12.3		6.3		6.2
Green Extension Time (g_e), s	0.0	4.3	0.0	3.7		0.1		0.1
Phase Call Probability	0.62	1.00	0.80	1.00		0.97		0.92
Max Out Probability	1.00	0.02	1.00	0.14		1.00		0.48

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	57	972	23	97	729	13	50	54	110		128	22
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1285	1739	1668	1286	1725	1826	1495		1768	1492
Queue Service Time (g_s), s	1.2	15.5	0.7	2.0	10.3	0.4	1.6	1.7	4.3		4.2	0.8
Cycle Queue Clearance Time (g_c), s	1.2	15.5	0.7	2.0	10.3	0.4	1.6	1.7	4.3		4.2	0.8
Green Ratio (*g/C*)	0.43	0.38	0.38	0.45	0.40	0.40	0.12	0.12	0.12		0.11	0.11
Capacity (*c*), veh/h	285	1267	488	245	1319	509	199	211	172		193	163
Volume-to-Capacity Ratio (*X*)	0.199	0.767	0.048	0.395	0.553	0.026	0.251	0.258	0.638		0.664	0.137
Back of Queue (*Q*), ft/ln (95 th percentile)	17	226.8	7.8	28.7	164.9	4.8	29.3	31.7	68.6		80.4	12.8
Back of Queue (*Q*), veh/ln (95 th percentile)	0.7	8.4	0.3	1.1	6.1	0.2	1.1	1.2	2.6		3.1	0.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08	0.23	0.01	0.14	0.17	0.00	0.15	0.03	0.07		0.08	0.01
Uniform Delay (d_1), s/veh	11.3	16.5	11.9	12.2	14.2	11.2	24.5	24.5	25.6		26.0	24.5
Incremental Delay (d_2), s/veh	0.1	0.4	0.0	0.4	1.7	0.1	0.2	0.2	1.5		1.5	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	11.4	16.8	11.9	12.6	15.9	11.3	24.7	24.7	27.1		27.4	24.6
Level of Service (LOS)	B	B	B	B	B	B	C	C	C		C	C
Approach Delay, s/veh / LOS	16.4	B		15.4	B		25.9	C		27.0	C	
Intersection Delay, s/veh / LOS	17.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.46	B	2.44	B
Bicycle LOS Score / LOS	1.36	A	1.18	A	0.84	A	0.74	A

HCS7 Signalized Intersection Results Summary

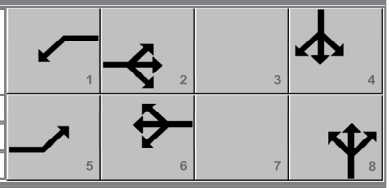
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd 2028 Buildout AM.xus		
Project Description	AM Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	135	1166	71	46	807	325	30	29	18	353	27	87

Signal Information			
Cycle, s	101.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	6.0	35.0	26.9	5.0	0.0	
Yellow	4.0	4.0	4.0	4.0	4.0	0.0	
Red	1.0	1.0	1.0	1.0	1.0	0.0	



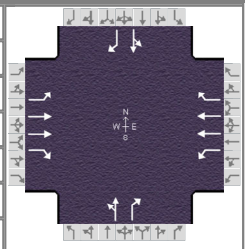
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		11.0
Phase Duration, s	19.8	51.0	8.8	40.0		10.0		31.9
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.2		3.2
Queue Clearance Time (g_s), s	6.7	37.4	3.9	26.6		5.7		25.9
Green Extension Time (g_e), s	0.1	8.4	0.0	4.8		0.0		1.0
Phase Call Probability	0.99	1.00	0.76	1.00		0.90		1.00
Max Out Probability	0.00	0.05	1.00	0.58		1.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	150	1296	73	51	897	356		66	14		422	91
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1472	1739	1668	1320		1781	1449		1745	1551
Queue Service Time (g_s), s	4.7	35.4	2.9	1.9	24.5	24.6		3.7	1.0		23.9	4.7
Cycle Queue Clearance Time (g_c), s	4.7	35.4	2.9	1.9	24.5	24.6		3.7	1.0		23.9	4.7
Green Ratio (*g/C*)	0.51	0.45	0.45	0.38	0.34	0.34		0.05	0.05		0.26	0.26
Capacity (*c*), veh/h	350	1507	665	135	1148	454		87	71		462	411
Volume-to-Capacity Ratio (*X*)	0.428	0.860	0.110	0.377	0.781	0.782		0.749	0.203		0.913	0.222
Back of Queue (*Q*), ft/ln (50 th percentile)	44.5	349.4	24.1	19.6	270.9	230.9		59	9.3		266.4	43.7
Back of Queue (*Q*), veh/ln (50 th percentile)	1.7	12.9	0.9	0.8	10.0	8.9		2.3	0.4		10.2	1.7
Queue Storage Ratio (*RQ*) (50 th percentile)	0.45	0.35	0.24	0.20	0.27	2.31		0.06	0.09		0.27	0.44
Uniform Delay (d_1), s/veh	18.0	25.0	16.1	24.0	29.9	30.0		47.8	46.5		36.3	29.2
Incremental Delay (d_2), s/veh	0.3	1.4	0.0	0.6	5.3	12.6		26.8	0.5		3.1	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	18.3	26.4	16.1	24.6	35.3	42.6		74.6	47.0		39.3	29.3
Level of Service (LOS)	B	C	B	C	D	D		E	D		D	C
Approach Delay, s/veh / LOS	25.1	C		36.8	D		69.6	E		37.6	D	
Intersection Delay, s/veh / LOS	32.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.93	B	2.48	B	2.47	B
Bicycle LOS Score / LOS	1.74	B	1.56	B	0.62	A	1.33	A

HCS7 Signalized Intersection Results Summary

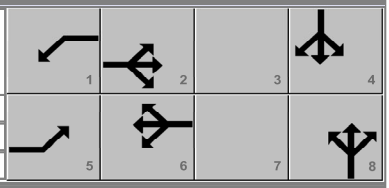
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd Buildout PM.xus		
Project Description	PM Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	288	1098	86	76	1268	299	86	49	48	429	54	111

Signal Information			
Cycle, s	146.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.0	8.0	64.0	36.0	8.0	0.0
Yellow	4.0	4.0	4.0	4.0	4.0	0.0
Red	1.0	1.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		11.0
Phase Duration, s	23.0	82.0	10.0	69.0		13.0		41.0
Change Period, (*Y+R c*), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.2		3.2
Queue Clearance Time (*g s*), s	20.0	41.8	5.9	62.0		10.0		38.0
Green Extension Time (*g e*), s	0.0	0.0	0.0	1.7		0.0		0.0
Phase Call Probability	1.00	1.00	0.97	1.00		1.00		1.00
Max Out Probability	1.00	1.00	1.00	1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	320	1220	90	84	1409	327		150	48		537	118
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1290	1739	1668	1287		1770	1457		1748	1550
Queue Service Time (*g s*), s	18.0	39.8	5.2	3.9	60.0	27.9		8.0	4.7		36.0	9.0
Cycle Queue Clearance Time (*g c*), s	18.0	39.8	5.2	3.9	60.0	27.9		8.0	4.7		36.0	9.0
Green Ratio (*g/C*)	0.58	0.53	0.53	0.47	0.44	0.44		0.05	0.05		0.25	0.25
Capacity (*c*), veh/h	249	1759	680	192	1462	564		97	80		431	382
Volume-to-Capacity Ratio (*X*)	1.283	0.694	0.132	0.441	0.964	0.579		1.547	0.598		1.245	0.308
Back of Queue (*Q*), ft/ln (95 th percentile)	773.1	584.9	71	75.2	950.9	364.7		492.9	90.1		1178.9	160.7
Back of Queue (*Q*), veh/ln (95 th percentile)	29.7	21.7	2.7	2.9	35.2	14.0		19.0	3.5		45.3	6.3
Queue Storage Ratio (*RQ*) (95 th percentile)	7.73	0.59	0.07	0.75	0.95	0.37		0.49	0.90		1.18	1.61
Uniform Delay (*d 1*), s/veh	54.0	25.7	17.5	24.9	39.9	30.9		69.0	67.4		55.0	44.8
Incremental Delay (*d 2*), s/veh	154.5	1.0	0.0	0.6	16.3	4.3		290.6	8.4		128.4	0.2
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	208.5	26.7	17.6	25.4	56.2	35.1		359.6	75.8		183.4	45.0
Level of Service (LOS)	F	C	B	C	E	D		F	E		F	D
Approach Delay, s/veh / LOS	61.9	E		51.0	D		291.1	F		158.5	F	
Intersection Delay, s/veh / LOS	82.5						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.93	B	2.49	B	2.48	B
Bicycle LOS Score / LOS	1.83	B	1.99	B	0.81	A	1.57	B

HCS7 Two-Way Stop-Control Report

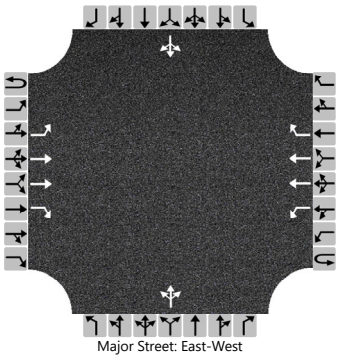
General Information

Analyst	RWS
Agency/Co.	ABE Consulting
Date Performed	2/20/2022
Analysis Year	2028
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	Old Lee Rd
Jurisdiction	Douglas County
East/West Street	SR 92
North/South Street	Old Lee Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	124	1306	4	0	0	1555	27		0	0	6		3	1	199
Percent Heavy Vehicles (%)	10	5			10	5				5	5	5		5	5	5
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								4						

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.20				4.20				7.60	6.60	7.00		7.60	6.60	7.00
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.25				3.55	4.05	3.35		3.55	4.05	3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		138				0					7				226	
Capacity, c (veh/h)		336				442									271	
v/c Ratio		0.41				0.00									0.83	
95% Queue Length, Q_{95} (veh)		1.9				0.0									6.8	
Control Delay (s/veh)		23.0				13.1									60.8	
Level of Service (LOS)		C				B									F	
Approach Delay (s/veh)		2.0				0.0								60.8		
Approach LOS														F		

HCS7 Two-Way Stop-Control Report

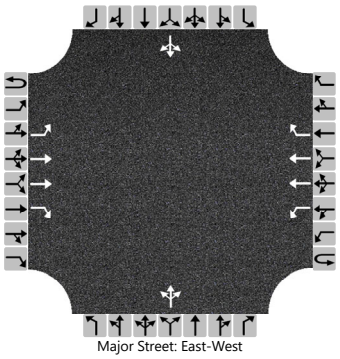
General Information

Analyst	RWS
Agency/Co.	ABE Consulting
Date Performed	2/20/2022
Analysis Year	2028
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	Buildout

Site Information

Intersection	Old Lee Rd
Jurisdiction	Douglas County
East/West Street	SR 92
North/South Street	Old Lee Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	1	0	1	2	1		0	1	0		0	1	0
Configuration		L	T	R		L	T	R			LTR				LTR	
Volume (veh/h)	0	191	1265	4	0	0	763	5		0	0	0		4	0	96
Percent Heavy Vehicles (%)	10	5			10	5				5	5	5		5	5	5
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No										
Median Type | Storage		Left + Thru								4						

Critical and Follow-up Headways

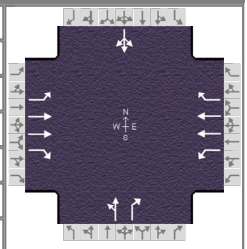
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.20				4.20				7.60	6.60	7.00		7.60	6.60	7.00
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.25				3.55	4.05	3.35		3.55	4.05	3.35

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		212				0					0				111	
Capacity, c (veh/h)		756				460									500	
v/c Ratio		0.28				0.00									0.22	
95% Queue Length, Q_{95} (veh)		1.2				0.0									0.8	
Control Delay (s/veh)		11.6				12.8									14.3	
Level of Service (LOS)		B				B									B	
Approach Delay (s/veh)		1.5				0.0								14.3		
Approach LOS														B		

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bomar/Mack	File Name	Bomar Mack 2028 Nobuild AM.xus		
Project Description	AM 2028 Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	1138	142	94	840	40	119	42	194	13	23	9

Signal Information			
Cycle, s	70.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	2.3	2.0	29.9	4.0	12.0	0.0						
Yellow	4.0	0.0	4.0	4.0	4.0	0.0		5	6	7	8	
Red	1.0	0.0	1.0	1.0	1.0	0.0						

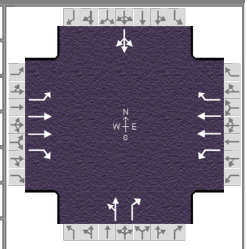
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	7.3	34.9	9.3	36.9		17.0		9.0
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.3		3.1
Queue Clearance Time (g_s), s	2.7	26.6	4.3	16.9		11.4		3.7
Green Extension Time (g_e), s	0.0	3.3	0.0	4.6		0.1		0.0
Phase Call Probability	0.47	1.00	0.87	1.00		1.00		0.58
Max Out Probability	1.00	0.31	1.00	0.46		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	32	1264	152	104	933	39		179	210		44	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1324	1739	1668	1325		1761	1506		1755	
Queue Service Time (g_s), s	0.7	24.6	5.2	2.3	14.9	1.2		6.6	9.4		1.7	
Cycle Queue Clearance Time (g_c), s	0.7	24.6	5.2	2.3	14.9	1.2		6.6	9.4		1.7	
Green Ratio (*g/C*)	0.46	0.43	0.43	0.49	0.45	0.45		0.17	0.17		0.06	
Capacity (*c*), veh/h	234	1420	563	191	1515	602		301	257		100	
Volume-to-Capacity Ratio (*X*)	0.138	0.891	0.270	0.547	0.616	0.065		0.595	0.817		0.443	
Back of Queue (*Q*), ft/ln (95 th percentile)	11	361.3	62.2	35.7	233.9	14.9		130.5	204.4		34.1	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	13.4	2.4	1.4	8.7	0.6		5.0	7.9		1.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.36	0.62	0.18	0.23	0.15		0.13	2.04		0.03	
Uniform Delay (d_1), s/veh	12.2	18.7	13.1	15.4	14.5	10.8		26.9	28.1		32.1	
Incremental Delay (d_2), s/veh	0.1	4.0	0.1	1.0	1.9	0.2		2.2	17.1		1.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	12.3	22.6	13.2	16.4	16.4	11.0		29.1	45.2		33.2	
Level of Service (LOS)	B	C	B	B	B	B		C	D		C	
Approach Delay, s/veh / LOS	21.4	C		16.2	B		37.8	D		33.2	C	
Intersection Delay, s/veh / LOS	21.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.68	B	1.38	A	1.13	A	0.56	A

HCS7 Signalized Intersection Results Summary

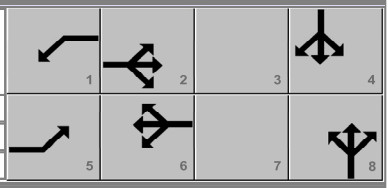
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bomar/Mack	File Name	Bomar Mack 2028 Nobuild PM.xus		
Project Description	PM 2028 Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	1159	63	201	1577	30	62	25	130	24	49	16

Signal Information			
Cycle, s	84.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.2	1.8	36.0	7.2	11.1	0.0						
Yellow	4.0	4.0	4.0	4.0	4.0	0.0						
Red	1.0	1.0	1.0	1.0	1.0	0.0						



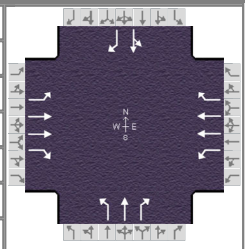
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	8.2	41.0	15.0	47.8		16.1		12.2
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.1
Queue Clearance Time (g_s), s	3.1	32.8	9.3	45.7		9.6		6.4
Green Extension Time (g_e), s	0.0	2.6	0.4	0.0		0.5		0.2
Phase Call Probability	0.63	1.00	1.00	1.00		1.00		0.89
Max Out Probability	0.00	0.66	0.00	1.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	42	1288	64	223	1752	28		97	139		93	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1324	1739	1668	1326		1763	1499		1748	
Queue Service Time (g_s), s	1.1	30.8	2.5	7.3	43.7	0.9		4.3	7.6		4.4	
Cycle Queue Clearance Time (g_c), s	1.1	30.8	2.5	7.3	43.7	0.9		4.3	7.6		4.4	
Green Ratio (*g/C*)	0.47	0.43	0.43	0.58	0.51	0.51		0.13	0.13		0.08	
Capacity (*c*), veh/h	108	1427	566	277	1703	677		232	197		150	
Volume-to-Capacity Ratio (*X*)	0.390	0.902	0.114	0.805	1.029	0.041		0.416	0.703		0.624	
Back of Queue (*Q*), ft/ln (95 th percentile)	19.6	468.9	32	202.7	787.2	11.7		85.2	129.9		89	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.8	17.4	1.2	7.8	29.2	0.4		3.3	5.0		3.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.10	0.47	0.32	1.01	0.79	0.12		0.09	1.30		0.09	
Uniform Delay (d_1), s/veh	20.3	22.8	14.7	23.9	20.9	10.5		34.1	35.5		37.8	
Incremental Delay (d_2), s/veh	0.8	6.2	0.0	2.1	29.5	0.1		0.4	1.7		1.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	21.2	29.0	14.8	26.1	50.4	10.6		34.6	37.3		39.4	
Level of Service (LOS)	C	C	B	C	F	B		C	D		D	
Approach Delay, s/veh / LOS	28.1	C		47.2	D		36.2	D		39.4	D	
Intersection Delay, s/veh / LOS	39.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.67	B	2.47	B	2.46	B
Bicycle LOS Score / LOS	1.64	B	2.14	B	0.88	A	0.64	A

HCS7 Signalized Intersection Results Summary

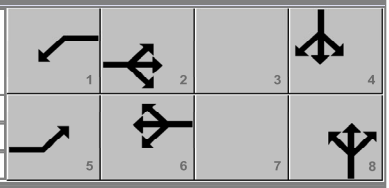
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope 2028 Nobuild AM.xus		
Project Description	AM 2028 Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	1107	33	110	830	22	57	62	132	32	51	95

Signal Information			
Cycle, s	70.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	0.8	29.5	7.0	9.2	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



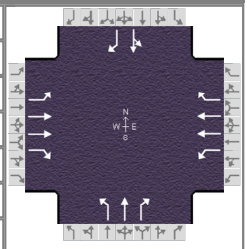
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	8.8	34.5	9.5	35.3		14.2		12.0
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.3
Queue Clearance Time (g_s), s	3.6	25.8	4.7	17.3		8.3		6.6
Green Extension Time (g_e), s	0.0	3.7	0.0	0.0		0.1		0.0
Phase Call Probability	0.76	1.00	0.91	1.00		1.00		0.98
Max Out Probability	1.00	0.02	1.00	1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	72	1230	31	122	922	19	63	69	141		92	100
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1324	1739	1668	1324	1739	1826	1499		1791	1489
Queue Service Time (g_s), s	1.6	23.8	1.0	2.7	15.3	0.6	2.3	2.4	6.3		3.4	4.6
Cycle Queue Clearance Time (g_c), s	1.6	23.8	1.0	2.7	15.3	0.6	2.3	2.4	6.3		3.4	4.6
Green Ratio (*g/C*)	0.47	0.42	0.42	0.48	0.43	0.43	0.13	0.13	0.13		0.10	0.10
Capacity (*c*), veh/h	254	1401	556	200	1437	570	228	239	196		179	148
Volume-to-Capacity Ratio (*X*)	0.284	0.878	0.056	0.612	0.642	0.033	0.278	0.288	0.720		0.517	0.674
Back of Queue (*Q*), ft/ln (95 th percentile)	24.2	330.5	11.6	47.9	242.5	7.5	43.3	47.2	122		68.6	90.6
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	12.2	0.4	1.8	9.0	0.3	1.7	1.8	4.7		2.6	3.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.33	0.12	0.24	0.24	0.08	0.22	0.05	1.22		0.07	0.91
Uniform Delay (d_1), s/veh	12.4	18.7	12.1	15.4	15.7	11.5	27.5	27.6	29.3		30.0	30.5
Incremental Delay (d_2), s/veh	0.2	0.7	0.0	3.1	2.2	0.1	0.2	0.2	8.3		1.2	9.4
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	12.6	19.4	12.1	18.5	17.9	11.6	27.8	27.8	37.6		31.2	39.9
Level of Service (LOS)	B	B	B	B	B	B	C	C	D		C	D
Approach Delay, s/veh / LOS	18.9	B		17.9	B		32.9	C		35.7	D	
Intersection Delay, s/veh / LOS	21.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.59	B	1.36	A	0.94	A	0.80	A

HCS7 Signalized Intersection Results Summary

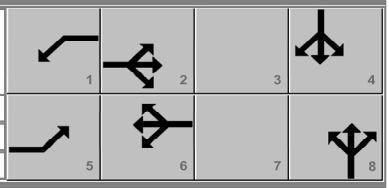
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope 2028 Nobuild PM.xus		
Project Description	PM 2028 Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	1130	91	158	1417	51	80	70	99	42	124	113

Signal Information			
Cycle, s	107.1	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.8	0.2	57.8	13.8	10.6	0.0	
Yellow	4.0	0.0	4.0	4.0	4.0	0.0	
Red	1.0	0.0	1.0	1.0	1.0	0.0	



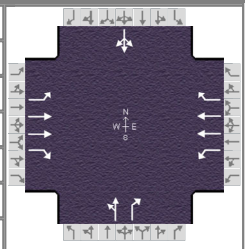
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	9.8	62.8	10.0	63.0		15.6		18.8
Change Period, (*Y+R c*), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.2		3.2
Queue Clearance Time (*g s*), s	4.8	31.8	7.0	45.9		9.3		12.6
Green Extension Time (*g e*), s	0.0	0.0	0.0	7.0		0.2		0.4
Phase Call Probability	0.96	1.00	0.99	1.00		1.00		1.00
Max Out Probability	1.00	1.00	1.00	0.49		0.29		0.04

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	104	1256	96	176	1574	51	89	78	104		184	120
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1327	1739	1668	1327	1739	1826	1489		1803	1498
Queue Service Time (*g s*), s	2.8	29.8	3.8	5.0	43.9	2.0	5.2	4.3	7.3		10.6	8.1
Cycle Queue Clearance Time (*g c*), s	2.8	29.8	3.8	5.0	43.9	2.0	5.2	4.3	7.3		10.6	8.1
Green Ratio (*g/C*)	0.58	0.54	0.54	0.59	0.54	0.54	0.10	0.10	0.10		0.13	0.13
Capacity (*c*), veh/h	147	1799	716	227	1806	718	172	180	147		231	192
Volume-to-Capacity Ratio (*X*)	0.710	0.698	0.134	0.772	0.872	0.071	0.517	0.431	0.710		0.797	0.624
Back of Queue (*Q*), ft/ln (95 th percentile)	83.9	425.5	49.1	120.4	628	26.8	106	91.5	132.7		225.4	142.3
Back of Queue (*Q*), veh/ln (95 th percentile)	3.2	15.8	1.9	4.6	23.3	1.0	4.1	3.5	5.1		8.7	5.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.42	0.43	0.49	0.60	0.63	0.27	0.53	0.09	1.33		0.23	1.42
Uniform Delay (*d 1*), s/veh	23.4	18.2	12.2	17.2	21.3	11.7	45.8	45.4	46.8		45.3	44.2
Incremental Delay (*d 2*), s/veh	12.0	1.0	0.0	13.7	6.1	0.2	0.9	0.6	4.3		4.9	1.2
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	35.4	19.2	12.3	30.9	27.4	11.9	46.7	46.0	51.1		50.2	45.5
Level of Service (LOS)	D	B	B	C	C	B	D	D	D		D	D
Approach Delay, s/veh / LOS	19.9	B		27.3	C		48.2	D		48.3	D	
Intersection Delay, s/veh / LOS	27.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.48	B	2.47	B
Bicycle LOS Score / LOS	1.69	B	1.97	B	0.93	A	0.99	A

HCS7 Signalized Intersection Results Summary

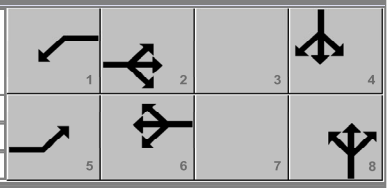
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bomar/Mack	File Name	Bomar Mack 2028 Buildout AM.xus		
Project Description	AM 2028 Buildout				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	1294	142	106	957	46	119	42	210	21	23	9

Signal Information			
Cycle, s	87.1	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.7	2.0	41.8	4.9	15.7	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



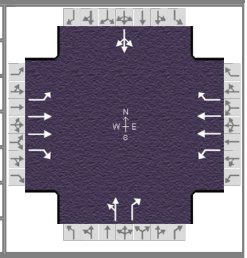
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	7.7	46.8	9.7	48.8		20.7		9.9
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.0	3.0	3.0		3.3		3.1
Queue Clearance Time (g_s), s	2.8	36.3	5.0	22.3		14.7		4.6
Green Extension Time (g_e), s	0.0	5.4	0.0	0.0		0.5		0.0
Phase Call Probability	0.54	1.00	0.94	1.00		1.00		0.72
Max Out Probability	1.00	0.05	1.00	1.00		0.28		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	32	1438	152	118	1063	46		179	228		53	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1325	1739	1668	1326		1761	1507		1751	
Queue Service Time (g_s), s	0.8	34.3	5.9	3.0	20.3	1.5		8.1	12.7		2.6	
Cycle Queue Clearance Time (g_c), s	0.8	34.3	5.9	3.0	20.3	1.5		8.1	12.7		2.6	
Green Ratio (*g/C*)	0.51	0.48	0.48	0.53	0.50	0.50		0.18	0.18		0.06	
Capacity (*c*), veh/h	223	1601	636	167	1677	667		317	271		99	
Volume-to-Capacity Ratio (*X*)	0.144	0.898	0.239	0.707	0.634	0.068		0.565	0.841		0.537	
Back of Queue (*Q*), ft/ln (95 th percentile)	13	467.7	73.2	67.4	307.7	20.4		158.5	237.3		54.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	17.3	2.8	2.6	11.4	0.8		6.1	9.1		2.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.47	0.73	0.34	0.31	0.20		0.16	2.37		0.05	
Uniform Delay (d_1), s/veh	13.1	20.7	13.3	19.2	15.8	11.2		32.6	34.5		40.0	
Incremental Delay (d_2), s/veh	0.1	1.3	0.1	10.1	1.8	0.2		0.6	11.3		2.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	13.2	22.0	13.4	29.3	17.7	11.4		33.2	45.8		42.8	
Level of Service (LOS)	B	C	B	C	B	B		C	D		D	
Approach Delay, s/veh / LOS	21.0	C		18.5	B		40.3	D		42.8	D	
Intersection Delay, s/veh / LOS	22.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.67	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.83	B	1.50	A	1.16	A	0.58	A

HCS7 Signalized Intersection Results Summary

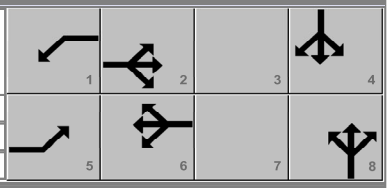
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Bomar/Mack	File Name	Bomar Mack 2028 Buildout PM.xus		
Project Description	PM 2028 Buildou Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	1269	63	213	1699	36	62	25	140	29	49	16

Signal Information			
Cycle, s	98.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.5	4.5	44.5	8.3	12.9	0.0	
Yellow	4.0	4.0	4.0	4.0	4.0	0.0	
Red	1.0	1.0	1.0	1.0	1.0	0.0	



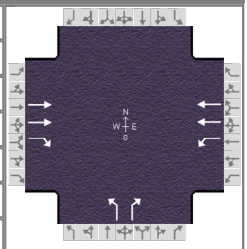
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		12.0
Phase Duration, s	8.5	49.5	17.9	59.0		17.9		13.3
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.1
Queue Clearance Time (g_s), s	3.3	42.0	12.3	56.0		11.6		7.4
Green Extension Time (g_e), s	0.1	0.0	0.4	0.0		0.5		0.2
Phase Call Probability	0.69	1.00	1.00	1.00		1.00		0.93
Max Out Probability	0.00	1.00	0.00	1.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	42	1410	64	237	1888	34		97	150		99	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1324	1739	1668	1327		1763	1499		1747	
Queue Service Time (g_s), s	1.3	40.0	2.8	10.3	54.0	1.2		5.0	9.6		5.4	
Cycle Queue Clearance Time (g_c), s	1.3	40.0	2.8	10.3	54.0	1.2		5.0	9.6		5.4	
Green Ratio (*g/C*)	0.48	0.45	0.45	0.60	0.55	0.55		0.13	0.13		0.08	
Capacity (*c*), veh/h	98	1495	593	280	1823	725		231	196		148	
Volume-to-Capacity Ratio (*X*)	0.433	0.943	0.109	0.844	1.036	0.048		0.418	0.764		0.666	
Back of Queue (*Q*), ft/ln (95 th percentile)	22.9	631.4	36.9	244.4	945	15.9		100.6	167.9		111.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	23.4	1.4	9.4	35.0	0.6		3.9	6.5		4.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.11	0.63	0.37	1.22	0.95	0.16		0.10	1.68		0.11	
Uniform Delay (d_1), s/veh	23.4	26.1	15.8	32.4	22.4	10.4		39.5	41.5		43.9	
Incremental Delay (d_2), s/veh	1.1	12.2	0.0	2.7	30.9	0.1		0.4	2.3		1.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Control Delay (*d*), s/veh	24.6	38.3	15.9	35.1	53.4	10.6		39.9	43.8		45.8	
Level of Service (LOS)	C	D	B	D	F	B		D	D		D	
Approach Delay, s/veh / LOS	36.9	D		50.7	D		42.3	D		45.8	D	
Intersection Delay, s/veh / LOS	44.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.67	B	2.48	B	2.46	B
Bicycle LOS Score / LOS	1.74	B	2.27	B	0.89	A	0.65	A

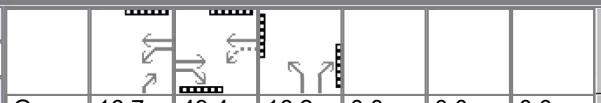
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Entrance A	File Name	Main Entrance 2028 AM.xus		
Project Description	AM 2028 Conditions				

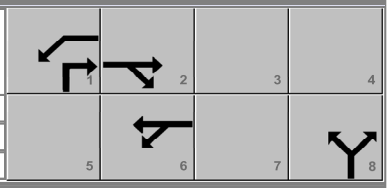


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1373	243	294	896		212		179			

Signal Information			
Cycle, s	97.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	16.7	49.4	16.2	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



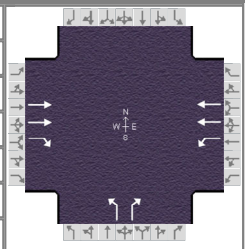
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		54.4	21.7	76.1		21.2		
Change Period, ($Y+R_c$), s		5.0	5.0	5.0		5.0		
Max Allow Headway (*MAH*), s		3.0	3.0	3.0		3.3		
Queue Clearance Time (g_s), s		42.6	16.1	14.2		14.9		
Green Extension Time (g_e), s		6.5	0.4	9.9		0.7		
Phase Call Probability		1.00	1.00	1.00		1.00		
Max Out Probability		0.03	0.01	0.03		0.03		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (*v*), veh/h		1526	264	327	996		236		193			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1668	1326	1739	1568		1723		1505			
Queue Service Time (g_s), s		40.6	12.0	14.1	12.2		12.9		9.6			
Cycle Queue Clearance Time (g_c), s		40.6	12.0	14.1	12.2		12.9		9.6			
Green Ratio (*g/C*)		0.51	0.51	0.70	0.73		0.17		0.34			
Capacity (*c*), veh/h		1696	674	366	2294		287		516			
Volume-to-Capacity Ratio (*X*)		0.899	0.392	0.892	0.434		0.821		0.374			
Back of Queue (*Q*), ft/ln (95 th percentile)		545.4	152.8	339.8	142.3		251.4		155.4			
Back of Queue (*Q*), veh/ln (95 th percentile)		20.2	5.9	13.1	5.3		9.7		6.0			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.55	0.87	0.97	0.14		0.97		0.60			
Uniform Delay (d_1), s/veh		21.8	14.8	31.5	5.2		39.4		24.6			
Incremental Delay (d_2), s/veh		1.1	0.1	11.1	0.6		5.0		0.2			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		22.9	14.9	42.6	5.8		44.5		24.8			
Level of Service (LOS)		C	B	D	A		D		C			
Approach Delay, s/veh / LOS	21.7	C		14.9	B		35.6	D		0.0		
Intersection Delay, s/veh / LOS	20.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.34	A	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.96	B	1.57	B		F		A

HCS7 Signalized Intersection Results Summary

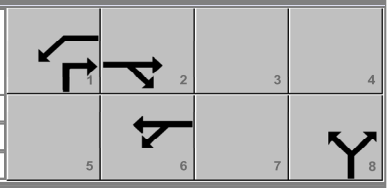
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Entrance A	File Name	Main Entrance 2028 PM.xus		
Project Description	PM 2028 Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1415	226	186	1573		226		186			

Signal Information			
Cycle, s	83.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.6	46.0	15.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	0.0	0.0	0.0
Red	1.0	1.0	1.0	0.0	0.0	0.0



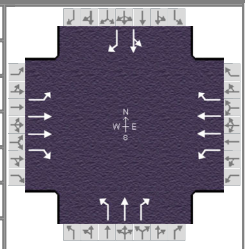
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6		8		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		51.0	12.6	63.6		20.0		
Change Period, ($Y+R_c$), s		5.0	5.0	5.0		5.0		
Max Allow Headway (*MAH*), s		2.9	3.0	2.9		3.3		
Queue Clearance Time (g_s), s		35.6	7.4	33.5		13.7		
Green Extension Time (g_e), s		9.8	0.2	11.2		0.7		
Phase Call Probability		1.00	0.99	1.00		1.00		
Max Out Probability		0.14	0.02	0.48		0.03		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6		3		18			
Adjusted Flow Rate (*v*), veh/h		1572	246	207	1748		251		201			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1668	1327	1739	1568		1724		1507			
Queue Service Time (g_s), s		33.6	8.6	5.4	31.5		11.7		9.4			
Cycle Queue Clearance Time (g_c), s		33.6	8.6	5.4	31.5		11.7		9.4			
Green Ratio (*g/C*)		0.55	0.55	0.67	0.70		0.18		0.27			
Capacity (*c*), veh/h		1834	730	248	2199		309		412			
Volume-to-Capacity Ratio (*X*)		0.857	0.337	0.832	0.795		0.812		0.488			
Back of Queue (*Q*), ft/ln (95 th percentile)		423	98	112	328.5		224.7		151.9			
Back of Queue (*Q*), veh/ln (95 th percentile)		15.7	3.8	4.3	12.2		8.6		5.8			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.42	0.56	0.32	0.33		0.86		0.58			
Uniform Delay (d_1), s/veh		16.0	10.4	22.4	8.4		33.0		25.7			
Incremental Delay (d_2), s/veh		0.5	0.1	5.4	3.1		3.3		0.3			
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		16.5	10.5	27.8	11.5		36.3		26.0			
Level of Service (LOS)		B	B	C	B		D		C			
Approach Delay, s/veh / LOS	15.7	B		13.2	B		31.7	C		0.0		
Intersection Delay, s/veh / LOS	16.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.34	A	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.99	B	2.10	B		F		A

HCS7 Signalized Intersection Results Summary

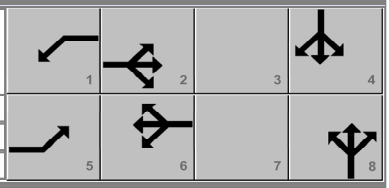
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope 2028 Buildout AM.xus		
Project Description	AM 2028 Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	1231	33	122	923	34	57	62	148	48	51	95

Signal Information			
Cycle, s	79.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	1.0	36.3	7.0	11.0	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



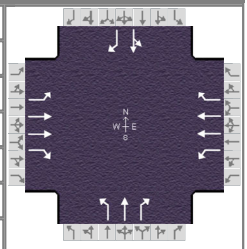
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	9.0	41.3	10.0	42.3		16.0		12.0
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.3		3.3
Queue Clearance Time (g_s), s	3.7	31.8	5.2	20.6		10.1		7.2
Green Extension Time (g_e), s	0.0	4.5	0.0	0.0		0.1		0.0
Phase Call Probability	0.80	1.00	0.95	1.00		1.00		0.99
Max Out Probability	1.00	0.03	1.00	1.00		1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	72	1368	31	136	1026	32	63	69	159		110	100
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1325	1739	1668	1325	1739	1826	1500		1783	1484
Queue Service Time (g_s), s	1.7	29.8	1.0	3.2	18.6	1.0	2.6	2.7	8.1		4.8	5.2
Cycle Queue Clearance Time (g_c), s	1.7	29.8	1.0	3.2	18.6	1.0	2.6	2.7	8.1		4.8	5.2
Green Ratio (*g/C*)	0.51	0.46	0.46	0.52	0.47	0.47	0.14	0.14	0.14		0.09	0.09
Capacity (*c*), veh/h	246	1529	607	186	1571	624	240	252	207		157	131
Volume-to-Capacity Ratio (*X*)	0.294	0.894	0.051	0.728	0.653	0.052	0.263	0.273	0.766		0.699	0.763
Back of Queue (*Q*), ft/ln (95 th percentile)	26.2	405.6	12.6	68.6	286.9	13.8	49.5	53.9	162.8		115.5	120.7
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	15.0	0.5	2.6	10.6	0.5	1.9	2.1	6.3		4.4	4.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.13	0.41	0.13	0.34	0.29	0.14	0.25	0.05	1.63		0.12	1.21
Uniform Delay (d_1), s/veh	12.8	19.7	11.9	17.4	16.0	11.4	30.5	30.6	32.9		35.1	35.3
Incremental Delay (d_2), s/veh	0.2	0.8	0.0	8.6	2.1	0.2	0.2	0.2	11.5		11.0	20.9
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	13.0	20.5	11.9	26.0	18.2	11.5	30.8	30.8	44.4		46.1	56.2
Level of Service (LOS)	B	C	B	C	B	B	C	C	D		D	E
Approach Delay, s/veh / LOS	19.9	B		18.9	B		38.2	D		50.9	D	
Intersection Delay, s/veh / LOS	23.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.70	B	1.47	A	0.97	A	0.83	A

HCS7 Signalized Intersection Results Summary

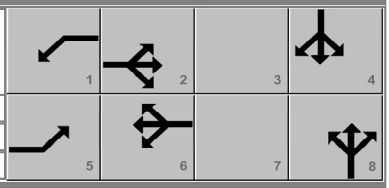
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Pope/ W. County Line R…	File Name	Pope 2028 Buildout PM.xus		
Project Description	PM 2028 Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	1211	91	170	1514	63	80	70	109	52	124	113

Signal Information			
Cycle, s	97.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.7	4.0	42.9	13.9	11.0	0.0
Yellow	4.0	0.0	4.0	4.0	4.0	0.0
Red	1.0	0.0	1.0	1.0	1.0	0.0



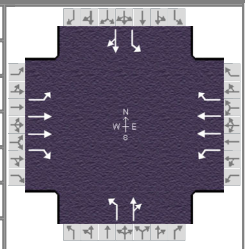
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		9.0		11.0
Phase Duration, s	10.7	47.9	14.7	51.9		16.0		18.9
Change Period, ($Y+R_c$), s	5.0	5.0	5.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	3.0	2.9		3.2		3.2
Queue Clearance Time (g_s), s	5.7	39.5	9.2	49.8		9.4		12.3
Green Extension Time (g_e), s	0.2	2.8	0.3	0.0		0.6		0.6
Phase Call Probability	0.94	1.00	0.99	1.00		1.00		1.00
Max Out Probability	0.00	0.65	0.00	1.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	104	1346	96	189	1682	64	89	78	116		196	120
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1324	1739	1668	1325	1739	1826	1494		1799	1501
Queue Service Time (g_s), s	3.7	37.5	4.3	7.2	47.8	2.6	4.7	3.9	7.4		10.3	7.4
Cycle Queue Clearance Time (g_c), s	3.7	37.5	4.3	7.2	47.8	2.6	4.7	3.9	7.4		10.3	7.4
Green Ratio (*g/C*)	0.51	0.44	0.44	0.56	0.48	0.48	0.11	0.11	0.11		0.14	0.14
Capacity (*c*), veh/h	140	1469	583	234	1610	640	197	207	169		257	214
Volume-to-Capacity Ratio (*X*)	0.748	0.916	0.164	0.808	1.045	0.101	0.451	0.376	0.683		0.762	0.561
Back of Queue (*Q*), ft/ln (95 th percentile)	71.3	571.5	57.4	205.8	911	36.5	94.8	82	128.6		211.5	127.3
Back of Queue (*Q*), veh/ln (95 th percentile)	2.7	21.2	2.2	7.9	33.7	1.4	3.6	3.2	4.9		8.1	4.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.36	0.57	0.57	1.03	0.91	0.36	0.47	0.08	1.29		0.21	1.27
Uniform Delay (d_1), s/veh	27.7	26.0	16.7	28.4	25.6	13.9	41.0	40.6	42.2		40.8	39.5
Incremental Delay (d_2), s/veh	3.0	7.4	0.0	2.5	35.2	0.3	0.6	0.4	1.8		1.8	0.9
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	30.6	33.3	16.8	30.9	60.8	14.2	41.6	41.1	44.0		42.6	40.4
Level of Service (LOS)	C	C	B	C	F	B	D	D	D		D	D
Approach Delay, s/veh / LOS	32.1	C		56.3	E		42.4	D		41.8	D	
Intersection Delay, s/veh / LOS	45.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.91	B	2.48	B	2.46	B
Bicycle LOS Score / LOS	1.76	B	2.08	B	0.95	A	1.01	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Old Lee Rd Enhanced	File Name	Old Lee PM 2028 Signalized.xus		
Project Description	AM 2028 Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	124	1423	4	0	1695	43	0	0	6	16	1	199

Signal Information			
Cycle, s	0.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	0.0	0.0	0.0	0.0	0.0	0.0		5	6	7	8	
Yellow	0.0	0.0	0.0	0.0	0.0	0.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						

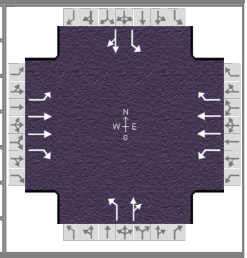
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	0.0	0.0	0.0	0.0		0.0		0.0
Phase Duration, s	0.0	0.0	0.0	0.0		0.0		0.0
Change Period, ($Y+R_c$), s	0.0	0.0	0.0	0.0		0.0		0.0
Max Allow Headway (*MAH*), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Clearance Time (g_s), s	0.0	0.0	0.0	0.0		0.0		0.0
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0		0.0		0.0
Phase Call Probability	0.00	0.00	0.00	0.00		0.00		0.00
Max Out Probability	0.00	0.00	0.00	0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	0	0	0	0	0	0	0	0		0	0	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	0	0	0	0	0	0	0	0		0	0	
Queue Service Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Cycle Queue Clearance Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Green Ratio (*g/C*)												
Capacity (*c*), veh/h	0	0	0	0	0	0	0	0		0	0	
Volume-to-Capacity Ratio (*X*)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	
Back of Queue (*Q*), ft/ln (95 th percentile)	0	0	0	0	0	0	0	0		0	0	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Incremental Delay (d_2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Level of Service (LOS)												
Approach Delay, s/veh / LOS	0.0			0.0			0.0			0.0		
Intersection Delay, s/veh / LOS	0.0						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.00	A	0.00	A	0.00	A	0.00	A
Bicycle LOS Score / LOS	0.00	A	0.00	A	0.00	A	0.00	A

HCS7 Signalized Intersection Results Summary

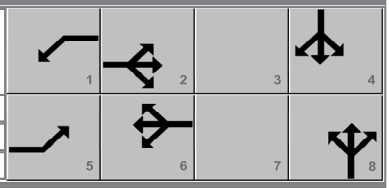
General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Old Lee Rd Enhanced	File Name	Old Lee AM 2028 Signalized.xus		
Project Description	AM 2028 Buildout Conditions				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	191	1445	4	0	898	20	0	0	0	24	0	96

Signal Information			
Cycle, s	131.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.8	98.0	12.4	0.0	0.0	0.0						
Yellow	4.0	4.0	4.0	0.0	0.0	0.0						
Red	1.0	1.0	1.0	0.0	0.0	0.0						



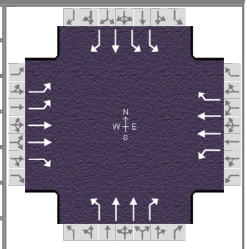
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		10.0		10.0
Phase Duration, s	10.8	113.8	0.0	103.0		0.0		17.4
Change Period, ($Y+R_c$), s	5.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	2.9	0.0	2.9		0.0		3.4
Queue Clearance Time (g_s), s	5.5	22.8		16.2				11.2
Green Extension Time (g_e), s	0.3	0.0	0.0	9.4		0.0		0.3
Phase Call Probability	1.00	1.00		1.00				0.99
Max Out Probability	0.00	1.00		0.00				0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	212	1606	4	0	998	22	0	0		27	107	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1739	1668	1330	1739	1668	1330	1725	1547		1753	1487	
Queue Service Time (g_s), s	3.5	20.8	0.1	0.0	14.2	0.6	0.0	0.0		1.8	9.2	
Cycle Queue Clearance Time (g_c), s	3.5	20.8	0.1	0.0	14.2	0.6	0.0	0.0		1.8	9.2	
Green Ratio (*g/C*)	0.81	0.83	0.83	0.72	0.75	0.75	0.02	0.02		0.09	0.09	
Capacity (*c*), veh/h	456	2765	1103	230	2490	993	1			166	141	
Volume-to-Capacity Ratio (*X*)	0.465	0.581	0.004	0.000	0.401	0.022	0.000	0.000		0.160	0.756	
Back of Queue (*Q*), ft/ln (95 th percentile)	40.8	205.2	0.6	0	204.1	6.5	0	0		37.4	166.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.6	7.6	0.0	0.0	7.6	0.3	0.0	0.0		1.5	6.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.14	0.21	0.01	0.00	0.20	0.07	0.00	0.00		0.19	0.17	
Uniform Delay (d_1), s/veh	4.4	3.7	1.9	0.0	6.0	4.3	0.0			54.6	57.9	
Incremental Delay (d_2), s/veh	0.3	0.2	0.0	0.0	0.5	0.0	0.0	0.0		0.2	3.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	4.7	3.9	1.9	0.0	6.5	4.3	0.0			54.8	61.0	
Level of Service (LOS)	A	A	A		A	A				D	E	
Approach Delay, s/veh / LOS	4.0	A		6.4	A		0.0			59.8	E	
Intersection Delay, s/veh / LOS	7.3						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.82	B	1.86	B	2.48	B	2.48	B
Bicycle LOS Score / LOS	1.99	B	1.33	A	0.49	A	0.71	A

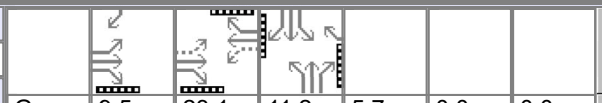
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	AM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd Buildout AM w Improve.xus		
Project Description	AM Buildout Conditions w/Improvements				

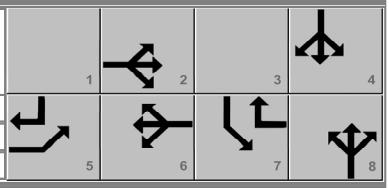


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	135	1166	71	46	807	325	30	29	18	353	27	87

Signal Information										
Cycle, s	69.5	Reference Phase	2							
Offset, s	0	Reference Point	Begin							
Uncoordinated	Yes	Simult. Gap E/W	On							
Force Mode	Fixed	Simult. Gap N/S	On							



Green	9.5	23.1	11.2	5.7	0.0	0.0
Yellow	4.0	4.0	4.0	4.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



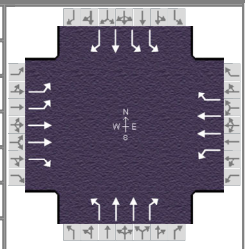
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		4
Case Number	1.0	3.0		5.3		9.0		9.0
Phase Duration, s	14.5	42.5		28.1		10.7		16.2
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.1		3.1		3.1		3.2
Queue Clearance Time (*g s*), s	3.6	22.3		19.1		3.2		9.5
Green Extension Time (*g e*), s	0.1	0.0		4.0		0.0		1.1
Phase Call Probability	0.94	1.00		1.00		0.79		1.00
Max Out Probability	0.01	1.00		0.21		0.02		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	150	1296	73	51	897	356	33	32	14	392	30	91
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1668	1342	415	1668	1338	1781	1738	1483	1730	1826	1541
Queue Service Time (*g s*), s	1.6	20.3	1.8	7.3	17.1	12.7	1.2	0.6	0.6	7.5	1.0	3.1
Cycle Queue Clearance Time (*g c*), s	1.6	20.3	1.8	13.2	17.1	12.7	1.2	0.6	0.6	7.5	1.0	3.1
Green Ratio (*g/C*)	0.50	0.54	0.54	0.33	0.33	0.49	0.08	0.08	0.08	0.16	0.16	0.30
Capacity (*c*), veh/h	669	1802	725	155	1109	666	147	286	122	560	296	465
Volume-to-Capacity Ratio (*X*)	0.224	0.719	0.101	0.330	0.809	0.534	0.227	0.113	0.118	0.701	0.102	0.196
Back of Queue (*Q*), ft/ln (95 th percentile)	22.8	268.1	19.5	30.9	263.6	143.2	23.3	11.2	10.2	134.6	18.9	46.6
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	9.9	0.8	1.2	9.8	5.5	0.9	0.4	0.4	5.3	0.7	1.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.08	0.27	0.10	0.10	0.26	0.14	0.12	0.01	0.10	0.67	0.02	0.47
Uniform Delay (*d 1*), s/veh	12.2	12.0	7.8	22.4	21.2	12.1	29.9	29.6	29.6	27.6	24.8	18.2
Incremental Delay (*d 2*), s/veh	0.1	1.2	0.0	0.5	0.5	0.2	0.3	0.1	0.2	0.6	0.1	0.1
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	12.2	13.3	7.8	22.9	21.8	12.4	30.1	29.6	29.7	28.2	24.9	18.3
Level of Service (LOS)	B	B	A	C	C	B	C	C	C	C	C	B
Approach Delay, s/veh / LOS	12.9	B		19.2	B		29.9	C		26.2	C	
Intersection Delay, s/veh / LOS	17.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.40	B	2.43	B	2.47	B	2.59	C
Bicycle LOS Score / LOS	1.74	B	1.56	B	0.55	A	1.33	A

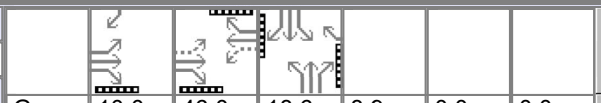
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	ABE Consulting			Duration, h	0.250
Analyst	RWS	Analysis Date	Feb 20, 2022	Area Type	Other
Jurisdiction	Douglas County	Time Period	PM	PHF	0.90
Urban Street	SR 92	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Lee Rd	File Name	Lee Rd Buildout PM w Improve.xus		
Project Description	PM Buildout Conditions w/Improvements				

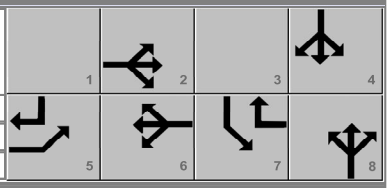


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	264	1061	81	82	1334	324	90	53	52	464	58	106

Signal Information			
Cycle, s	103.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	10.0	46.0	18.6	8.9	0.0	0.0
Yellow	4.0	4.0	4.0	4.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		4
Case Number	1.0	3.0		5.3		9.0		9.0
Phase Duration, s	15.0	66.0		51.0		13.9		23.6
Change Period, (*Y+R c*), s	5.0	5.0		5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.0	3.1		3.1		3.2		3.2
Queue Clearance Time (*g s*), s	8.6	25.3		48.0		7.6		16.9
Green Extension Time (*g e*), s	0.1	0.0		0.0		0.1		1.5
Phase Call Probability	1.00	1.00		1.00		1.00		1.00
Max Out Probability	1.00	1.00		1.00		0.83		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	293	1179	84	91	1482	354	100	59	52	516	64	112
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1689	1668	1342	464	1668	1340	1781	1738	1483	1730	1826	1543
Queue Service Time (*g s*), s	6.6	23.3	2.9	16.1	46.0	14.0	5.6	1.6	3.5	14.9	3.1	5.9
Cycle Queue Clearance Time (*g c*), s	6.6	23.3	2.9	24.4	46.0	14.0	5.6	1.6	3.5	14.9	3.1	5.9
Green Ratio (*g/C*)	0.56	0.59	0.59	0.44	0.44	0.62	0.09	0.09	0.09	0.18	0.18	0.28
Capacity (*c*), veh/h	396	1964	791	204	1482	841	154	300	128	622	329	431
Volume-to-Capacity Ratio (*X*)	0.742	0.600	0.107	0.447	1.000	0.421	0.651	0.196	0.408	0.828	0.196	0.261
Back of Queue (*Q*), ft/ln (95 th percentile)	180.7	327.8	35	79.6	782.9	164.3	117.8	32.7	60	264.7	64.5	98.6
Back of Queue (*Q*), veh/ln (95 th percentile)	6.9	12.1	1.3	3.1	29.0	6.3	4.6	1.3	2.3	10.4	2.5	3.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.60	0.33	0.18	0.27	0.78	0.16	0.59	0.03	0.60	1.32	0.06	0.99
Uniform Delay (*d 1*), s/veh	33.7	13.5	9.3	26.1	28.8	9.9	45.8	44.0	44.8	40.9	36.1	29.2
Incremental Delay (*d 2*), s/veh	6.5	0.4	0.0	0.6	23.5	0.1	2.9	0.1	0.8	1.1	0.1	0.1
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	40.1	13.9	9.4	26.7	52.3	10.1	48.7	44.1	45.6	42.0	36.2	29.4
Level of Service (LOS)	D	B	A	C	F	B	D	D	D	D	D	C
Approach Delay, s/veh / LOS	18.6	B		43.3	D		46.6	D		39.4	D	
Intersection Delay, s/veh / LOS	34.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.40	B	2.43	B	2.48	B	2.61	C
Bicycle LOS Score / LOS	1.77	B	2.08	B	0.66	A	1.63	B