

### TRAFFIC IMPACT STUDY

Residential Development Grover's Mill Road Lawrence, New Jersey

BE: 21-210TR

March 19, 2024 Revised May 1, 2025

PREPARED FOR:

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# Residential Development Grover's Mill Road Lawrence, New Jersey

BE: 21-210TR

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### **ATTACHMENTS**

Level of Service Worksheets (33 Sheets)

ITE Data (6 Sheets)

Traffic Counts (6 Sheets)

### Residential Development Grover's Mill Road Lawrence, New Jersey BE: 21-210TR

### 1.0 Introduction

This report addresses the traffic impact associated with the development of a proposed residential development by Tricone Company. The site is located on the north side of Grovers Mill Road at the intersection with the Mall Access Road in the Township of Lawerence, Mercer County, New Jersey.

The traffic impact study includes:

- (a) An inventory of the existing roads and traffic controls;
- (b) Traffic counts at the Grovers Mill Road Mall Access Road intersection & the Mall Access Road Outer Ring Road intersection to determine the existing traffic in the area:
- (c) An estimate of the traffic to be generated by the project; and
- (d) An analysis of the impact this traffic will have on local traffic.

### 2.0 Site

- 2.1 The site is located in the AT-3 (Apartment & Township Residential) Zone of the Township of Lawrence. The land uses in the area are a combination of residential and commercial, including the "Quaker Bridge Mall" to the north, car dealerships along Route 1 to the west and residential developments to the east.
- 2.2 The property is located on the north side of Grovers Mill Road as seen below.

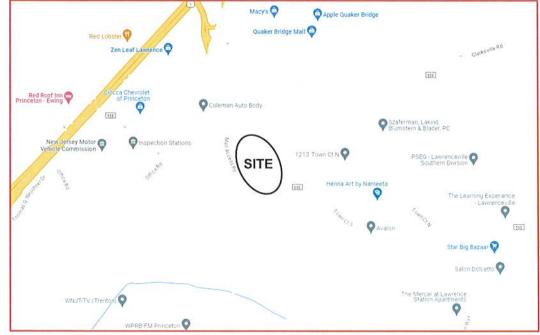


Figure 1 - Street Location

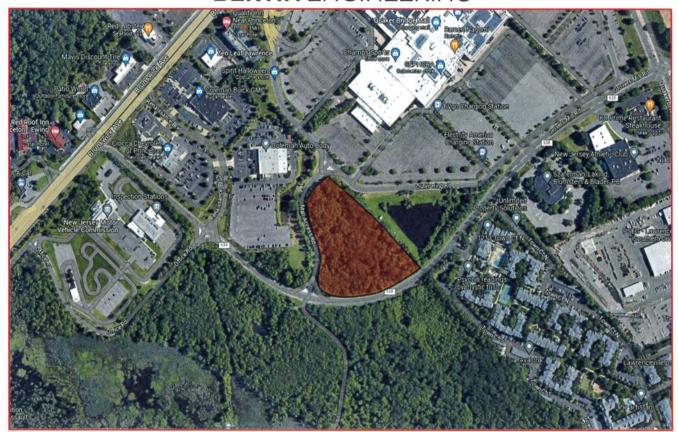


Figure 2 - Aerial

- 2.3 The property is currently vacant and entirely wooded. The site is 6.86 acres in area with approximately 600 feet of frontage along Grovers Mill Road and approximately 630 feet of frontage along Mall Access Road.
- 2.4 Bus stops are available in the area on Grover's Mill Road to the east of the site and at the Quaker Bridge Mall to the north of the site. School bus routes currently travel along Grover's Mill Road.
- 2.5 The rationale for choosing this area is that the location is consistent with existing residential uses in the area and has convenient access to nearby transit via bus stops and close proximity to major highways.

# 3.0 Roadways

- 3.1 Grovers Mill Road (County Route 638) is a county roadway that travels in a general east-west direction. It contains one travel lane in each direction separated by a solid yellow double line. There is no curbing or sidewalks on either side of the roadway and the posted speed limit is 40 MPH in the vicinity of the site.
- 3.2 Mall Access Road is a local roadway that runs from Grovers Mill Road to the south to Outer Ring Road of the Quaker Bridge Mall to the north. It contains one lane in each direction separated by a solid yellow double line. There is curbing with no sidewalks along both sides of the road and the posted speed limit is 25 MPH in the vicinity of the site.

- 3.3 Outer Ring Road is a private roadway that circulates around the "Quaker Bridge Mall" to the north of the site. It contains two lanes in each direction separated by a solid yellow double line. There is curbing with no sidewalks along both sides of the road and the posted speed limit is 25 MPH in the vicinity of the site.
- The Grovers Mill Road Mall Access Road intersection is a stop-controlled intersection located to southwest of the site with the Mall Access Road acting as the minor roadway approach. The Grovers Mill Road eastbound approach contains two approach lanes including a left-turn only lane and a thru lane. The Grovers Mill Road westbound approach contains one shared thru-right turn lane. The Mall Access Road approach contains two approach lanes including a left-turn only lane and a right-turn only lane.
- 3.5 The Mall Access Road Outer Ring Road intersection is a stop-controlled intersection located northwest of the site with the Mall Access Road acting as the minor roadway approach. The Outer Ring Road eastbound approach contains two approach lanes including a shared right-turn/thru lane and a thru only lane. The Outer Ring Road westbound approach contains two approach lanes including a shared left-turn/thru lane and a thru only lane. The Mall Access Road approach contains two approach lanes including a left-turn only lane and a right-turn only lane.

### 4.0 Traffic Activity

A study of traffic activity was conducted at the Grovers Mill Road – Mall Access Road intersection. Traffic was observed and counted on Thursday, December 12, 2024, during the morning peak period between the hours of 7:00 AM and 9:00 AM and the evening peak period between the hours of 4:00 PM and 6:00 PM. Traffic was also observed and counted on Saturday, December 14, 2024, during the weekend peak period between the hours of 11:00 AM and 1:00 PM. The traffic activity for the weekday morning, weekday evening and weekend are summarized in the following table. The traffic count sheets are attached, and the peak-hour traffic volume is shown in Figure 3.

GROVERS	S MILL R		ALL ACC k-Hour Tr		D INTERSI	ECTION
		Grovers N	Aill Road		Mall Acc	cess Road
Peak Hour	Eastl	bound	West	bound	Sout	hbound
	Left	Thru	Thru	Right	Left	Right
AM (7:30-8:30)	27	505	54	48	7	26
PM (4:45-5:45)	84	621	36	81	55	31
SAT (11:15-12:15	146	407	70	46	49	34

- 4.2 The majority of traffic travels on Grovers Mill Road eastbound with the greater volume in the PM peak-hour. Mall Access Road was found to have more volume in the PM & SAT peak-hours. The maximum observed queue on the southbound approach of Mall Access Road was 2-3 vehicles.
- A study of traffic activity was also conducted at the Mall Access Road Outer Ring Road intersection. Traffic was observed and counted on Thursday, December 12, 2024 & Saturday, December 14, 2024 during the same time frames as the Grovers Mill Road Mall Access Road intersection. The traffic activity for the weekday morning, weekday evening and weekend are summarized in the following table. The traffic count sheets are attached, and the peak-hour traffic volume is shown in Figure 3.

		Outer Rin	g Road		Mall Acc	ess Road
Peak Hour	Easti	bound	West	bound	North	nbound
	Thru	Right	Left	Thru	Left	Right
AM (8:00-9:00)	27	32	7	31	74	10
PM (4:15-5:15)	68	46	25	196	127	56
SAT (12:00-1:00)	98	53	28	114	94	108

4.4 During the weekday, the majority of traffic on Mall Access Road eastbound turns left onto Outer Ring Road with a greater volume in the PM peak-hour. During the weekend, the distribution is more balanced with slightly more vehicles turning right in the SAT peak-hour.

The majority of traffic on Outer Ring Road travels eastbound in the AM peak-hour and westbound in the PM peak-hour. The maximum observed queue on the northbound approach of Mall Access Road was 2-3 vehicles.

- 4.5 There was minimal truck traffic observed with more volume in the morning. At the AM peak-hour, a total of 45 trucks were observed at the Grovers Mill Road–Mall Access Road intersection and a total of 14 trucks were observed at the Mall Access Road–Outer Ring Road intersection.
- 4.6 There was minimal pedestrian traffic during the studied time periods with one pedestrian observed crossing Mall Access Road in the AM peak hour.

### 5.0 Proposed Development

5.1 The applicant proposes to construct five (5) residential buildings at the project site including multi-family apartment buildings and townhouse buildings. There will be two (2) 4-story buildings and three (3) 3-story buildings and a total of 100 units are proposed within the development.

There is parking provided in front of the proposed buildings as well as garage parking located under two (2) multi-family apartment buildings.

- 5.2 The site will have two access driveways along the Mall Access Road including a right-turn only ingress and egress driveway closest to Grovers Mill Road and a full movement driveway closest to the Outer Ring Road.
- 5.3 Trash rooms are provided near the garage entrance for both apartment buildings to be picked up by a private hauler.
- 5.4 The development will also include a proposed pool with pool house and dog run located in the center of the property across from the southern apartment building.

### 6.0 Site Circulation & Pedestrian Access

- The proposed interior parking aisles will be 24 feet wide for two-way traffic to provide adequate circulation and the proposed parking spaces will be 9 feet x18 feet.
- 6.2 The site circulation complies with the Lawrence Township Master Plan as the layout was designed to provide efficient movements of people and goods. Private garbage haulers can safely circulate the site for trash pick-up during non-peak traffic hours.
- 6.3 Sidewalks which are 5 feet wide are proposed from Mall Access Road that access the building entrances of the multi-family apartment buildings. Interior crosswalks are also provided which access the interior townhouses.

### 7.0 Parking

7.1 The Township of Lawrence zoning ordinance requires 1.8 spaces for every 1-Bedroom apartment unit, 2.0 spaces for every 2-Bedroom apartment unit and 2.1 spaces for every 3-Bedroom apartment unit. The total number of spaces required by ordinance is calculated below:

1-Bedroom (18 Units) = 18 x 1.8 = 32 spaces 2-Bedroom (46 Units) = 46 x 2.0 = 92 spaces 3-Bedroom (20 Units) = 20 x 2.1 = 42 spaces 166 spaces required

- 7.2 There will be a total of <u>150 parking spaces</u> provided for the apartment buildings included 45 spaces for the northernmost Building 'A' (22 surface spaces and 23 garage spaces), 77 parking spaces for the southernmost Building 'F' (44 surface spaces and 33 garage spaces) and 28 spaces for the centermost Building 'D'.
- 7.3 The ADA requires 5 accessible parking spaces for lots from 101 to 150 spaces. Five (5) accessible handicap spaces are provided, which are located within both parking garages and in front of the proposed pool.
- 7.4 The Township of Lawrence zoning ordinance requires 2.4 spaces for each townhouse unit for a total of 39 parking spaces. Each proposed townhouse will provide 2 garage spaces and 1 driveway space for a total of 48 parking spaces provided for the 16 proposed townhouse units.
- 7.5 There will be 21 electric vehicle supply equipment (EVSE) spaces proposed and according to recent state legislature, EV spaces shall be counted as 2 for the purpose of complying with the required parking resulting in no more than 10% of required.

When accounting for this, 13 of the EVSE can be counted as 2, which will bring the total amount of parking required down to 192 parking spaces, where 198 parking spaces are provided in total.

### 8.0 <u>Traffic Generation and Distribution</u>

8.1 The amount of traffic to be generated has been determined from data published in the <u>TRIP GENERATION</u>, 11th Edition manual, published by the Institute of Transportation Engineers (ITE). "Multifamily Housing (Low-Rise)" (Land Use Code 220) & "Multifamily Housing (Mide-Rise)" (Land Use Code 221) will be used for the proposed use and the table below shows the anticipated traffic to be generated by the proposed development during the weekday & weekend peak-hours.

		SITE C	ENERAT	ED TRA	AFFIC				
Land Use	A	M Peak	Hour	PM Peak Hour			SAT Peak Hour		
Land Ose	In	Out	Total	In	Out	Total	In	Out	Total
Multi-Family Residential (Mid-Rise) (70 Units)	6	19	25	17	10	27	14	13	27
Multi-Family Residential (Low-Rise) (30 Units)	3	11	14	11	6	17	6	6	12
Total Trips Generated	9	30	39	28	16	44	20	19	39

8.2 The site-generated traffic has been dispersed onto Mall Access Road as per the existing traffic distribution and the anticipated movements and is shown in **Figure 4A & 4B**.

8.3 Since the Outer Ring Road is a private road owned by the mall, analysis has been performed under the scenario that this roadway can be accessed by the proposed trips (Figure 4A) and the scenario where Outer Ring Road cannot be accessed by the proposed trips (Figure 4B).

### 9.0 Traffic Impact

9.1 It is anticipated that the residential development will be completed in 2028, the "Build-Year". The traffic growth rate used by the NJDOT for this area is 1.0% per year. The "No Build Year" traffic is shown on **Figure 5** and the combined site-generated and "No Build Year" traffic, which is the "Build-Year Traffic", is shown on **Figure 6A & 6B**.

The "Build-Year Traffic" has been analyzed under the two scenarios described in Section 8.3 above. The first scenario is proposed site traffic having the ability to use Outer Ring Road to access the development (Figure 6A) and the second scenario is proposed site traffic having no access to Outer Ring Road and all trips to utilize Grovers Mill Road (Figure 6B).

9.2 A capacity analysis has been performed to determine the operating conditions, or Level of Service (LOS), at the Grovers Mill Road – Mall Access Road intersection during existing conditions, "no build-year" conditions, and both "build-year" traffic conditions. The results of this analysis are shown in the tables below and the worksheets attached.

				S ROAD INTER		
	Morning F	Peak-Hour	Afternoon	Peak-Hour	Saturday I	Peak-Hour
<u>Approach</u>	Existing	No Build	Existing	No Build	Existing	No Build
Southbound (Mall Access Road)	B (10.0 sec.)	B (10.1 sec.)	C (16.0 sec.)	C (16.7 sec.)	C (15.9 sec.)	C (16.7 sec.)
Eastbound (Grovers Mill Road)	A (0.4 sec.)	A (0.4 sec.)	A (0.9 sec.)	A (0.9 sec.)	A (2.1 sec.)	A (2.1 sec.)

	GROVE			SS ROAD INTER sis – <b>Build-Year</b>	SECTION	
	Morning H	Peak-Hour	Afternoon	Peak-Hour	Saturday i	Peak-Hour
<u>Approach</u>	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)
Southbound (Mall Access Road)	B (10.6 sec.)	B (11.0 sec.)	C (17.6 sec.)	C (18.0 sec.)	C (17.4 sec.)	C (17.8 sec.)
Eastbound (Grovers Mill Road)	A (0.4 sec.)	A (0.4 sec.)	A (1.0 sec.)	A (1.0 sec.)	A (2.2 sec.)	A (2.2 sec.)

<sup>\*</sup>Build-Year Analysis With & Without Proposed Trip Access to Outer Ring Road (O.R.R.)

- 9.3 The LOS of the Grovers Mill Road Mall Access Road intersection is not significantly impacted by the site-generated traffic with no approach LOS impact with the additional of the site generated trips. The Mall Access Road approach delay increased by 0.5 seconds in the AM peak hour, 0.9 seconds in the PM peak hour and 0.7 seconds in the SAT peak hour.
- 9.4 The LOS will also remain the same for all approaches without access to Outer Ring Road with a Mall Access Road approach delay increase of 0.9 seconds in the AM peak hour, 1.3 seconds in the PM peak hour and 1.1 seconds in the SAT peak hour.
- 9.5 An access driveway to a broadcasting station exists on the south side of the intersection, which was not utilized during the site investigation and, therefore, not included in the analysis.
- 9.6 A capacity analysis has been performed to determine the operating conditions, or Level of Service (LOS), at the Outer Ring Road Mall Access Road intersection during existing conditions, "no build-year" conditions, and "build-year" traffic conditions. The results of this analysis are shown in the table below and the worksheets attached.

	OUTE	R RING I		MALL ACC			RSECTION		
	Morni	ing Peak			oon Peal		Saturo	day Peak-	-Hour
<u>Approach</u>	Existing	No Build	Build- Year	Existing	No Build	Build- Year	Existing	No Build	Build- Year
Northbound	Α	Α	Α	В	В	В	В	В	В
(Mall Access	(9.2	(9.3	(9.3)	(10.8	(10.9	(11.0	(10.4	(10.5	(10.6
Road)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)
Westbound	Α	Α	Α	Α	Α	Α	A	A	A
(Outer Ring	(1.4	(1.4	(1.4)	(1.0	(1.0	(1.0	(1.6	(1.6	(1.7
Road)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)	sec.)

9.7 The LOS of the Outer Ring Road – Mall Access Road intersection is not significantly impacted by the site-generated traffic and no approach LOS is degraded upon completion of the project. The Mall Access Road approach delay increases by 0.1 seconds in the PM & SAT peak hours.

9.8 A capacity analysis has also been performed at the proposed northernmost site driveway on Mall Access Road during the weekday peak hours under both "Build-Year" conditions and the results are shown in the table below and the worksheets attached.

### Mall Access Road – Proposed Northern Site Driveway Intersection Level of Service (LOS)

(Build-Year 2028)

	AM Pe	eak-Hour	PM Pe	eak-Hour	SAT Peak-Hour	
	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)
Northern Site Driveway (Westbound)	A (9.2 sec)	A (9.3 sec)	B (10.2 sec)	B (10.3 sec)	B (10.5 sec)	B (10.8 sec)
Mall Access Road (Southbound)	A (0.2 sec)	A (0.0 sec)	A (0.4 sec)	A (0.0 sec)	A (0.5 sec)	A (0.0 sec)

<sup>\*</sup>Build-Year Analysis With & Without Proposed Trip Access to Outer Ring Road (O.R.R.)

- 9.9 The LOS of the Mall Access Road Northern Site Driveway Intersection during peak hours will be acceptable upon completion of the project.
- 9.10 A capacity analysis has also been performed at the proposed southernmost site driveway on Mall Access Road during the weekday peak hours under the both "Build-Year" conditions and the results are shown in the table below and the worksheets attached.

## Mall Access Road – Proposed Southern Site Driveway Intersection Level of Service (LOS)

(Build-Year 2028)

	AM Pe	eak-Hour	PM Pe	eak-Hour	SAT Peak-Hour	
	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)	Build-Year *(With O.R.R.)	Build-Year *(Without O.R.R.)
Southern Site Driveway (Westbound)	A (8.7 sec)	A (8.7 sec)	A (9.2 sec)	A (9.2 sec)	A (9.5 sec)	A (9.5 sec)

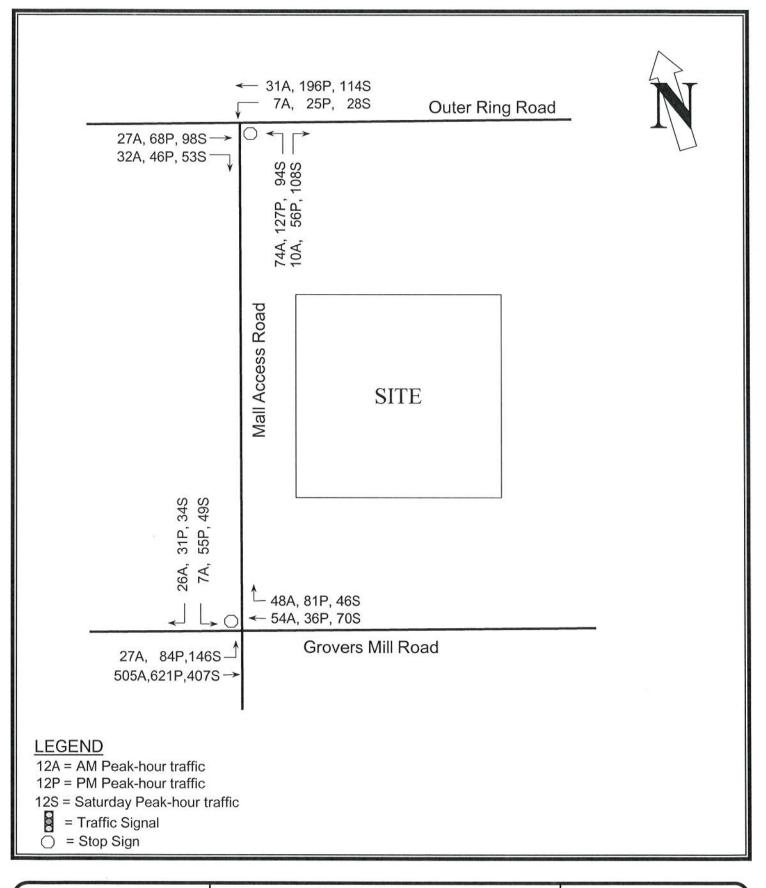
<sup>\*</sup>Build-Year Analysis With & Without Proposed Trip Access to Outer Ring Road (O.R.R.)

9.11 The LOS of the Mall Access Road – Southern Site Driveway Intersection during peak hours will be acceptable upon completion of the project.

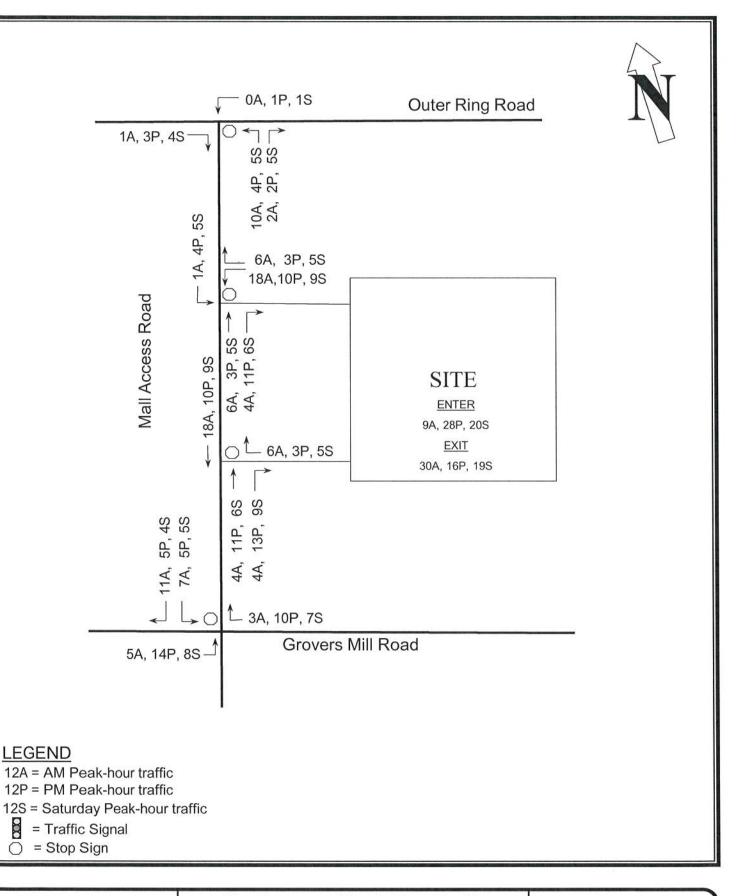
## 10.0 Conclusion

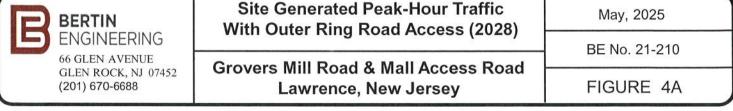
The proposed development will not have a substantial negative impact on area traffic for the reasons discussed in this report and summarized below:

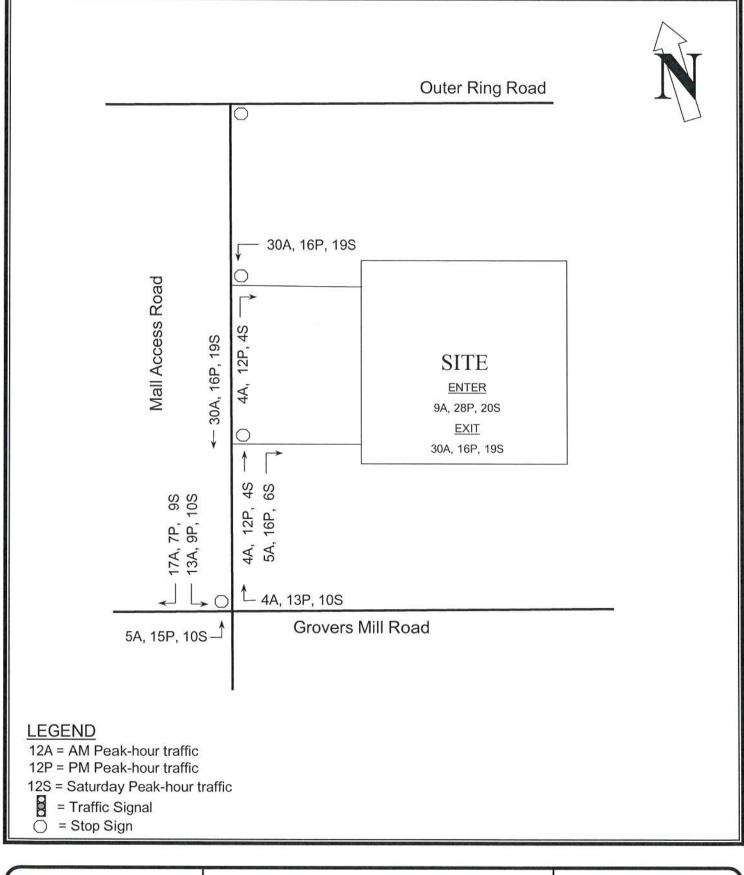
- (a) The proposed residential development is compatible from a traffic generation standpoint with the surrounding properties in the area;
- (b) The proposed access driveways for the site are properly located to provide sufficient sight visibility of the street traffic;
- (c) The on-site vehicular traffic circulation is safe and efficient;
- (d) The proposed sidewalks promote transit use and a reduction in vehicle trips.
- (e) The overall LOS of the intersections studied are adequate upon completion of the project, and
- (f) The LOS of both site driveways are adequate upon completion of the project.



BERTIN	Existing Peak-Hour Traffic (2024)	May, 2025
ENGINEERING 66 GLEN AVENUE	Grovers Mill Road & Mall Access Road	BE No. 21-210
GLEN ROCK, NJ 07452 (201) 670-6688	Lawrence, New Jersey	FIGURE 3

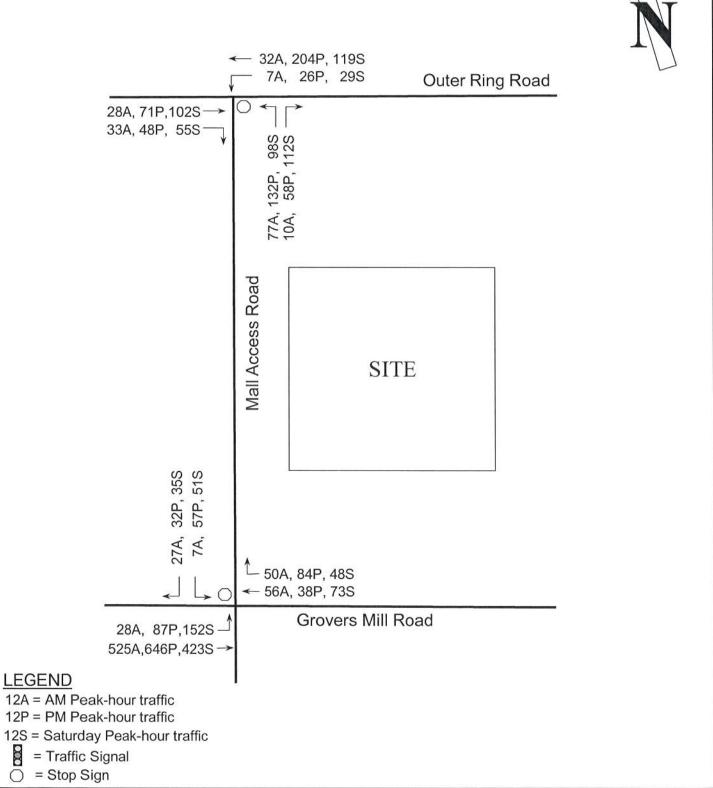






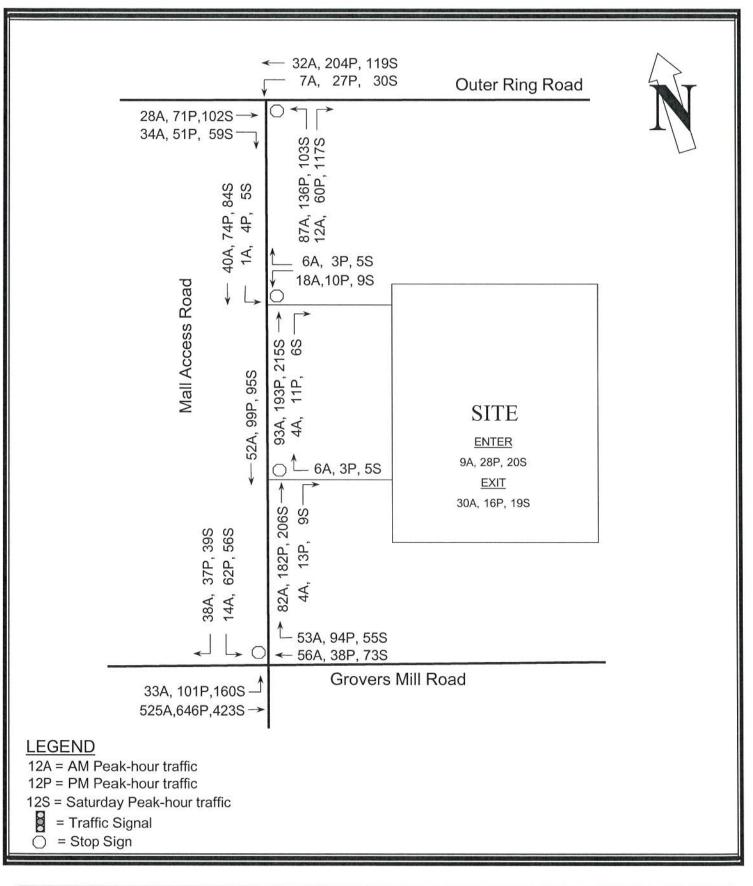




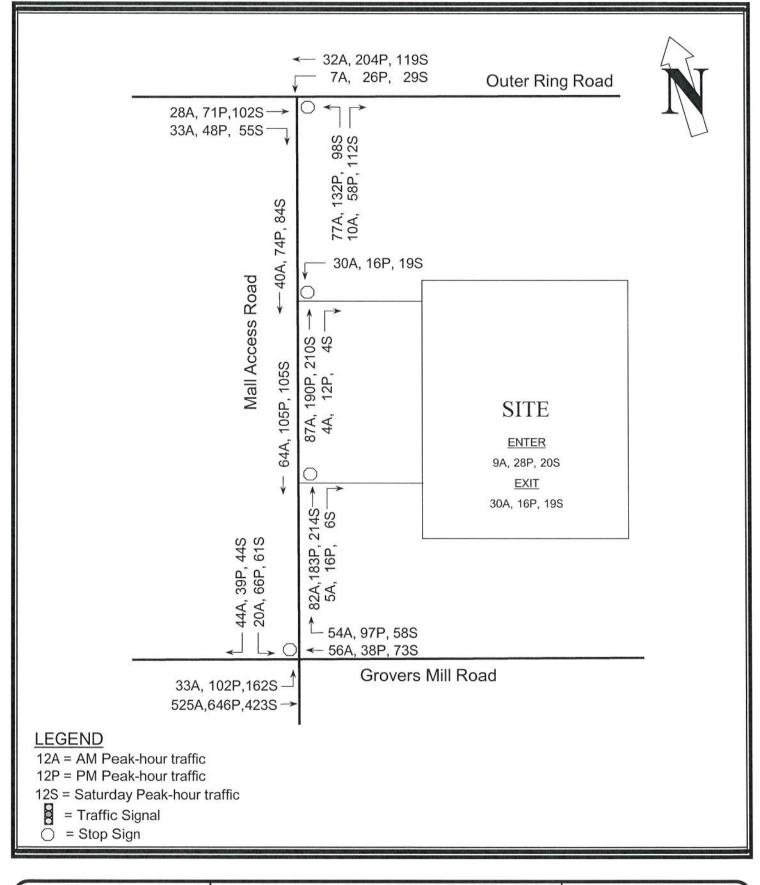


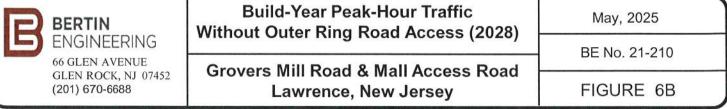
BERTIN	No Build Year Peak-Hour Traffic (1% Increase) (2028)	May, 2025
ENGINEERING 66 GLEN AVENUE	Grovers Mill Road & Mall Access Road	BE No. 21-210
GLEN ROCK, NJ 07452 (201) 670-6688	Lawrence, New Jersey	FIGURE 5

LEGEND

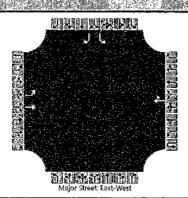






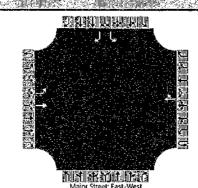


#### Two-Way Stop-Control Report **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Grovers Mill Road Analysis Year 2024 North/South Street Mall Access Road Time Analyzed AM Existing Peak Hour Factor 0.96 Intersection Orientation 1,00 East-West Analysis Time Period (hrs) Project Description Proposed Residential - 21-210



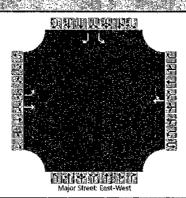
Vehicle Volumes and Adju	istme	nts														
Approach		Easth	ound			West	bound			North	bound	**************************************	**************************************	South	bound	
Movement	Ü	L	Т	: R.	U	L	T	R	U	L	. T	. R	U	L	. T	~ R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	¨ 0	1	1	0	0	0	1.	0		0	0	0		11	0	1
Configuration		L	Т					TR						L	**************************************	R
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Percent Grade (%)		<del></del>	<b></b>											<del></del>	0	
Right Turn Channelized										***************************************	***************************************		***************************************	٨	lo	
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Critical and Follow-up He	adwa	ys														
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Critical Headway (sec)		4.17		•							***************************************		:	6.60	· ·	6.27
Base Follow-Up Headway (sec)	**************************************	2.2								TO HE HE LEWIS MAN	· · · · · · · · · · · · · · · · · · ·			3.5		3.3
Follow-Up Headway (sec)		2;26		<del></del>	HUHI PAMPAN MAN									3.68		3,36
Delay, Queue Length, and	Leve	l of S	ervice					3 (7 %) (1 %								
Flow Rate, v (veh/h)		28			1				1					7		27
Capacity, c (veh/h)	<del></del>	1451						***************************************						391		963
v/c Ratio	· · · · · · · ·	0,02				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		(1)					0.02	<u> </u>	0,03
95% Queue Length, Q <sub>95</sub> (veh)		0.1												0,1	:. 	0.1
95% Queue Length, Q <sub>95</sub> (ft)	*****	2.6							***************************************		***************************************	***************************************	***************************************	2.9		2.6
Control Delay (s/veh)		7,5	-		}					O-M-00-M-00-M-00-M-00-M-00-M-00-M-00-M-	1			14.4		8,8
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Approach Delay (s/veh)	************		,4										*	. 1	0.0	A
Approach LOS	ne Laulaidi.	In 1910 and	A	, , , ,				<del></del>	***************************************		AMIN'AMARINA			nindan ikili ankun	В	

#### Two-Way Stop-Control Report General Information Site Information Analyst Eric M. Hough Intersection Grovers Mili Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction-Lawrence East/West Street Date Performed 4-30-25 Grovers Mill Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed AM No-Build Peak Hour Factor 0.96 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



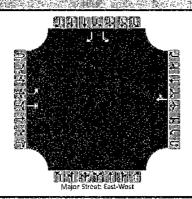
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	<b>T</b> ,	R	U	L	Т	R.	U	L	Т	R	U	L	<b>T</b> .	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	: 0	.0.	1 🔆	0	1 1	. 0	. 0	0		1	. 0	1
Configuration		L	T					TR						L		R
Volume (veh/h)		28	525				56	50					***************************************	7.		27
Percent Heavy Vehicles (%)		7			**************************************	***************************************	**************************************			······································				20		7
Proportion Time Blocked			***************************************						Ĭ ·		# .* 		1, 11		: 5	
Percent Grade (%)											***************************************				0	***************************************
Right Turn Channelized						************************	- to A William Halanan	**************************************		BHW samb at alle and	**************************************	***************************************		1	10	
Median Type   Storage			سرزه سده کی مصحد	Undi	vided	**************************************	Mitoraldian with recorder	reserved en			······					
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1												7,1		6,2
Critical Headway (sec)		4.17								***************************************			· :	6.60	411111111111111111111111111111111111111	6.27
Base Follow-Up Headway (sec)		2,2						- Cutterman						3.5	HINDERCE WHITE AND	3.3
Follow-Up Headway (sec)		- 2.26					***************************************							3.68		3,36
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)		29	**************************************			<u> </u>	Π		T					7		28
Capacity, c (veh/h)		1446				***************************************				ļ		***************************************		376		959
v/c Ratio		0.02			***************************************		**************************************							0.02		0.03
95% Queue Length, Q95 (veh)		0.1		**************************************										0.1		0,1
95% Queue Length, Q <sub>95</sub> (ft)	·	2.6						1		1	***************************************	×		2.9		2.6
Control Delay (s/veh)		7.5		, , , , , , , , , , , , , , , , , , ,	1			· · · · · · · · · · · · · · · · · · ·	-					14.8		8,9
Level of Service (LOS)		А												В		А
Approach Delay (s/veh)		0	.4					<del></del>	- On 19-44-44-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					. 1	0.1	
Approach LOS			A		- The second sec	***************************************	***************************************	**************************************	in talàna la mandalita		Winsurkeshin				В	

#### Two-Way Stop-Control Repor **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Grovers Mill Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed AM Build-Year - W O.R.R. Peak Hour Factor 0.96 Intersection Orientation East-West 1,00 Analysis Time Period (hrs) Project Description Proposed Residential - 21-210



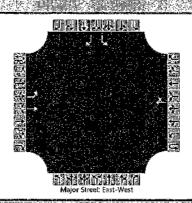
	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>													西北州		
Approach		Eastb	ound			Westl	oound	· · · · · · · · · · · · · · · · · · ·	<u> </u>	North	bound	<del>w.w.</del>	**************************************	South	bound	
Movement	U	L	; IT .	R	Ų	L	Т	. R	·U	L	Т	R	U	L	es tur	R
Priority	1U	1	2	3	4U	4	5	6	· · · · · · · · · · · · · · · · · · ·	7	8	9		10	11	12
Number of Lanes	0	1	: 1	0	0	0	1	0		0	0	0		:1	0	1
Configuration		L	Т					TR			*			L	***************************************	R
Volume (veh/h)	<u></u>	33	525	100		; ;	.56	53	***************************************					14	J. 2 14 15	38
Percent Heavy Vehicles (%)		7			·······			·					·	20	<u> </u>	7
Proportion Time Blocked		:			***************************************	· <del>************************************</del>								- 1 - 1	1. 11.	
Percent Grade (%)			***********							<u> </u>	<b></b>		·		0	h
Right Turn Channelized						• • • •		······································	1764000000000000000000000000000000000000	·					lo :	
Median Type   Storage				Undi	vlded	**************************************	www.m.t.m.com									
Critical and Follow-up He	adway	ys														
Base Critical Headway (sec)		4.1			монапинанна									7.1		6.2
Critical Headway (sec)		4.17						**************************************					<del></del>	6.60		6.27
Base Follow-Up Headway (sec)	(Account maximum no	2.2			· · · · · · · · · · · · · · · · · · ·		÷ 41i						3:::::::::::::::::::::::::::::::::::::	3.5		3,3
Follow-Up Headway (sec)		2,26				111 <del>1111111111111111</del>		<u> </u>		-				3,68		3.36
Delay, Queue Length, and	l Leve	l of Se	ervice	COLUMN TO THE STREET												
Flow Rate, v (veh/h)		34		<del>/************************************</del>			<u> </u>							15	Ţ	40
Capacity, c (veh/h)	<del></del>	1443								***************************************	Secretary de l'American de l'A	*****	***************************************	369		957
v/c Ratio		0.02												0.04		0.04
95% Queue Length, Q <sub>es</sub> (veh)		0.1				Wood and the party			<u> </u>					0.1		0.1
95% Queue Length, Q <sub>95</sub> (ft)		2.6	Anno Estate Anno Anno Anno Anno Anno Anno Anno Ann	· adm		., ., ., ., .				9-4	***************************************	**************************************		2.9		2.6
Control Delay (s/veh)		7,6				************		·.	A Washing Chipmony Selven		,			15.2		8,9
Level of Service (LOS)		Α				***************************************		1 11 11 11 11 11			4	417=14111444		С	-	A
Approach Delay (s/veh)		. 0	.4				·	<del></del>	*	<b></b>	Roswana www.www.	disense in the second	***************************************	. 1	0.6	· .
Approach LOS		/	Δ,			*******		**************************************	*****			***************************************	•	tantantini zada	В	

#### Two-Way Stop-Control Report **General Information** Site Information Analyst Grovers Mill Road - Mall Access Road Eric M. Hough Intersection Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 Grovers Mill Road East/West Street Analysis Year 2028 Mall Access Road North/South Street Time Analyzed AM Bulld-Year - WO O.R.R. Peak Hour Factor 0.96 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



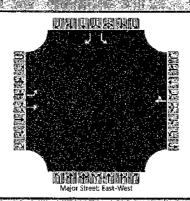
Vehicle Volumes and Adju	stmei	1 <b>ts</b>														
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	Test	R	U	L	Т	R	U	L	Т	R	U	Ĺ	T	R
Priority	1U	1	2	3	4U	4	5	6	~~~~~~	7	8	9	*************	10	11	12
Number of Lanes	0	1	1	0	0	0	1	. 0	:	0	. 0	0	······································	1	0	11
Configuration	***************************************	L	Т					TR						L		Ŕ
Volume (veh/h)		33	525				56	54				845.3		20		44
Percent Heavy Vehicles (%)		7		<del></del>	······································			***************************************	· · · · · · · · · · · · · · · · · · ·	- Company of the Control of the Cont		ANNOTHER DESIGNATION OF		20		7
Proportion Time Blocked		·	ech chini szakannica	***************************************		***************************************		::		***************************************				*******************	**************************************	· · · · · · · · · · · · · · · · · · ·
Percent Grade (%)	<del>limin.co. ///////////////////////////////////</del>	<del></del>				***************************************					·		·······		0	
Right Turn Channelized										:				Ň	lo	. :
Median Type   Storage			io - April in minutes	Undi	vided		WWW.194W.144W.04	<del>*************************************</del>		<del>*************************************</del>		<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>			*************	**************************************
Critical and Follow-up He	adway	/s														
Base Critical Headway (sec)		4.1		<del></del>										7.1	,	6.2
Critical Headway (sec)	:	4.17		1 1							100	·		6.60		6.27
Base Follow-Up Headway (sec)		2,2		• ** • • • •										3,5		3,3
Follow-Up Headway (sec)		2,26	PHOWEHERE HELER	- CANADA AND AND AND AND AND AND AND AND AN	WATER THE	***************************************								3,68		3:36
Delay, Queue Length, and	Leve	of Sc	rvice													
Flow Rate, v (veh/h)	······································	34												21		46
Capacity, c (veh/h)		1441			·.									369		956
v/c Ratio		0.02									***************************************			0.06		0.05
95% Queue Length, Q <sub>95</sub> (veh)		0.1		<del>*************************************</del>	·····			A THE STREET		**************************************			n maryanja mendalah sebabil	0,2		0.2
95% Queue Length, Q <sub>95</sub> (ft)	······································	2.6												5.8		5,3
Control Delay (s/veh)		7.6				***************************************	***************************************	1			1			15.4		9,0
Level of Service (LOS)	***************************************	Α	***************************************	·····		(AA	(			· · · · · · · · · · · · · · · · · · ·	·			С	· · · · · · · · · · · · · · · · · · ·	А
Approach Delay (s/veh)	······································	. 0	.4			:	·· · · · ·		···					1	1.0	
Approach LOS		/	4							***************************************	***************************************			. 10-01	В	

#### Way Stop-Control Repor **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Bertin Engineering Agency/Co. Jurisdiction Lawrence East/West Street Grovers Mill Road Date Performed 4-30-25 Analysis Year 2024 North/South Street Mall Access Road Time Analyzed PM Existing Peak Hour Factor 0.97 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	Ų	· L:	** <b>T</b>	R	Ü	L	JiT €	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	1	0	0	0	1 1 ::	О		0	0	0		. 1	0	.: 1 .
Configuration		L	T					TR	······································		***************************************		*******************************	Ļ	***************************************	R
Volume (veh/h)		84	62 <b>1</b>	V-40774444	***************************************	***************************************	36	81			1.11			55		31
Percent Heavy Vehicles (%)	***************************************	2	**************************************	***************************************	***************************************									0		3
Proportion Time Blocked		<del>//////</del>				·							ti, fiyi	· · · · · · · · · · · · · · · · · · ·		11.5
Percent Grade (%)		· · · · · · · · · · · · · · · · · · ·					- Commission of the Commission	<del></del>	***************************************	#:nawww.ww.	<del></del>	#	- ACTION IN COLUMN		0	
Right Turn Channelized					***************************************	***************************************	***********			14.5	······································			١	10	- ' ;
Median Type   Storage	<del>Johnnelmen A. Belein</del>	·*************************************	5 <del>000.3 MMM**********************************</del>	Undi	vided	····										
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1												7,1		6.2
Critical Headway (sec)	19	4.12						***************************************					AMERICAN PARTY	6.40	· · · · · · · · · · · · · · · · · · ·	6.23
Base Follow-Up Headway (sec)		2,2			***************************************	************			<u> </u>	1	-	1	1	3.5		3.3
Follow-Up Headway (sec)	***************************************	2.22									: .	1	4.5	3,50		3,33
Delay, Queue Length, and	Leve	of Se	rvice													
Flow Rate, v (veh/h)	· · · · · · · · · · · · · · · · · · ·	87							<u> </u>	T				57		32
Capacity, c (veh/h)		1467		***************************************	***************************************			**************************************	<u> </u>	······································				296	· ·	979
v/c Ratio	**********	0.06	**************************************	***************************************	-	······							<u> </u>	0.19	1	0,03
95% Queue Length, Q <sub>95</sub> (veh)	: <del>************************************</del>	0.2								:				0.7		0.1
95% Queue Length, Q <sub>95</sub> (ft)	a m alb ··· ···	5.1						C.	***************************************	**************************************			***************************************	17.5		2.6
Control Delay (s/veh)	***************************************	7.6		······································										20,0		8,8
Level of Service (LOS)	······································	Α									***************************************		**************************************	C		А
Approach Delay (s/veh)		0	.9					- Av.		- R				1	6.0	<u></u>
Approach LOS	, , , , , , , , , , , , , , , , , , , ,	1	4	***************************************		**************************************	******					,. ,	.,		C	

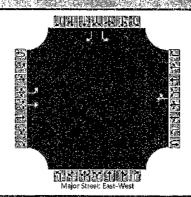
#### HCS Two Way Stop-Control Report **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Grovers Mill Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed PM No-Build Peak Hour Factor 0.97 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	. U	L	T	R	U	L	. Т	R	: U -	L	Т	R	U	L	T	R
Priority	1U	1	2	3	40	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0	1.7.	0	0	. 0		1	0	1
Configuration		L	Т					TR						L		R
Volume (veh/h)		87	646				38	· 84						57		: 32
Percent Heavy Vehicles (%)		2												0		3
Proportion Time Blocked					17.24			WYW. HHU-A 47400 A.W.							1.1	
Percent Grade (%)								10						(	)	Bearing - Dellaring
Right Turn Channelized		• • •									***************************************	**************************************	***************************************	1	lo 🗀 :	**************************************
Median Type   Storage				Undi	ivided	•		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ţ	•*************************************				······································		
Critical and Follow-up He	adwa	ys .													1:31	
Base Critical Headway (sec)		<b>4</b> .1						·						7,1		6.2
Critical Headway (sec)		4.12			T			÷		1. 1		: : :	· · · · · · · · · · · · · · · · · · ·	6.40		6.23
Base Follow-Up Headway (sec)		2,2	PANTH HANDE	***************************************						***************************************	CHARACH MACHINIA	K) AI HICKLEY MARKET	**************************************	3.5		3.3
Follow-Up Headway (sec)		2.22	·						***************************************				a,	3.50		3,33
Delay, Queue Length, and	l Leve	of Se	ervice													
Flow Rate, v (veh/h)		90					***************************************	i i	<u> </u>			<u> </u>		59		33
Capacîty, c (veh/h)		1461			······································									282	***************************************	974
v/c Ratio		0.06	***************************************				,		· · · · · · · · · · · · · · · · · · ·		**************************************		ļ	0.21		0.03
95% Queue Length, Q <sub>95</sub> (veh)		0,2						***************************************						0,8	· ·	0,1
95% Queue Length, Q <sub>95</sub> (ft)		5.1	an marifu milet Marikian		**************************************	******************************							· · · · · · · · · · · · · · · · · · ·	20.0	***************************************	2,6
Control Delay (s/veh)		7:6		Ī				:	<b>T</b>				- American	21.1		8,8
Level of Service (LOS)	***********************	Α	udham e ve					***************************************	·				, ,,	С		A
Approach Delay (s/veh)		0	.9			·				-		· .		10	5.7	************
Approach LOS		/	4	**************************************				· · · · · · · · · · · · · · · · · · ·		<i>*************************************</i>	W.WYA dimo.		***************************************		C	

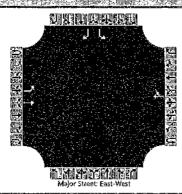
### HGS Two Wey Stop-Control Report

General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Grovers Mill Road - Mall Access Road
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Grovers Mill Road
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	PM Build-Year - W O.R.R.	Peak Hour Factor	0.97
Intersection Orlentation	East-West	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210		



Approach		Eastb	ound			West	oound	W.W.W		North	bound		l	South	hound	
Movement	U	1	Т	R	U	L	T T	R	U	L	Т	R	v.ü.	- 1	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1. 1. :	0	0	. O %	. 4	.0		0	0	0		1	0	1
Configuration		L	Ť		<u> </u>	<u> </u>	<del></del>	TR	***************************************	**************************************	**************************************	<u></u>		L.		R
Volume (veh/h)		101	646				38	94						62	227	37
Percent Heavy Vehicles (%)		2	•	**************************************					<del>                                     </del>					0		3
Proportion Time Blocked			••••••••••••••••••••••••••••••••••••••		:			: :							***************************************	· .
Percent Grade (%)	······································		<u> </u>	<u> </u>	<u> </u>			<u> </u>	***************************************	<b></b>	L.	1		<u></u>	0	I
Right Turn Channelized					************	<del></del>		:	i y i y		• • • • •	11.77		N	lo .	·.
Median Type   Storage				Undi	vided	······································	· · ·	<u></u>			·			· · · ·	· · · · · · · · · · · · · · · · · · ·	
Critical and Follow-up He	adwa	<b>75</b>														
Base Critical Headway (sec)		4.1	*************								-			7.1	***************************************	6.2
Critical Headway (sec)		4.12					· WINNERSON IN MICHIEF	· ·			<del>mm</del> id nu <del>l dilimatrical</del> i			6.40		6.23
Base Follow-Up Headway (sec)		2,2	·······		***************************************	· · · · · · · · · · · · · · · · · · ·	PANYA NELIMINENNE NA					1		3,5		3,3
Follow-Up Headway (sec)		2.22	***************************************					·			·.			3.50		3.33
Delay, Queue Length, and	Leve	of Sc	rvice													
Flow Rate, v (veh/h)	· · · · · · · · · · · · · · · · · · ·	104				T		1		<u> </u>			******************	64		38
Capacity, c (veh/h)		1448	·											266		968
v/c Ratio	1410 14 145 (1)	0.07		······································	THE RELEASE WAY									0,24	1	0.04
95% Queue Length, Q <sub>95</sub> (veh)	***************************************	0.2	Maria de la compansión de	<u> </u>					Consultration					0.9	<u> </u>	0.1
95% Queue Length, Q <sub>95</sub> (ft)	tombin i miner	5.1				A								22.5		2,6
Control Delay (s/veh)		7.7	*************											22.8		8.9
Level of Service (LOS)	*************************	Α	· · · · · · · · · · · · · · · · · · ·					- columnia de la columnia del columnia del columnia de la columnia del columnia del columnia de la columnia de la columnia del			·	<del></del>	······································	С	· <del>********</del>	A
Approach Delay (s/veh)		1.	0	<del></del>	:	1 <del>2.4 - 111.</del>			<b>T</b>	Minden management	!!			1	7.6	
Approach LOS		/	\ \	······································	1	······································		1			250-1411		1		C	

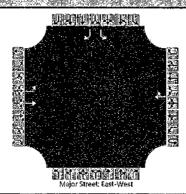
#### Two-Way Stop-Control Repo **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. **Bertin Engineering** Jurisdiction Lawrence East/West Street Grovers Mill Road Date Performed 4-30-25 Analysis Year 2028 North/South Street Mall Access Road Time Analyzed PM Build-Year - WO O.R.R. Peak Hour Factor 0.97 Intersection Orientation East-West Analysis Time Period (hrs) 1,00 Project Description Proposed Residential - 21-210



Vehicle Volumes and Adju	stme	nts														
Approach	-	Eastb	ound			West	bound			North	bound			South	bound	
Movement	ÜÜ	. L	Т	R	U	L	, T <sub></sub>	R	U	Ľ,	T	i 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	1	0	. 0	0	1	0		0	0	0		1	0	1
Configuration		L	Т					TR	**************************************	*********	**************************************	<del></del>	•	L	**************************************	R
Volume (veh/h)		102	646	li-minini	PATE 1		38	97		11.39				.66		39
Percent Heavy Vehicles (%)		2		· · · · · · · · · · · · · · · · · · ·										0		3
Proportion Time Blocked																
Percent Grade (%)				······································					***********			<del></del>	***************************************		0	<i>h</i>
Right Turn Channelized			•			***************************************	**************************************				. J. J. N.		3.A.1 21.		lo	
Medlan Type   Storage	···	W. W	***************************************	Undi	vided											
Critical and Follow-up He	adwa	y <b>s</b>														
Base Critical Headway (sec)		4.1												7.1	***************************************	6.2
Critical Headway (sec)		4,12			***************************************		************************				- Parlament			6.40		6.23
Base Follow-Up Headway (sec)	<del></del>	2,2	<del></del>			**************************************								3,5		3.3
Follow-Up Headway (sec)	************************	2.22												3.50		. 3.33
Delay, Queue Length, and	Leve	of S	ervice													
Flow Rate, v (veh/h)		105									***************************************			68	4 6000000000000000000000000000000000000	40
Capacity, c (veh/h)		1444		( <del>)                                    </del>	<u> </u>			· · · · · · · · · · · · · · · · · · ·					**************************************	264		966
v/c Ratio	**************	0.07				-dominio harri								0.26		0,04
95% Queue Length, Q95 (veh)		0.2									1	· · · · · · · · · · · · · · · · · · ·		1.0		0.1
95% Queue Length, Q <sub>95</sub> (ft)		5,1	·					W. W. and M. de Community of the Communi						25.0		2.6
Control Delay (s/veh)	·····	7.7	·											23.3		8,9
Level of Service (LOS)		А										***************************************		С		Α
Approach Delay (s/veh)		1	1.0		• • • • • • • • • • • • • • • • • • • •		· ·	· ·			· .			1	8.0	.1
Approach LOS	. <u></u>	<del></del>	A	· · · · · · · · · · · · · · · · · · ·					· /			,			C	

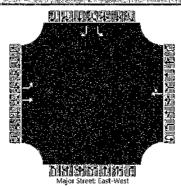
# HCS Two-Way Stop-Control Report

Analyst	Eric M. Hough	Intersection	Grovers Mill Road - Mall Access Road
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Grovers Mill Road
Analysis Year	2024	North/South Street	Mall Access Road
Time Analyzed	SAT Existing	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	1,00 (1,00 (1,00))
Project Description	Proposed Residential - 21-210	· · · · · · · · · · · · · · · · · · ·	



nd nekarat dataka delikatahan bekateraktan padebagan dilibias	stme	El nerskass 2000			girka digishiri	DESIGNATION AS	61400924009	anganggga)	ilianes area acordos.	Iligischer Michele	(1995)   Palita   Pal	esignosignajo iga	90696089998			i Maria Bali
Approach		-	ound		41 <del>- 1000 (* 1000 (* 1000</del>	West	ound	y	<u></u>	North	bound	<del></del>		South	bound	<b>.</b>
Movement	U	L	Т	R	i U	L	T	R	U	J. 164.	T.	R	U	:::L	: <b>T</b> :	R
Priority	1U	1	. 2	3	4∪	4	5	6		7	8	9		10	11	12
Number of Lanes	.0	. 1	1	0	0	0	1	0	- 414	. 0	0	0	· . :: ·	1	0	:1,
Configuration		L	Т					TR						L		R
Volume (veh/h)		146	407		1 1		70	46						49		34
Percent Heavy Vehicles (%)		2												0		0
Proportion Time Blocked			4,				**************************************								77.7	14.0
Percent Grade (%)										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					0	
Right Turn Channelized						200				*******************	······································	***************************************		·	Vo.	······································
Median Type   Storage			······································	Undi	vided	***************************************	<del></del>			<del> </del>					·	
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1												7,1		6.2
Critical Headway (sec)		4.12	:					. 7 1.						6.40		6.20
Base Follow-Up Headway (sec)		2,2					MYP W.WXX HINKHIN							3.5		3,3
Follow-Up Headway (sec)		2.22												3.50		3.30
Delay, Queue Length, and	Leve	l of S	ervice					<b>160</b>								
Flow Rate, v (veh/h)		162		'iiilk										54		38
Capacity, c (veh/h)		1454									***************************************			284	t. gww.is.danidhtb	955
v/c Ratio		0,11	1	W. W	**************************************	***************************************	*************		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	r em misminnin	**************************************	·	0.19		0.04
95% Queue Length, Q <sub>95</sub> (veh)	***************************************	0,4	·				·					.:		0,7		0,1
95% Queue Length, Q <sub>95</sub> (ft)		10.2										· · · · · · · · · · · · · · · · · · ·		17.5	the state of the s	2,5
Control Delay (s/veh)		7.8									***************************************		***************************************	20,7		8.9
Level of Service (LOS)	eri delli erim col d'Adde	A		*******************************		····				*	Total Carlot			С		А
Approach Delay (s/veh)	***************************************	2	1	×				.,			:	- Ots	1	1	5.9	
Approach LOS			<del></del>	***************************************		CARRIED OF CHARLES	······································	***	······································	······································	**************************************	<del></del>	***************************************	*****	C	······································

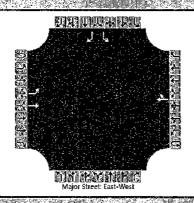
#### **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction: Lawrence Date Performed East/West Street 4-30-25 Grovers Mill Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT No-Bulld Peak Hour Factor 0.90 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	. T.	R	Ü	L	: <b>T</b> :	R	U	· L	Т.	R	u u	L	Т	R
Priority	<b>1</b> U	1	2	3	4U	4	5	6	<u> </u>	7	8	9	***************************************	10	11	12
Number of Lanes	0	1	-15 <b>1</b> 15	0	0	0	1	0	*************	0	0	0		1	0	1
Configuration		L	Т	**************************************	······································			TR		<u> </u>				L		R
Volume (veh/h)	A-114-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	152	423				73	48						51	4 ABQ	35
Percent Heavy Vehicles (%)		2												0		0
Proportion Time Blocked			111 2 7			***************************************		***************************************	•		***************************************		: .	*****	***************************************	
Percent Grade (%)		• ······		·d	·	American market	#				<del></del>		·	V. L	0	
Right Turn Channelized										- 3	1		1.55	N	lo	
Median Type   Storage	***************************************	·		Undi	vided					***************************************			•		, , , , ,	
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4,1									l			7.1		6.2
Critical Headway (sec)		4.12			* :								1.41	6.40	\$1.7 to	6.20
Base Follow-Up Headway (sec)		2.2												3,5		3,3
Follow-Up Headway (sec)		2.22	:					·						3.50		3.30
Delay, Queue Length, and	l Leve	l of S	ervice													
Flow Rate, v (veh/h)		169				mindrodeische alteiteite		A JANUARA HALIAMANIA	t e lembro (milital)	<del>*************************************</del>	· · · · · · · · · · · · · · · · · · ·			57	~~~~~~~~~~	39
Capacity, c (veh/h)	***************************************	1447	***************************************		· · · · · · · · · · · · · · · · · · ·									269		949
v/c Ratio	· //	0.12	<u> </u>	1	14.									0,21		0.04
95% Queue Length, Q <sub>95</sub> (veh)		0,4			:		<del></del>	**************************************				***************************************		0.8		0.1
95% Queue Length, Q <sub>95</sub> (ft)		10.2		a a sabada da	AND PROPERTY AND	· · · · · · · · · · · · · · · · · · ·	Contact Internal Contact							20.0		2.5
Control Delay (s/veh)		7.8												22.0		9.0
Level of Service (LOS)		Α	and the same of th						***************************************	<u> </u>		· • • • • • • • • • • • • • • • • • • •		C		А
Approach Delay (s/yeh)		. 2	2.1	**************************************				- <del></del>						1	6.7	
Approach LOS	************	Miles de la constante de la co	A						-	,					С	···· , ····

#### H@\$ Two-Way Stop-Control Report **General Information** Site Information Analyst Eric M. Hough Intersection Grovers Mill Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Grovers Mill Road Analysis Year 2028 Mall Access Road North/South Street Time Analyzed SAT Build-Year - W O,R,R. Peak Hour Factor 0.90 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210

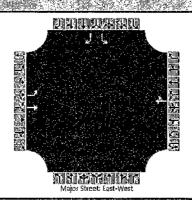
### Lanes 💮 📳



Vehicle Volumes and Adju	escente e verten en de la company de la comp															
Approach		Eastb	ound			West	bound			North	bound			South	bound	***************************************
Movement	U	L	T	: R	U.	L	Т	R	U	L	∵. Т	R	U	, L	N T A	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0:	1	1	0	0	0	1	0		.0	. 0	0.1	, i.e. is a fi	1	]]][O]]	1.
Configuration		L	Т					TR						L		R
Volume (veh/h)		.160	423	1 7 7 7			73	55						56		39
Percent Heavy Vehicles (%)		2							in terms continued in the	**************************************				0		0
Proportion Time Blocked	1	1.70									200	100				
Percent Grade (%)			<del>(1,0</del> 1 m. <del>1000 m. 10 m. 10 m.</del>				············							1	0	<del></del>
Right Turn Channelized						A.					***************************************			1	10	**************************************
Median Type   Storage				Undi	vided		***************************************	***************************************					······································		············	
Critical and Follow-up He	adwa	ys .														
Base Critical Headway (sec)		4.1										ļ		7,1		6,2
Critical Headway (sec)		4.12												6.40		6.20
Base Follow-Up Headway (sec)	N INCHEST INVALVENAL	2.2							<del> </del>	•		MINIMA HAMMA		3,5		3.3
Follow-Up Headway (sec)		2,22											44.7	3.50		3.30
Delay, Queue Length, and	Leve	of S	ervice													
Flow Rate, v (veh/h)		178		Ţ		1		I		<u> </u>	1	<u> </u>		62		43
Capacity, c (veh/h)	***************************************	1438		***************************************										259		945
v/c Ratio		0.12					***************************************	· · · · · · · · · · · · · · · · · · ·	·		· ·			0.24		0.05
95% Queue Length, Q <sub>95</sub> (veh)		0,4				* ************************************	*************	<u> </u>					4.,	0.9		0,1
95% Queue Length, Q <sub>95</sub> (ft)		10.2							Ī					22.5		2.5
Control Delay (s/veh)	minna <del>i Muliani. wa</del> w	7.9							***************************************		***************************************			23.3		9.0
Level of Service (LOS)		А			· · · · · · · · · · · · · · · · · · ·	**************************************			o · · · · · · · · · · · · · · · · · · ·	<u> </u>				С		Α
Approach Delay (s/veh)	2.2			1.5					·	· ************************************	· <del>.</del>		1	7.4	J	
Approach LOS	A							***		***************************************					C	

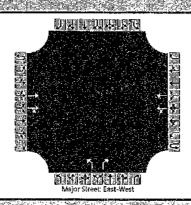
## HCS Two-Way Stop-Control Report

。 一定多用其公司即即即使多名方面使物类对方的根据解	econside covers einclina teas etc. « A. M. C. De la A. D. Covariable covariable de cours de covariable en esta	<b>《上学学课》即《新学校》的新兴业等为生活的的原则。</b>	
Analyst	Eric M, Hough	Intersection	Grovers Mill Road - Mall Access Road
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Grovers Mill Road
- Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	SAT Build-Year - WO O,R,R	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210	•	



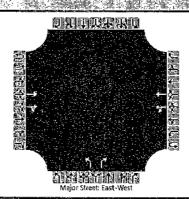
Vehicle Volumes and Adju	stme	Burg. Market 100														
Approach			ound			·	bound	·		North	bound	·		South	bound	
Movement	U	L	T	R	U	L	Т	R	Ü	L	T	R	U	L.	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	.1	0 :	0	0	1 1	0		0	0	.0		<u></u> 1	0	1
Configuration		L	Т					TR						L		R
Volume (veh/h)		162	423				73	58						61	11.14	44
Percent Heavy Vehicles (%)		2												0		0
Proportion Time Blocked	W. T.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2							127 22					y 1935 1935 - 193		
Percent Grade (%)												· · · · · · · · · · · · · · · · · · ·			0	<del></del>
Right Turn Channelized	12.1 14.1 - 1											· · · · · · · · · · · · · · · · · · ·		1.	lo	
Median Type   Storage				Undi	vided	**************************************	·····		· · · · · · · · · · · · · · · · · · ·				·			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		4.1												7.1		6,2
Critical Headway (sec)		4.12			1 17.	14.6			***************************************					6.40		6.20
Base Follow-Up Headway (sec)		2.2	. "			RMUNIC		· · · · · · · · · · · · · · · · · · ·	**************************************		**************************************			3.5		3.3
Follow-Up Headway (sec)		2,22							Ĭ .			4 . **. 4.*		3,50		3.30
Delay, Queue Length, and	Leve	of S	ervice													
Flow Rate, v (veh/h)		180										T		68	<u> </u>	49
Capacity, c (veh/h)		1434	· ·						·	***************************************		·		256		943
v/c Ratio		0.13	*· <del>***********************************</del>		- 									0.26		0,05
95% Queue Length, Q <sub>95</sub> (veh)		0.4	······											- 1.1	***************************************	0.2
95% Queue Length, Q <sub>95</sub> (ft)	nife	10.2	·						···			······································	· · · · · · · · · · · · · · · · · · ·	27.5		5.0
Control Delay (s/veh)		7.9	,	************				<u> </u>						24.1		9,0
Level of Service (LOS)	L	A	······································		· · · · · · · · · · · · · · · · · · ·						, <del>róm hámhm u anna</del>			С		Α
Approach Delay (s/veh)	2.2							· <del>Lineal</del> a reservirie	**************************************	<del>densem</del> en manera	A	Annenman	**************************************	- <del>************************************</del>	7.8	
Approach LOS	A				·	*******	**************************************					117 .		· h'rômbi	C	•••••••••••••••••••••••••••••••••••••••

#### HCS Two-Way Stop-Control Report General Information Site Information Analyst Eric M. Hough Outer Ring Road - Mall Access Road Intersection Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed East/West Street 4-30-25 Outer Ring Road 2024 Analysis Year Mall Access Road North/South Street Time Analyzed AM Existing 0.94 Peak Hour Factor Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



					.,,											
Vehicle Volumes and Adju	vallación de la visita de la company de l															
Approach		Eastk	oound			West	bound	*****		North	bound			South	bound	or a superson
Movement	υ	L.	Т	R	U	L	Т	. R	· U	L	T .	R	U	L	Т	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9	·	10	11	12
Number of Lanes	0	0	2	0	0	. 0	2	0		1	· 0	1		0	0	0
Configuration	·*************************************		T	TR		LT	Т		***************************************	Ļ	****************	R				
Volume (veh/h)	, .		27	. 32		7	31		1	74	11 m	10.		1 1.		
Percent Heavy Vehicles (%)				**************************************	************	30	1			4		0				
Proportion Time Blocked	***************************************	***************************************			- i . :								***************************************	***************************************		
Percent Grade (%)	***************************************								1		0				•	
Right Turn Channelized	: :									N	lo	1.4	1.5		i:	* : : :
Median Type   Storage			•	Undi	ivided								<u></u>	*****		************
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)						4,1				7.5		6.9				
Critical Headway (sec)					1 11	4.70		**************************************	· · · · · · · · · · · · · · · · · · ·	6.88		6,90				
Base Follow-Up Headway (sec)						2.2		****		3.5		3.3			and seminary and control	W:
Follow-Up Headway (sec)						2.50				3.54	***************************************	3.30	**************************************	NATION AND PROPERTY.		
Delay, Queue Length, and	Leve	lofS	ervice													
Flow Rate, v (veh/h)	(III	<del>                                      </del>	<u> </u>	T .		7				79		11				
Capacity, c (veh/h)					1	1356				906		1042				1
v/c Ratio		***************************************	**************************************			0.01				0.09	VI	0.01	<del></del>	· · · · · · · · · · · · · · · · · · ·		************
.95% Queue Length, Q <sub>95</sub> (veh)	······································	***************************************				0,0		**************************************	C WANTED IN COMPROSE	0.3	************	0.0		***************************************		
95% Queue Length, Q <sub>95</sub> (ft)	, . ,		,			0.0	* <del> </del>	•		7.7		0.0	····		o manda managan ham	1
Control Delay (s/veh)		4	•	•		7,7	0.0			9,4	***************************************	8.5	1	·	. <del></del>	***************************************
Level of Service (LOS)						А	Α		1	A	1	A	<del> </del>			
Approach Delay (s/veh)						1			<del></del>	9	).2				4	
Approach LOS	۷-///////	<del></del>	Commercial		**************************************	**************************************	A	dintmoniunté tur		·/· ··· ···	A	************		······································	**************************************	***************************************

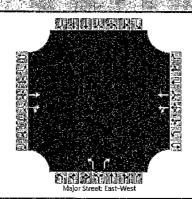
#### Av Stop Zonuoli Repoli **General Information** Site Information Analyst Eric M. Hough Intersection Outer Ring Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Outer Ring Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed AM No-Build Peak Hour Factor 0.94 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Proposed Residential - 21-210 Project Description



Approach		Eastb	ound			Westk	oound			North	bound			South	bound	
Movement	U	L L	T	R	U·	L	Т	R	U	L	Т	R	U	Live	Τ	R
Priority	1Ų	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	: 0	0	2	0		`;·1·	0	1	4	0	0	0
Configuration			Т	TR		LT	Т			L		R		***************************************	***************************************	
Volume (veh/h)			28	33		.7	32			77	······	10	***************************************			
Percent Heavy Vehicles (%)		**************************************	***************************************			30 ·		<del></del>		4		0				
Proportion Time Blocked		Mills of Milm Marsa and			7 °.		****	***************************************							W-CHANNEL WATER	
Percent Grade (%)					***************************************					(	D		····			
Right Turn Channelized				···			1 y 1				lo	·				
Median Type   Storage	-	**************************************	W	Undi	vided											
Critical and Follow-up He	eadwa	y <b>s</b>									,					
Base Critical Headway (sec)	<u> </u>		<u></u>		HILLER WAS A	4.1				7.5		6.9		***************************************		ļ
Critical Headway (sec)						4.70				6.88		.6.90			:	
Base Follow-Up Headway (sec)			<u> </u>			2,2				3.5		3.3				
Follow-Up Headway (sec)						2.50	<u> </u>	<u> </u>		3.54	· .	3,30				
Delay, Queue Length, and	d Leve	l of S	ervice													
· · · · · · · · · · · · · · · · · · ·	TT					7				82		11				1
Flow Rate, v (veh/h)				l		1 '										1
Flow Rate, v (veh/h) Capacity, c (veh/h)			***************************************			1353				903		1040			.:	
AND THE RESERVE OF THE PARTY OF										903 0.09		1040 0.01				
Capacity, c (veh/h)						1353								***************************************		
Capacity, c (veh/h) v/c Ratio						1353 0.01				0.09		0.01	<u> </u>			
Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh)			932-444-400			1353 0.01 0.0	0.0			0.09 · 0.3	WWW-cmxttr/sb	0.01 0.0	***************************************	TAN I MANAGEMENT AND		
Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh) 95% Queue Length, Q <sub>95</sub> (ft)			032-440000			1353 0.01 0.0 0.0	0.0 A			0.09 · 0.3 7.7		0.01 0.0 0.0				
Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh) 95% Queue Length, Q <sub>95</sub> (ft) Control Delay (s/veh)	AND COMMON TO CO					1353 0.01 0.0 0.0 7.7 A				0.09 0.3 7.7 9.4 A	.3	0.01 0.0 0.0 8.5				A sparragel south

# HCS Two-Way Stop-Control Report

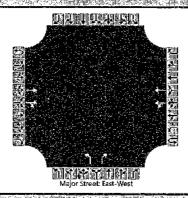
General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Outer Ring Road - Mali Access Road
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Outer Ring Road
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	AM Build-Year	Peak Hour Factor	0.94
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210		The state of the s



Approach		Eastb	oound		T	West	oound			North	bound			South	bound	
Movement	υſ	. L	Т Т	R	U	) L y	Ţ	R	U	L	Т	R	U	L	Т	R
Priority	1U	1	2	3	<b>4</b> U	4	5	6	-0	7	8	9		10	11	12
Number of Lanes	0	0	:: <u>2</u>	0	0	0	2	0		1	0	1:		0 :	0	0.
Configuration			T	TR		LT	Ţ		<u> </u>	L	waxaan hacaa oo	R				<del>                                     </del>
Volume (veh/h)			28	34		7	32			87		12	71.			
Percent Heavy Vehicles (%)						30		· · · · · · · · · · · · · · · · · · ·	******************	4		0	<u> </u>	<u> </u>		·····
Proportion Time Blocked		·····					***************************************		i — —					***********		
Percent Grade (%)				<u> </u>		A <del>anais assim</del> i			<b> </b>	(	0	4	***************************************			<u> </u>
Right Turn Channelized	: ::	1111		**************************************						. N	lo	·				
Median Type   Storage	<u> </u>	**************************************	*****	Undi	ivided										WA: WATER-ALE	
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)						4.1				7,5		6.9			1	Π
Critical Headway (sec)					CONTRACTOR OF THE CONTRACTOR O	4.70			* **********	6.88	***************************************	6.90		<u> </u>		
Base Follow-Up Headway (sec)						2,2			~ <del>************************************</del>	3.5		3,3	1			
Follow-Up Headway (sec)	*******************************					2.50				3.54		3,30				
Delay, Queue Length, and	l Leve	l of S	ervice										3			
Flow Rate, v (veh/h)					Ţ	7				93		13	***************************************		7, 19,000, 11,00	1
Capacity, c (veh/h)			•			1352				903		1040	,	<u> </u>	:	
v/c Ratio		***********	**************************************			0,01	<b></b>			0.10		0.01			**************************************	***************************************
95% Queue Length, Q95 (veh)	***************					0.0	**************************************	1		0,3		0.0		(Miller William )		!
95% Queue Length, Q <sub>95</sub> (ft)				***************************************		0.0				7.7		0.0				
Control Delay (s/veh)		· · · · · · · · · · · · · · · · · · ·	deca i okarišini in ini ini ini ini ini ini ini ini			7,7	0.0	1		9.4		8,5		· ·············	· · · · · · · · · · · · · · · · · · ·	
Level of Service (LOS)						А	А			Α		А	Winter municipal	********		
Approach Delay (s/veh)	· · · · · · · · · · · · · · · · · · ·					1	,4			9	.3				erge <del>Millian</del> e <del>and Millian</del> e	W. B. W.
Approach LOS		***************************************	······································				Ą	- <del> </del>	Mindle Barane III in		A			- Carried Company	H-WW/A-m #*****	

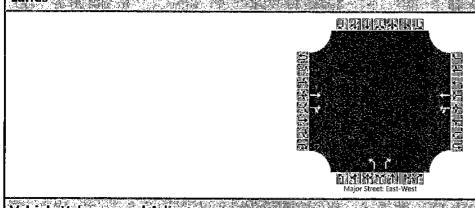
# HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Outer Ring Road - Mall Access Road
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Outer Ring Road
Analysis Year	2024	North/South Street	Mail Access Road
Time Analyzed	PM Existing	Peak Hour Factor	0,90
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210		



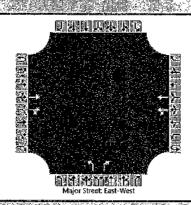
Approach		Eastb	ound			West	bound	***************************************		North	bound			South	bound	
Movement	U	L.	Т	R	U	Ļ	Т	·R	U	j. [L - 1	T,	R	Ü	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9	·····	10	11	12
Number of Lanes	.0	0	2	0	0	0	2	0		1	0	1		0	. 0.	, O.
Configuration	****	***	Т	TR		LT	T			L		R			<u> </u>	<b></b>
Volume (veh/h)	**************************************	~	68	46:		. 25	196			127		56	. :			**************************************
Percent Heavy Vehicles (%)		<u></u>				4	***************************************		<b></b>	1		9		<u> </u>	***************************************	<u> </u>
Proportion Time Blocked						- Annual Control of the Control of t					******		***************************************	-: .		
Percent Grade (%)		***************************************	MUV	<u> </u>		· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	(	)	······		•	<u> </u>	
Right Turn Channelized								· · · ·		ų N	lo :	5 1 2				
Median Type   Storage				Undi	vided	***********	· · · · · · · · · · · · · · · · · · ·									
Critical and Follow-up He	adwa	ys 🗼														
Base Critical Headway (sec)			TANKA MARINTA			4.1				7.5	***************************************	6.9	<u> </u>	<u> </u>		
Critical Headway (sec)						4,18			COMMUNICACION CONTRACTOR	6.82		7.08			· .	
Base Follow-Up Headway (sec)			·			2.2	· ·	······································		3,5		3.3				-
Follow-Up Headway (sec)				:		2.24				3.51		3.39	<del>Morrinan</del>			1
Delay, Queue Length, and	Leve	l of Se	rvice			表表形式 在 教育										
Flow Rate, v (veh/h)		······································				28	T		<u> </u>	141		62				
Capacity, c (veh/h)	·					.1443				689		966		***************************************		1
v/c Ratio		- Inches			-	0.02				0,20		0.06				
95% Queue Length, Q <sub>95</sub> (veh)		**************************************	***************************************			0.1				0.8	   	0.2				
95% Queue Length, Q <sub>95</sub> (ft)	***********	***************************************			and the same of th	2,6			NAME OF THE PARTY	20.2		5,4			· · · · · · · · · · · · · · · · · · ·	
Control Delay (s/veh)		:		•		7.5	0.1		***********	11.6	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	9.0	·	* <del> </del>		
Level of Service (LOS)		***************************************	 	***************************************		Α	А	dos Antonovinju		В	**************************************	Α				
Approach Delay (s/veh)	Hadim Manasa da Lacado a la companio de la companio del la companio de la compani					. 1	.0		· · · · · · · · · · · · · · · · · · ·	1(	0.8		1			**************************************
																and a manuscriptor and with

#### HCS Two-Way Stop-Control Report **General Information** Site Information Analyst Eric M. Hough Intersection Outer Ring Road - Mall Access Road Jurisdiction Agency/Co. Bertin Engineering Lawrence Date Performed 4-30-25 East/West Street Outer Ring Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed PM No-Build Peak Hour Factor 0.90 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



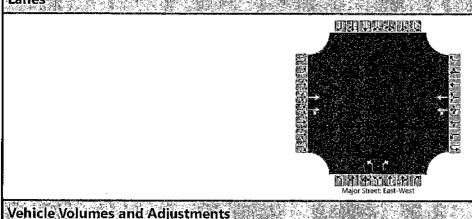
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastk	ound			West	bound			North	bound	<del>(2) - 1)                                     </del>	***************************************	South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	. Uʻ	L	Τ.	R
Priority	1U	1	2	3	4U	4	5	6	· · · · · · · · · · · · · · · · · · ·	7	8	9		10	11	12
Number of Lanes	0	0	.2	0	0	0	2	0 :		. 1 <sub>7</sub> -	0	1		0	0	0
Configuration	11		Т	TR		LΤ	Т			L	<del>"</del>	R		***************************************		
Volume (veh/h)			71	48		26	204			132	·	58			1.00	
Percent Heavy Vehicles (%)		**************************************	<del></del>	··········		4			******************************	1		9			***************************************	**************************************
Proportion Time Blocked						***************************************								* Son and a second seco	· ·	
Percent Grade (%)						······································		<del></del>			0					<u> </u>
Right Turn Channelized			***********	********				 	***************************************	N	lo					
Median Type   Storage		<del></del>	***************************************	Undi	vided			**************************************					<del></del>			
Critical and Follow-up He	adwa	y <b>s</b>														
Base Critical Headway (sec)	and built					4.1	***************************************			7.5	<u> </u>	6.9	<u> </u>			
Critical Headway (sec)						4.18				6.82		7.08	and cancer the help reason	<b> </b>		
Base Follow-Up Headway (sec)			<del></del>	***************************************		2.2		<del>}</del>		3.5	***************************************	3.3				· · · · · · · · · · · · · · · · · · ·
Follow-Up Headway (sec)						2,24	**************************************	· · · · · · · · · · · · · · · · · · ·		3.51		3.39				
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)				1	1	29	T			147		64				
Capacity, c (veh/h)			***************************************	***************************************		1436				678	***************************************	962		<u> </u>		TO THE CHILD
v/c Ratio		**************************************	- Calabatha and a contactor			0,02			*	0.22		0,07		<u> </u>		·
95% Queue Length, Q <sub>95</sub> (veh)	· · · · · · · · · · · · · · · · · · ·			-		0.1				0.8	***************************************	0.2				
95% Queue Length, Q <sub>95</sub> (ft)				· · · · · · · · · · · · · · · · · · ·		2.6	· · · · · · · · · · · · · · · · · · ·		ojo sarama manama	20.2		5.4				
Control Delay (s/veh)						7,6	0.1			11,8	·	9,0				
Level of Service (LOS)				, <del></del>		A	A			В	ACCUPATION OF THE PROPERTY OF	Α	-	***************************************	***************************************	
Approach Delay (s/veh)						. 1	.0			41(	0.9	1		<del>!</del>		
Approach LOS						10° - 11', =110° 11'	A	**************************************	******	inininina manana an	В	,, ,"				***************************************

#### S Two-Way Stop-Gontrol Report **General Information** Site Information Analyst Eric M. Hough Intersection Outer Ring Road - Mall Access Road Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Outer Ring Road 2028 Analysis Year North/South Street Mall Access Road Time Analyzed PM Build-Year Peak Hour Factor 0.90 Intersection Orientation East-West 1.00 Analysis Time Period (hrs) Project Description Proposed Residential - 21-210



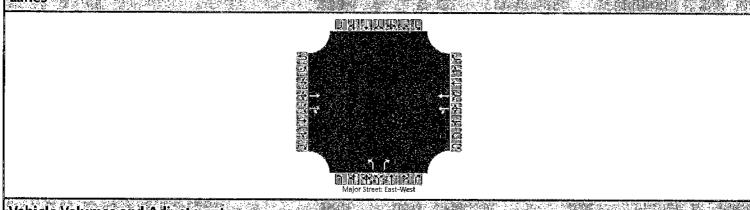
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			West	oound			North	oound			South	bound	***********
Movement	U	Ľ.	Т	R	U	L	T	R, · ;	Ų	L	Т	R	U	L	Т	R
Priority	<b>1</b> U	1	2	3	4U	4	5	6	· · · · · · · · · · · · · · · · · · ·	7	. 8	9		10	11	12
Number of Lanes	0	0	2	0	.0	0	2	0		1. :	0	1		0	0 ·	0
Configuration			Т	TR		LT	Т	······································		L		R				····
Volume (veh/h)	1		71:	51		27	204			136	: :	60	**************************************			
Percent Heavy Vehicles (%)						4			***************************************	1	( <del>************************************</del>	9	·················			
Proportion Time Blocked					: .			**************************************								ann s aim anns
Percent Grade (%)					***************************************	NTH WANTE AND DESCRIPTION OF THE PERSON OF T		·····		(	)				- <del></del>	
Right Turn Channellzed	1 2			*********			11.	. 4.		Ň	o			<del> </del>		
Median Type   Storage		/ <del>//** *** ** *************************</del>		Undi	vided				· · · · · · · · · · · · · · · · · · ·	****	M:HUMM	<del>&gt;</del>	<del></del>			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)						4.1				7.5		6,9				
Critical Headway (sec)			·."			4.18				6,82		7.08	, <del></del>			
Base Follow-Up Headway (sec)					,	2.2				3.5	***************************************	3.3	· Carrier Properties	<del>- 1118-11-11-11-11-11-11-11-11-11-11-11-11</del>		
Follow-Up Headway (sec)						2,24				3.51		3.39				
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)						30		***************************************	<u> </u>	15 <b>1</b>		67				
Capacity, c (veh/h)						1432				674		959		***************************************	·	
v/c Ratio		***************************************				0,02		********	* *************************************	0.22	SAMI TATA MATANASA PARA	0.07				
95% Queue Length, Q <sub>95</sub> (veh)					***************************************	0.1	**************************************			0.9		0,2				A
95% Queue Length, Q <sub>95</sub> (ft)				**************************************	***********************	2.6				22,7	**************************************	5.4	******************************	· ·	***************************************	
Control Delay (s/veh)	<del></del>	:	- Andrews			7,6	0.1		***************	11.9		9.0				
Level of Service (LOS)						А	Α	***************************************		В		А		o company over 1	1	
Approach Delay (s/veh)						1	.0	······································		1	1.0		***************	<del></del>	in <mark>i</mark>	
Approach LOS							A				В	No.				

#### /av Stop-Control Repo **General Information** Site Information Analyst Eric M. Hough Outer Ring Road - Mall Access Road Intersection Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Outer Ring Road Analysis Year 2024 North/South Street Mall Access Road Time Analyzed SAT Existing Peak Hour Factor 0.83 Intersection Orientation East-West Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



	o, mesagaja	and the second second	off the floor, and the							<b>斯·朱安徽</b>						
Approach		1	ound	·			bound			North	***************************************			T:	bound	T
Movement	· · U	L	Т	R	U.	L	T	R	Ų	L	T.	R	U	L ;	T	, R
Priority	10	1	2	3	40	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0 :	0	0	2	0	1.50	. 1	0	2.1%.	1.44	0	0	0
Configuration			Т	TR		LT	Т			L		R				
Volume (veh/h)			98	53		28	114	A.,	· .	94		108				\$4.
Percent Heavy Vehicles (%)		1				0				0	**************************************	2				
Proportion Time Blocked	***************************************				. :	***************************************		**************************************	***************************************				111		; `.	
Percent Grade (%)	TOATOV - ST		· · · · · · · · · · · · · · · · · · ·	•		4-mm	<del>***************</del>			(	)		***************************************	<u> </u>	d <u></u>	<u> </u>
Right Turn Channelized	100					4.7				N	0		······		1	
Median Type   Storage	***************************************	**************************************	***************************************	Undí	vided	"			***************************************	WXXIIII Tarahara rabiA	A,	• .*· <sub>11</sub> ,				
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)						4.1				7.5		6,9			***************************************	
Critical Headway (sec)						4.10				6.80		6.94				
Base Follow-Up Headway (sec)			***************************************			2,2	Ţ.,			3.5		3.3				
Follow-Up Headway (sec)						2,20			ļ	3.50		3,32			***************************************	
Delay, Queue Length, and	l Leve	l of S	ervice													
Flow Rate, v (veh/h)		1				34	**************************************			113		130				A A A A A A A A A A A A A A A A A A A
Capacity, c (veh/h)			**************************************	**************************************		1405				669		949				
v/c Ratio	<del></del>		***************************************			0,02			· · · · · · · · · · · · · · · · · · ·	0.17		0.14				
95% Queue Length, Q <sub>95</sub> (veh)					***************************************	0.1				0,6	· · · · · · · · · · · · · · · · · ·	0.5		***************************************	·	
95% Queue Length, Q <sub>95</sub> (ft)	· <sup>14</sup> · · · <sup>1</sup> 4 · · · <sub>1</sub> · · · · <sub>1</sub> · · · · · · · · · · · · · · · · · · ·		***************************************	***************************************	· · · · · · · · · · · · · · · · · · ·	2.5				15.0		12.7		·*************************************	·	
Control Delay (s/veh)	·*************************************		***************************************			7,6	0.1	-		11.5		9,4				T
Level of Service (LOS)	·				***************************************	A	А	······································		В		A			· ***************	
Approach Delay (s/veh)						1	.6	<b></b>		.1(	),4	<u></u>	dimim managam		<u> </u>	.1
Approach LOS					/	1	A	***************************************	· · · · · · · · · · · · · · · · · · ·		В			own a suppose	·····	41.2-TA-WILLIAM

#### HCS Two-Way Stop-Control Report General Information Site Information Analyst Eric M. Hough Intersection Outer Ring Road - Mall Access Road Agency/Co. Jurisdiction Bertin Engineering Lawrence Date Performed 4-30-25 East/West Street Outer Ring Road Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT No-Build Peak Hour Factor 0.83 Intersection Orientation East-West Analysis Time Period (hrs) 1,00 Project Description Proposed Residential - 21-210

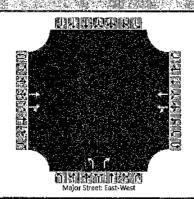


Approach		Easth	ound			West	oound		·	North	bound			South	bound	THE PERSON NAMED IN COLUMN NAM
Movement	Ú	L	Т	R	U	L	ंग	R	U	· L	Т	√R	Ü.	L	Т	. R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		.1	0	. 1 .		0.	. 0	0.0
Configuration	***	W-A	T	TR		LT	Т			L	·	R				- innimonon
Volume (veh/h)	·		102	55		29	119			98		<b>1</b> 12			***************************************	MA MARIAMAN
Percent Heavy Vehicles (%)				**************************************		0				0		2				
Proportion Time Blocked		**************************************		1 1 1			***************************************				1	<b>}</b>	***************************************	· ·		
Percent Grade (%)	~:×************************************	·····	<u></u>				*******				0	Axompusuu				
Right Turn Channelized			- : : · ·	, <del>, , , , , , , , , , , , , , , , , , </del>	***************************************	: · ·				1	<b>V</b> o				<del></del>	·
Median Type   Storage			<del>racinimitatinimis</del> .	Undi	vided			······································	**************************************			.,		······································	***	
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)					10,000,000	4.1			10.000	7,5	- 44 (/4/200/arr	6.9			, ar wat rease	V-10/16 1-7
Critical Headway (sec)						4.10		:		6.80		6.94	<u> </u>	:	†	-
Base Follow-Up Headway (sec)			· · · · · · · · · · · · · · · · · · ·		·	2.2		· · · · · · · · · · · · · · · · · · ·	-	3.5	ter iku iku iku oka kasa a	3,3				
Follow-Up Headway (sec)						2,20	***************************************	:		3,50		3.32	**************************************	HE-POPEL		
Delay, Queue Length, and	Leve	of S	ervice													
Flow Rate, v (veh/h)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		O. Googly 1 mg		35				118	<u> </u>	135	<u> </u>	, jangan jerua, 17		angg ac
Capacity, c (veh/h)						1397	,,		***************************************	658	A Armento Appropriate Control	944	V. V.		<u> </u>	· · · · · · · · · · · · · · · · · · ·
v/c Ratio	.,,		-t-Merite al Demiliories			0.03	······		***************************************	0.18		0.14	<del>)</del>	·		·····
95% Queue Length, Q <sub>95</sub> (veh)	••••••••••••••••••••••••••••••••••••••					0.1		******		0.7	1	0.5	<del>Andriku pi mes</del>			·····
95% Queue Length, Q <sub>95</sub> (ft)	Authornia					2.5			***************************************	17.5		12.7			***************************************	
Control Delay (s/veh)		***************************************				7.6	0.1	**************************************		.11.7		9.5				
Level of Service (LOS)	***************************************	<del></del>				A	А	<del>eden</del> nanik kemena		В	www.vw	A			M THE NAME OF THE OWNER, THE OWNE	
Approach Delay (s/veh)	**************************************					1	.6		Garage Commence of the Commenc	1:	0.5			<del></del>	**************************************	
Approach LOS	The state of the s						Ą	<del></del>	<del></del>	i <del>minoon</del> i// <del>imooni/oo</del>	В		<u> </u>		***************************************	

# HCS Two Way Stop-Control Report

General Information  Analyst	Eric M. Hough	Intersection	Outer Ring Road - Mall Access Road
Agency/Co.	Bertin Engineering	Jurisdiction (a)	Lawrence
Date Performed	4-30-25	East/West Street	Outer Ring Road
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	SAT Build Year	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	1,00
Project Description	Proposed Residential ~ 21-210		<u> </u>

#### Lanes



Approach		Eastb	ound			West	oound			North'		ML************************************			bound	
Movement	U	L	Т	₹R	U	L.	Т.	R	U	L	Т	R	U	Ŀ	T.	R
Priority	1U	1	2	3	4∪	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	. 2	0	0	0	i 2	0		1	0	1		:0:	0 ,	0
Configuration	i		Т	TR	***************************************	LT	Τ			L	***************************************	R	·			
Volume (veh/h)			102	59		30	119			103	· · · · · · · · · · · · · · · · · · ·	117		7		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Percent Heavy Vehicles (%)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					0		- ARMAN HANNE	<del></del>	0		2				***************************************
Proportion Time Blocked			- MAINGING			· ·	:					***************************************		*****		
Percent Grade (%)				<b></b>			<u> </u>	·		(	)	<b>.</b>			A.,	
Right Turn Channelized		***************************************			1 1					<u> </u>	0			: .		

Critical and Follow-up Head	

Median Type | Storage

Vehicle Volumes and Adjustments

Base Critical Headway (sec)				4.1			7,5	6.9	 	
Critical Headway (sec)				4.10	 ur .	- Common	6.80	6,94	 	
Base Follow-Up Headway (sec)				2,2			3.5	3.3		
Follow-Up Headway (sec)		:		2.20			3.50	 3,32		

Undivided

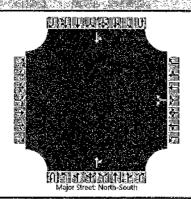
#### Delay Queue Length, and Level of Service

Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)						36				24		141		······································	1	
Capacity, c (veh/h)						1391		I		552		940				
v/c Ratio						0.03			C	.19		0.15		·	***************************************	*************
95% Queue Length, Q <sub>95</sub> (veh)						0.1				0.7	***************************************	0.5				
95% Queue Length, Q <sub>95</sub> (ft)						2,5			1	7.5		12.7				
Control Delay (s/veh)					I	7.7	0.1		. 1	1.8		9,5				
Level of Service (LOS)						Α	Α			В		A	**************************************	**************************************	ekkaminki Mene	
Approach Delay (s/veh)						1	.7			. 10	).6					
Approach LOS							4	***************************************			3	***************************************	A PARTY OF THE PAR		<del>*************************************</del>	<del>*************************************</del>

#### HOGIWOZWEWSIODEGORIIOJERCEGORI

General Information		Site Information	
Analyst	Eric M, Hough	Intersection	Mall Access Road - Northern Site Driveway
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Northern Site Driveway
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	AM Build-Year - W O.R,R.	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210		

#### Lanes



		<ul> <li>************************************</li></ul>			er, de paraliga
Vehi	cie Vo	lumes a	nd Ad	iustme	nts

Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	Ļ.	T	R	U	L	Т	R	U	L	÷Τ	R	· U	L.	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4∪	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0:	1.	0
Configuration							LR	A DESCRIPTION OF THE PROPERTY OF			Vital White the manual	TR		LT	<del></del>	**************************************
Volume (veh/h)						18		6		an a la minoc	93	4		1	40	······································
Percent Heavy Vehicles (%)						0		0	(				<del></del>	0	·····	
Proportion Time Blocked			<del>1,57-20-0-0-11</del>						- Christian Chri	************	- CAND WELL			- Mariouni (aliku: mariouni)		
Percent Grade (%)		<del>militar hik</del> tii <del>iikt</del> ar					0			<del>Arwews-1</del>	<del>alama a menuma a e</del>				<u> </u>	
Right Turn Channelized	mann america planario							**************************************	9 <del></del>		·, ··· · ····					
Median Type   Storage			<del>*************************************</del>	Undi	vided	<del>*************************************</del>	A Marie of All Maries and document	16.1				<del>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1) </del>				

## Critical and Follow-up Headways

Base Critical Headway (sec)		l		7,1		6,2				4.1	
Critical Headway (sec)				6,40		6.20				4.10	 
Base Follow-Up Headway (sec)				3.5	333	3,3			******	2.2	
Follow-Up Headway (sec)				3.50	- · ·	3,30				2.20	 

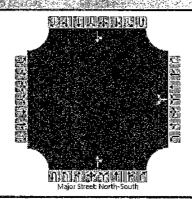
### Delay, Queue Length, and Level of Service

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Flow Rate, v (veh/h)							26							1		
Capacity, c (veh/h)			. "				876		* Company According to the Company of the Company o					1501	***********************	· · · · · · · · · · · · · · · · · · ·
v/c Ratio				1	******************************	· · · · · · · · · · · · · · · · · · ·	0.03					*************************		0.00		
95% Queue Length, Q <sub>95</sub> (veh)							0.1	- 43 1×44×4×1×1×1×1×1×1×1×1×1×1×1×1×1×1×1×1×	****************			a ana in ainm an		0.0		~*********
95% Queue Length, Q <sub>95</sub> (ft)	Marit Designation				***************************************		2.5	e en						0.0		
Control Delay (s/veh)						A) <del></del>	9.2					<b>9</b> ************************************		7.4	0.0	
Level of Service (LOS)							A			***************************************	·	- <del></del>	·	Α	• А	
Approach Delay (s/veh)						9	,2	<del></del>	***************************************					. 0	.2	
Approach LOS	, no ,	***************************************			<del></del>		A				· • · · · · · · · · · · · · · · · · · ·		**************************************	······································	Д	

#### HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Mall Access Road - Northern Site Driveway
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	4-30-25	East/West Street	Northern Site Driveway
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	AM Build-Year - WO O.R.R.	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210	***************************************	<sup>2</sup> 7

#### Lanes



Approach		Eastk	ound			West	bound			North	bound		İ	South	bound	
Movement	U	;·L.·	Т	R	u.	L	· T	R	Ų:	L	Т	R	U	Ĺ	Т	R
Priority		10	<b>1</b> 1	12		7	8	9	1 <b>U</b>	1	2	3	4U	4	5	6
Number of Lanes		. 0	. 0 .	0		0	1	0 -	0	0	1	0	0	0	1	0
Configuration .							LŔ				••••••••••••••••••••••••••••••••••••••	TR		LT	· Citum • • • • • •	
Volume (veh/h)						30		0		**************************************	87	4		0.	40	
Percent Heavy Vehicles (%)						0	1	0			imilahanne a illam			0		***************************************
Proportion Time Blocked								· · · ·		· · · · · · · · · · · · · · · · · · ·		<u> </u>		***************************************	***************************************	

Percent Grade (%)		0
Right Turn Channelized		
Median Type   Storage	Undi	vi <b>d</b> ed

#### Critical and Follow-up Headways

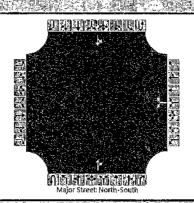
Vehicle Volumes and Adjustments

Base Critical Headway (sec)				7.1	6.2				4.1		
Critical Headway (sec)				6.40	 6,20				4.10		
Base Follow-Up Headway (sec)				3.5	3.3				2.2	· /	
Follow-Up Headway (sec)	· ·		T :	3.50	3.30		7	 ·	2.20		į

#### Delay, Queue Length, and Level of Service

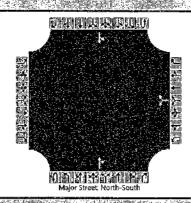
	s d'in Carada	s (Marcha)	Til Kegleyly					ryyta	(M. 1909) day tagan						
Flow Rate, v (veh/h)							32						0		
Capacity, c (veh/h)						:	861						1509	( <del>)</del> 1	
v/c Ratio							0.04		 				0.00		******
95% Queue Length, Q <sub>95</sub> (veh)							0.1			- Aminorality		**************************************	0.0		
95% Queue Length, Q <sub>95</sub> (ft)				Omeranin Paris		- Annual Control	2,5	Seriffering Transform		i initiani e e e e e e e e e e e e e e e e e e e	птаййттар	*	0.0		***************************************
Control Delay (s/veh)					- Marie Carre	***************************************	9.3	- mińskieminniemi		.,			7.4	0.0	**************************************
Level of Service (LOS)							А			· · · · · · · · · · · · · · · · · · ·			Α	Α	·······
Approach Delay (s/veh)		· · · ·				9	3,3	#*************************************	 Militari da succida de la composición del composición de la compos				. 0	.0	
Approach LOS	ii a re e sur a careane	1 1011. 10. 10.			1	**************************************	A	************	 		·. ····· · ··· · · · ·		/	4	illand and a mechalish

General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Mall Access Road - Northern Site Driveway
Agency/Co. :	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	11/28/2023	East/West Street	Northern Site Driveway
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	PM Build-Year - W O,R,R,	Peak Hour Factor	0.90
Intersection Orientation	North-South /	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210	• · · · · · · · · · · · · · · · · · · ·	



Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			West	bound			North	bound	·····		South	bound	
Movement	. U.	L	Т	R	U	L	Т	R	U	L	·T	R	U	L	T:	. R
Priority	/	10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1.	0	0 :	: 0	1	0 ^	O	0	1	.0
Configuration							LR				· · · · · · · · · · · · · · · · · · ·	TR	***************************************	LT	······································	1
Volume (veh/h)						10 :		3	- FRITHWAN	~ <del>************************************</del>	193	11		4	74	-
Percent Heavy Vehicles (%)	) <del>,_,,</del>					0	***************************************	0	*****************	***************************************				0		
Proportion Time Blocked				***************************************		0.000								- Carrier Control		*************************
Percent Grade (%)	-	J.,		·3····	1		0				······································		************	A	***************************************	
Right Turn Channelized				V. 1		t i	· ·. : · · .			······································	:	*********		٠.		
Median Type   Storage				Undi	ivided		*****************	**************************************			11					
Critical and Follow-up He	adwa	<b>ys</b>														
Base Critical Headway (sec)	<u> </u>					7,1		6.2						4.1		
Critical Headway (sec)		ei Hill Hrüssen (2000)				6,40		6.20	- maria h hwairdd is affire			/		4.10	***	
Base Follow-Up Headway (sec)				.,		3,5	· · · · · · · · · · · · · · · · · · ·	3.3		- Commission	- Committee on the committee of the comm	BANKA KOMMONIA KARAT		2,2	,	
Follow-Up Headway (sec)				· · · · · · · · · · · · · · · · · · ·		3.50		3.30						2,20	- HONELLOW HITELES	4 10 TANNETS 11 11
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)		**************************************	<b>*************************************</b>				14	Ī	1			<del>ji damiri y</del>		4		1
Capacity, c (veh/h)							711					· ····································		1354		
v/c Ratio							0.02		A A A A A A A A A A A A A A A A A A A					0,00	***************************************	·}
95% Queue Length, Q₅₅ (veh)	***************************************						0.1					********	***************************************	0.0	•	
95% Queue Length, Q₅₅ (ft)							2,5		<del></del>		***************************************	e et en		0.0		
Control Delay (s/veh)			wwi.				10.2		. Apple and the					7,7	. 0.0	
Level of Service (LOS)	**************************************	**************************************	······································	Varie milamentar	· ·		В	i				·	*****************	А	A	*
Approach Delay (s/veh)						1	0,2	<del></del>			·	and the second s	m	(	.4	
Approach LOS		<del>On man al minimo o</del>		·······	A CHANGE CAN HAVE	······································	В	······································		Amonine management of the state					A	

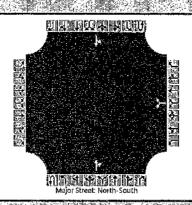
#### HCS Two-Way Stop-Control Re General Information Site Information Analyst Eric M. Hough Mall Access Road - Northern Site Driveway Intersection Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 11/28/2023 East/West Street Northern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed PM Build-Year - WO O.R.R. Peak Hour Factor 0.90 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Approach		General January	ound	1550 NE 3550 SA		Westk	ound	erint Kiri (jetur)	egeran o egendua e	North	anund	- x.6653.00099	(387) (398, 99	South	siid) saunad haarinad	
		·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	j~	······································			<u> </u>		A Property Company	······································			<u> </u>		
Movement	U	L	Т	R	U	L	Ţ.	;;R .	U	L	• Т	R	U	L	Ţ	R
Priority		10	11	12		7	8	9	1U .	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0 -	1.	0	. 0	0	.1	0	0	0	1	0
Configuration		······································		Militaria no de la compansión de la comp	<u></u>		L.R					TR		LT		
Volume (veh/h)				10 11 11 11 11 11 11 11 11 11 11 11 11 1		16	A CO	0			190	12		0	74	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked	,				:								· · · · · ·	<i>i</i> .		***************************************
Percent Grade (%)						(	)						1 4	<del>3</del>	**************************************	<del></del>
Right Turn Channelized		····	•									••••••••••••••••••••••••••••••••••••••	*****			
Median Type   Storage		••••••••••••••••••••••••••••••••••••••	······································	Undi	vided		· · · · · ·		·	* home ************************************	A) Amerika Medica AMA I	Volume III	Yuz-su, ali			CORNELL EDWAR
Critical and Follow-up He	adwa	ys 🕌				##										
Base Critical Headway (sec)						7.1	***************************************	6.2		<u>, , , , , , , , , , , , , , , , , , , </u>				4.1	ii	
Critical Headway (sec)						6.40		6,20				-	*****************	4.10		
Base Follow-Up Headway (sec)	PORTON DE LA CONTRACTION DEL CONTRACTION DE LA C	***************************************				3,5		3,3		ATTACK I HAVE WALLE	THE PERSON NAMED IN PARTY OF THE PERSON NAMED	ACT THE PROPERTY OF THE PARTY O		2,2	(to	
Follow-Up Headway (sec)				٠.		3.50	:	3.30	***************************************	******		: .		2,20	:	THE STATE OF THE S
																1
Delay, Queue Length, and	Leve	l of Se	ervice													
	Leve	l of Se	ervice				18							0		
Delay, Queue Length, and	Leve	l of Se	ervice				18 696									
<b>Delay, Queue Length, and</b> Flow Rate, v (veh/h)	Leve	l of Se	ervice											0		
<b>Delay, Queue Length, and</b> Flow Rate, v (veh/h) Capacity, c (veh/h)	Leve	l of Se	ervice				696				****			0 1356		
<b>Delay, Queue Length, and</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio	Leve	lofSe	ervice				.696 0.03							0 1356 0,00		
Delay, Queue Length, and Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)	Leve	lofSa	Prvice	The state of the s			696 0.03 0.1				4494 - 44			0 1356 0,00 0.0	0.0	
Pelay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh) 95% Queue Length, Q <sub>95</sub> (ft)	Leve	l of Sc	PIVICE				696 0.03 0,1 2.5							0 1356 0.00 0.0	0.0 A	
Pelay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh) 95% Queue Length, Q <sub>95</sub> (ft) Control Delay (s/veh)	Leve	and the second s	Prvice			10	696 0.03 0,1 2.5 10.3							0 1356 0,00 0,0 0,0 7,7 A	*****************	

#### Vav Stop-Gontrol Reg **General Information** Site Information Analyst Eric M. Hough Intersection Mall Access Road - Northern Site Driveway Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 11/28/2023 East/West Street Northern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT Build-Year - W O,R,R. Peak Hour Factor 0.83 Intersection Orientation North-South 1.00 Analysis Time Period (hrs) Project Description Proposed Residential - 21-210

#### Lanes



									ıer	

Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L	Т	R	U.	L	Т	R	U	L	્રા	R	U.	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	. 0	0.		0 :	. 1	0	0	0	1	0.	0	0	1	. 0,
Configuration			TI PORTONIA				LR					TR		LT		
Volume (veh/h)					A THE PROPERTY OF THE PARTY OF	9	***************************************	5		delign and the contract	215	6		5	84	***************************************
Percent Heavy Vehicles (%)						0		0	·					0	***************************************	
Proportion Time Blocked										***************************************				**************************************		
Percent Grade (%)						(	)		***************************************	**************************************		FI		â		
Right Turn Channelized				11 11		:·	:								······································	102 harred 21 ha
Median Type   Storage			•	Undi	vided	**4n <del>1n1*</del> n341 <b>*********</b>	WWW.mmonueWinkile	********			1	····	**************		···	

#### Critical and Follow-up Headways

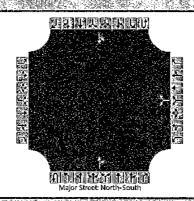
	Base Critical Headway (sec)	<u> </u>			7,1		6,2				4.1		
	Critical Headway (sec)		 		6.40		6.20				4.10		
	Base Follow-Up Headway (sec)				3.5		3.3	3. 4. 3. 4. 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			2.2	MI WANTE THANKS AND THE	
l	Follow-Up Headway (sec)				3.50	·	3.30				2.20	.,,	

#### Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					17						6		
Capacity, c (veh/h)					674			. 110,0,			1309		**************************************
v/c Ratio				· · · · · · · · · · · · · · · · · · ·	0.03						0.00	no maka maman	
95% Queue Length, Q <sub>95</sub> (veh)		 			0.1		÷				0.0		
95% Queue Length, Q <sub>95</sub> (ft)					2.5						0.0	<del>?=0mm</del> mmmm	<del>,</del>
Control Delay (s/veh)	1				10,5		. :		<u> </u>		7.8	0.0	
Level of Service (LOS)			 		В	A THE RESIDENCE OF		<del></del>		· ************************************	Α	Α	
Approach Delay (s/veh)				10	).5	-0- <del>00000000 (                          </del>					. 0	.5	······································
Approach LOS				[	В					7	······································	4	···

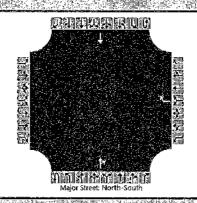
#### HC\$ Two-Way Stop-Control Repor **General Information** Site Information: Analyst Eric M. Hough Intersection Mall Access Road - Northern Site Driveway Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 11/28/2023 East/West Street Northern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT Build-Year-WO O,R,R, Peak Hour Factor 0.83 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210





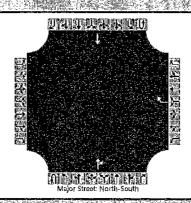
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Approach		Eastb	ound		ļ	Westi	bound	*******		North	bound	·		South	bound	
Movement	U.	Ľ	. T.	R	.U	L	Т	R	U	L	Т	R	U	· L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		· · 0 · · }	1	0	0	0	1	0	0	0	1 .	0,
Configuration							LR					TR		LT		
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Percent Heavy Vehicles (%)						0		0				,,,,,,,,		0		<u> </u>
Proportion Time Blocked					: · · · · · · · · · · · · · · · · · · ·					1.4						
Percent Grade (%)							0					·#************************************	<del>}~~~~</del>	**************************************	and the state of t	
Right Turn Channellzed						······································		***************************************			WWW.Mys.rendy.Ordely.	-			• .	1875 1
Median Type   Storage				Undi	vided	**************************************	······································									
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)					-	3.5		3.3	K AKON HATINA PARAMA PARA					2.2		
Follow-Up Headway (sec)				MINIMA MINIMA		3.50		3.30						2,20		***************************************
Delay, Queue Length, and	Leve	l of S	ervice													Ž. Š
Flow Rate, v (veh/h)							23	1	<u> </u>	<u> </u>				0		
Capacity, c (veh/h)		·					646	· · · · · ·		***************************************		W Indiana		1319	THE PERSON NAMED IN COLUMN	
v/c Ratio	MATERIAL PROPERTY.						0.04			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				0,00		
95% Queue Length, Q <sub>95</sub> (veh)	<b>*****</b>	· · · · · · · · · · · · · · · · · · ·					0.1			********	**************************************	·3·***********************************	· ************************************	0.0		
95% Queue Length, Q <sub>95</sub> (ft)						, , , , , , , , , , , , , , , , , , ,	2.5	**************************************	**************************************	, x:************************************	**************************************		MINIMA MINIMA MANAGEMENT	0.0		
Control Delay (s/veh)		<del></del>	<b>!</b>	·····	-} <del></del>	:	10.8					<del>                                     </del>		7.7	0.0	
	·		mitankar		-		·	140		<del></del>	ł*************************************	·	·	***************************************	***************************************	<del> </del>
Level of Service (LOS)							В				l		ł	Α	Α	1
Level of Service (LOS)  Approach Delay (s/veh)		:	- Augrecianian	L	. ·	1(	В 0.8		÷*************************************	S manufall mak	1	Mikrako e zaska Wooda	dilain mişmanın		A 0,0	

#### Two-Way Stop-Control Report General Information Site Information Eric M. Hough Analyst Intersection Mall Access Road - Southern Site Driveway Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed Southern Site Driveway 4-30-25 East/West Street Analysis Year 2028 North/South Street Mall Access Road Time Analyzed AM Build-Year - W O,R.R. Peak Hour Factor 0.96 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Approach		Eastb	ound			Westh	ound			North	bound			South	bound	
Movement	U	L	Т	R	υ.	L	Т	R	U	Ľ	Т	R	U	Ĺ	.T	R
Priority		10	<b>1</b> 1	12		7	8	9	1∪	1	2	3	4U	4	5	6
Number of Lanes		0	0,	0	rim m.m. AHH H. P.	0	0	1	0	.0	1	0.	0	.0	1	0
Configuration			***************************************	***************************************	**** /********************************		`**	R				TR		***************************************	T	1
Volume (veh/h)	America (ENM-24%)							6		***	82	4			52	
Percent Heavy Vehicles (%)	***************************************	vatin (1 <del>111) 111</del> 14   111					*****	0		****************	**************************************				······································	
Proportion Time Blocked		- 11.1			******	**************	· ********		***************************************							
Percent Grade (%)		···	•	***************************************	·	(	)	dr		<del>посмененици</del>	<u></u>	***************	• <del>• • • • • • • • • • • • • • • • • • </del>			
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Median Type   Storage	,			Undi	vided		1957 = W-1957 WWW.			****						<u>,                                    </u>
Critical and Follow-up He	adway	/S														
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Critical Headway (sec)		**************************************					-	6.20		<del>1751-жылышын</del> ж						
Base Follow-Up Headway (sec)			· · · · · · · · · · · · · · · · · · ·		·····		,	3.3				ļ				
Follow-Up Headway (sec)								3.30								
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Delay, Queue Length, and	Leve	of Se	ervice	osilijos od os La predo do os Addis												有關的
Delay, Queue Length, and Flow Rate, v (veh/h)	Leve	of Se	ervice					6								
	Leve	of Se	ervice					6 976								
Flow Rate, v (veh/h)	Leve	of Se	ervice													
Flow Rate, v (veh/h)  Capacity, c (veh/h)	Leve	of Se	ervice					976								
Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio	Leve	of Se	ervice					976 0.01								
Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)	Leve	of Se	rvice					976 0.01 0.0								
Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)  95% Queue Length, Q <sub>95</sub> (ft)	Leve	of Se	rvice	Company of the second of the s				976 0.01 0.0 0.0								
Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)  95% Queue Length, Q <sub>95</sub> (ft)  Control Delay (s/veh)	Leve	of Se	ervice	OBJECT TO SERVICE OF THE PROPERTY OF THE PROPE		8	7	976 0.01 0.0 0.0 0.0 8.7								

#### HCS Two-Way Stop-Control Report **General Information** Site Information Analyst Eric M. Hough Intersection Mall Access Road - Southern Site Driveway Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 4-30-25 East/West Street Southern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed AM Build-Year - WO O.R.R. Peak Hour Factor 0.96 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210

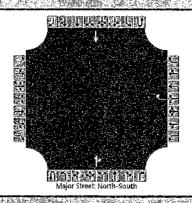


Approach		Eastb	ound			Westl	oound			North	bound			South	bound	
Movement	U	L.	Т.	R	U	L	Т	R	U	L	Т	R	U	' · L ::	T,	· · Ř
Priority		10	11	12	**************************************	7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0 -	0	. 0		0	0	1	0	. 0	1	10.4	. 0	. 0	1	0
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Percent Heavy Vehicles (%)				***************************************		***************************************	A	0			···	<u> </u>				
Proportion Time Blocked					**		· · ·	7.7			· · · · · · · · · · · · · · · · · · ·					
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Right Turn Channelized						١	lo	······································	1		. ·	:				si .
Median Type   Storage	<u> </u>		***************************************	Undi	vided	haraywww.aaaaa	······································			mulálimi i • · · ·	1111					
Critical and Follow-up He	adwa	ys .														
Base Critical Headway (sec)								6.2								- iminiminta
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Base Follow-Up Headway (sec)			:	P STREET, THE POST OF STREET,	·			6.20 - 3.3	A AZONINOATTA ITATTA (AME			Patrini krimitalista	<u> </u>			· · · · ·
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Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, and	I Leve	of Se	ervice					3.3 3.30								
Base Follow-Up Headway (sec) Follow-Up Headway (sec)  Delay, Queue Length, and Flow Rate, v (veh/h)	1 Leve	l of S	Prvice					3.3 3.30		312						
Base Follow-Up Headway (sec) Follow-Up Headway (sec)  Pelay, Queue Length, and Flow Rate, v (veh/h)  Capacity, c (veh/h)	Leve	of Se	Pylice					3.3 3.30 0 976								
Base Follow-Up Headway (sec) Follow-Up Headway (sec)  Pelay, Queue Length, and Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio	Leve	of Se	Prvice					3.3 3.30 0 976 0.00								
Base Follow-Up Headway (sec) Follow-Up Headway (sec)  Pelay, Queue Length, and Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)	1 Leve	of Se	Price					3.3 3.30 0 976 0.00								V 1985
Base Follow-Up Headway (sec) Follow-Up Headway (sec)  Pelay, Queue Length, and Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)  95% Queue Length, Q <sub>95</sub> (ft)	1 Leve	of Se	Prvice					3.3 3.30 0 976 0.00 0.0								

## HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Eric M, Hough	Intersection	Mall Access Road - Southern Site Driveway
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	11/28/2023	East/West Street	Southern Site Driveway
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	PM Build-Year - W O.R.R	Peak Hour Factor	0.97
Intersection Orientation	North-South	Analysis Time Period (hrs)	1,00
Project Description	Proposed Residential - 21-210	*	

#### Lanes



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Approach		Eastk	ound			Westb	oound			North	bound			South	bound	
Movement	U	Ĺ	Т	R	Ų	L,	Т	R	÷υ	L	Т	R	Ü	L.	Т	R
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Number of Lanes		0	0 -	0		0	0	1 :	. 0	0	. 1	0	0	0	1	0
Configuration								R			***************************************	TR		· <del>,,,,, </del>	Т	
Volume (veh/h)			14			***************************************	***************************************	3	**************************************		182	13			99	
Percent Heavy Vehicles (%)		-	***************************************	-	**************************************	**************************************	-Mark W. Mr. Mr. Mr. Mark & .	0		1,2-10, - 5 1, <u>0</u>						
Proportion Time Blocked		<del></del>		<del>/////////////////////////////////////</del>	· · · · · · · · · · · · · · · · · · ·						11-1-VH41	<del></del>	***************************************		i i i i i i i i i i i i i i i i i i i	1
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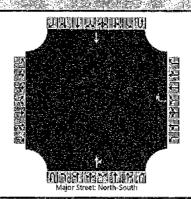
## Critical and Follow-up Headways

Base Critical Headway (sec)			<u> </u>		l			6,2						
Critical Headway (sec)					<u>.</u>	:		6.20						
Base Follow-Up Headway (sec)					CF III-KANOMKIII			3.3			 	,		P.COMINER. COMMERCIA
Follow-Up Headway (sec)								3,30						<del></del>
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#### Delay, Queue Length, and Level of Service

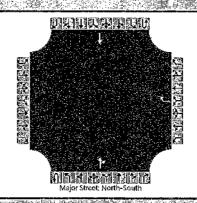
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Flow Rate, v (veh/h)								3			Jilandinamiliananti		<u></u>			
Capacity, c (veh/h)						***************************************	;	852								
v/c Ratio		<u> </u>		~~~~		·······················		0.00			Carrow III WWW.Wa		- China Amanga Carach		\$ <del>1100 WWW.011</del> 10	ha dalah kalancaran dari dari da mara
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95% Queue Length, Q <sub>95</sub> (ft)		/		***************************************	******************	A. A	Chromonomica Ma	0.0					7			
Control Delay (s/veh)	P40				· · · · · · · · · · · · · · · · · · ·			9.2		· · · · · · · · · · · · · · · · · · ·					***************************************	
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	HI HCS Two-Way Stop	-Control Report	
General Information		Site Information	
Analyst	Eric M. Hough	Intersection	Mall Access Road - Southern Site Driveway
Agency/Co.	Bertin Engineering	Jurisdiction	Lawrence
Date Performed	11/28/2023	East/West Street	Southern Site Driveway
Analysis Year	2028	North/South Street	Mall Access Road
Time Analyzed	PM Build-Year - WO O.R.R	Peak Hour Factor	0,97
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description	Proposed Residential - 21-210	· · · · · · · · · · · · · · · · · · ·	HATCHII (MANAMA NAMININI III MANAMA ANTIKA MANAMA



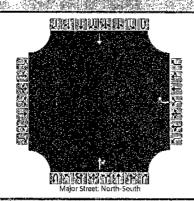
Vehicle Volumes and Adju	ıstme	nts														
Approach		Eastb	ound			Westl	bound	······································		North	bound			South	bound	<del></del>
Movement	U	L	Т	R	U	L	Т.	R	U	L	:T: -	R	Ü	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes	N	0	0	0		0	0	1	0	.0	1	0	0	O	1	0
Configuration								R		-Anna Caranta Anna Anna Anna Anna Anna Anna Anna		TR			Т	
Volume (veh/h)	dans.	:	11:1	٠.				0			183	16	· .		105	**************************************
Percent Heavy Vehicles (%)					*****************			0						***************************************	***************************************	
Proportion Time Blocked				:		5 ji					**************************************		***************************************	* <del>* · · · · · · · · · · · · · · · · · ·</del>		1. 1.
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Critical and Follow-up He	adwa	ys														
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Critical Headway (sec)								6.20								Sweens out manner
Base Follow-Up Headway (sec)								3.3	· · · · · · · · · · · · · · · · · · ·				egean marredonizinabeta	***************************************	**************************************	
Follow-Up Headway (sec)					: 7			3,30			***************************************	**************************************	***************************************		Ï	
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Capacity, c (veh/h)			A THUMBURN WATER	1				849							**************************************	
v/c Ratio			***************************************		. (			0,00	71 - 10 MOOT	***************************************	A CONTRACTOR OF THE PARTY	**************************************			7	
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Control Delay (s/veh)			***************************************					9,2					· Seema emmeron more	in de arte en	***************************************	
Level of Service (LOS)	<del></del>			.,				Α	*************		-	*	NATIONAL MICE			
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Approach LOS		· · · · · · · · · · · · · · · · · · ·			n gerende de la companya de la compa			·		····				······································		·

#### HCS Two-Way Stop-Control Report General Information Site Information Analyst Eric M. Hough Intersection Mall Access Road - Southern Site Driveway Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 11/28/2023 East/West Street Southern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT Build-Year - W O,R,R 0,90 Peak Hour Factor Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



Approach		Eastb	ound			West	ound			North	bound			South	bound	
Movement	U	L	Т	≟. R	··U	L	Т	R	Ú	L	Т	R	u ·	L.	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	1	0.	0	0	1	. 0
Configuration		··············	de metro es médico mande	·				R				TR		· anaaakala	T	
Volume (veh/h)	**************************************			147.7		,		5			206	9	3.4.5		95	<b></b>
Percent Heavy Vehicles (%)		,						0	~						***************************************	
Proportion Time Blocked		: :	····						11 11							
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Right Turn Channelized						١	lo		************	War kura Wanni Addion						
Median Type   Storage				Undi	vided	***************************************	***************************************		***************************************	, ., .,					<del></del>	**************************************
Critical and Follow-up He	adwa	ys		BY												
Base Critical Headway (sec)		<del>,</del>						6,2					***************************************			Ţ
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Follow-Up Headway (sec)			· .:		<del></del>	· · · · · · · · · · · · · · · · · · ·		3,30				- AUGUSTA	***************************************	Marine Haller Street		1
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Level of Service (LOS)	***************************************							A	M. W.K. International Control		· · · · · · · · · · · · · · · · · · ·	<del>~ ~~~~~~~</del>	William Walked Comme			1
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#### wo-Way Store-Conviol Report **General Information** Site Information Analyst Eric M. Hough Mall Access Road - Southern Site Driveway Intersection Agency/Co. Bertin Engineering Jurisdiction Lawrence Date Performed 11/28/2023 East/West Street Southern Site Driveway Analysis Year 2028 North/South Street Mall Access Road Time Analyzed SAT Build-Year - WO O.R.R Peak Hour Factor 0.90 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description Proposed Residential - 21-210



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Priority			***************************************		- 0 -			ļ		L		R		L <sub>i</sub>	1 1	R
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Percent Heavy Vehicles (%)								0		··········				,		<u> </u>
Proportion Time Blocked											<u> </u>			:		
Percent Grade (%)							C									
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Median Type   Storage				Undi	vided					<del>*************************************</del>	***************************************			han that "Hills		
Critical and Follow-up He	adwa	ys														
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Critical Headway (sec)	:						***************************************	6.20	*		:			THE UT PROPERTY AND ADDRESS.		
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Base Follow-Up Headway (sec)		l	1		1		ı			l		l .				
Base Follow-Up Headway (sec) Follow-Up Headway (sec)	«: <del>**********</del>							3.30						+		<u> </u>
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Follow-Up Headway (sec)	Leve	l of S	ervice					***************************************								
Follow-Up Headway (sec) Delay, Queue Length, and	Leve	l of S	ervice	780				3.30								
Follow-Up Headway (sec)  Pelay, Queue Length, and  Flow Rate, v (veh/h)	Leve	l of Se	ervice					3.30		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			10			
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Follow-Up Headway (sec)  Pelay, Queue Length, and  Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio	Leve	l of Si	ervice	MICANA MARKA				3.30 0 803 0.00					The state of the s			
Follow-Up Headway (sec)  Pelay, Queue Length, and  Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)	Leve	l of Si	ervice					3.30 0 803 0.00			And Annual Annua	Mariana America				
Follow-Up Headway (sec)  Pelay, Queue Length, and Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)  95% Queue Length, Q <sub>95</sub> (ft)	Leve	l of Si	Prvice					3.30 0 803 0.00 0.0								
Follow-Up Headway (sec)  Delay, Queue Length, and  Flow Rate, v (veh/h)  Capacity, c (veh/h)  v/c Ratio  95% Queue Length, Q <sub>95</sub> (veh)  95% Queue Length, Q <sub>95</sub> (ft)  Control Delay (s/veh)	Leve	lofs	evice					3.30 0 803 0.00 0.0 0.0 9.5								

# Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

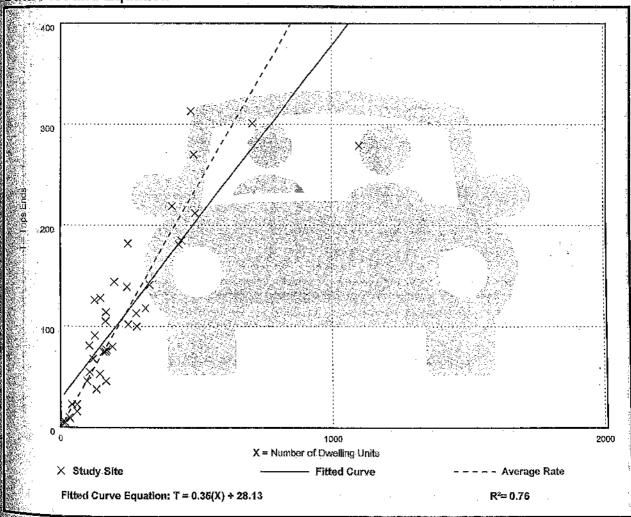
Number of Studies: 40 Avg. Num. of Dwelling Units: 234

Directional Distribution: 24% entering, 76% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.25 - 0.98	0.16

#### Data Plot and Equation



# Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,

PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

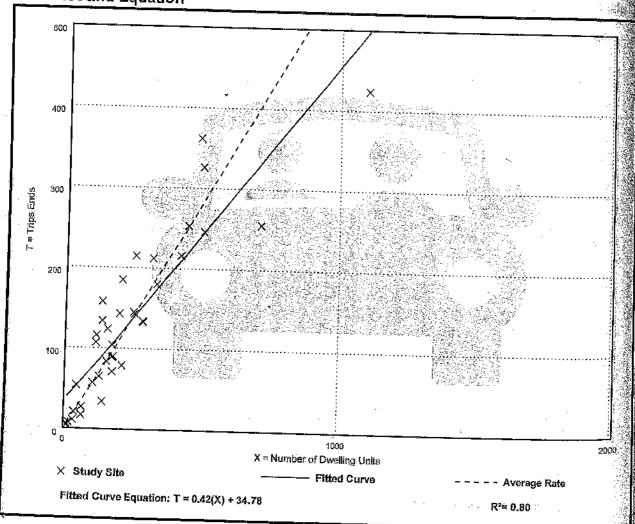
Number of Studies: 38 Avg. Num. of Dwelling Units: 231

Directional Distribution: 62% entering, 38% exiting

# Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.25 - 1.26	0.20

Data Plot and Equation



# Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

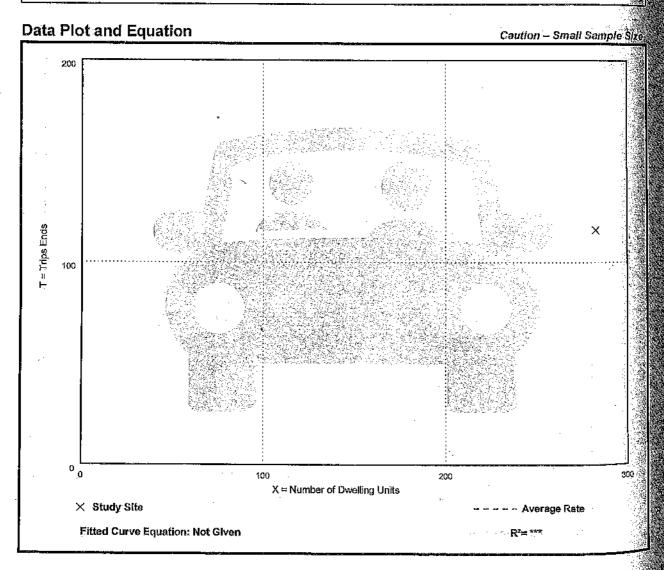
Setting/Location: General Urban/Suburban

Number of Studies: 1
Avg. Num. of Dwelling Units: 282

Directional Distribution: Not Available

#### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0.41	0.41 - 0.41	<b>米大水</b>



# Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units On a: Weekday, AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

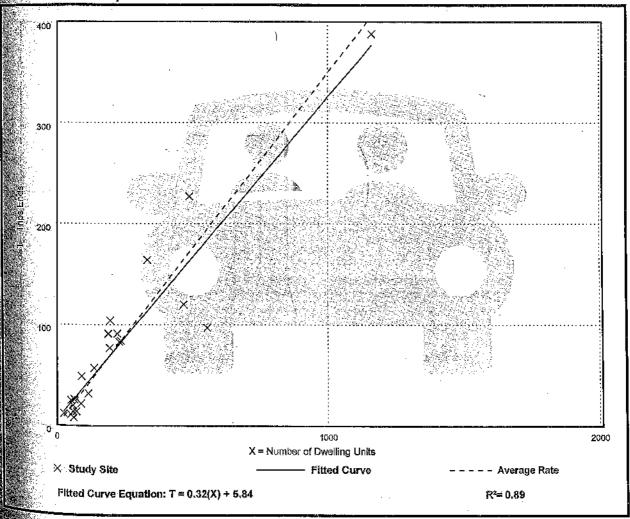
Number of Studies: 23 Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

#### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.35	0.13 - 0.53	0.11

#### Data Plot and Equation



# Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units On a: Weekday, PM Peak Hour of Generator

Setting/Location: General Urban/Suburban

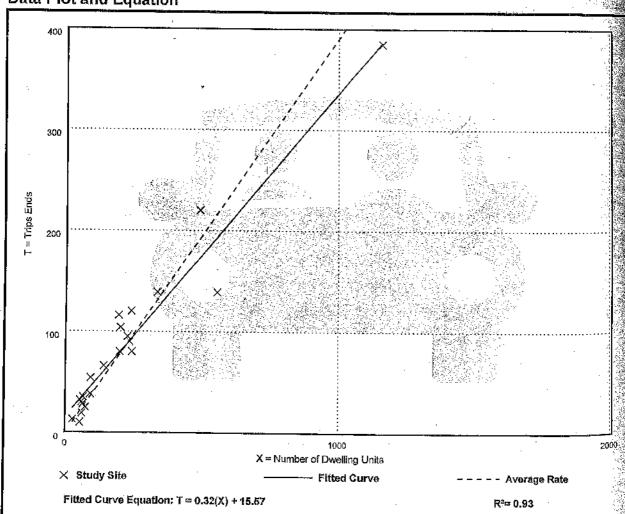
Number of Studies: 22 Avg. Num. of Dwelling Units: 221

Directional Distribution: 60% entering, 40% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.60	0.10





# Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

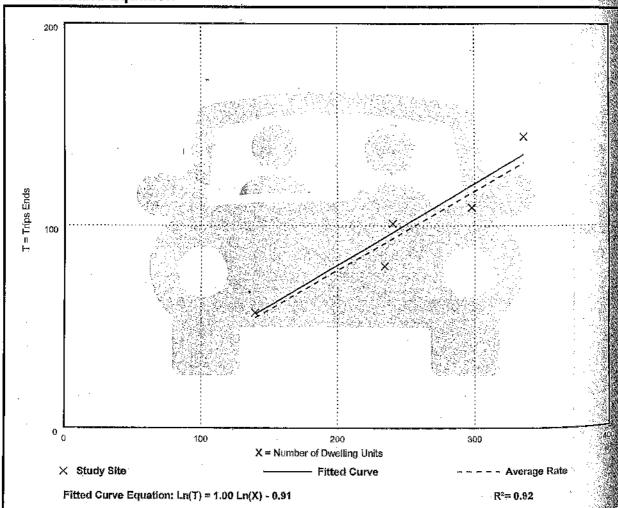
Avg. Num. of Dwelling Units: 250

Directional Distribution: 51% entering, 49% exiting

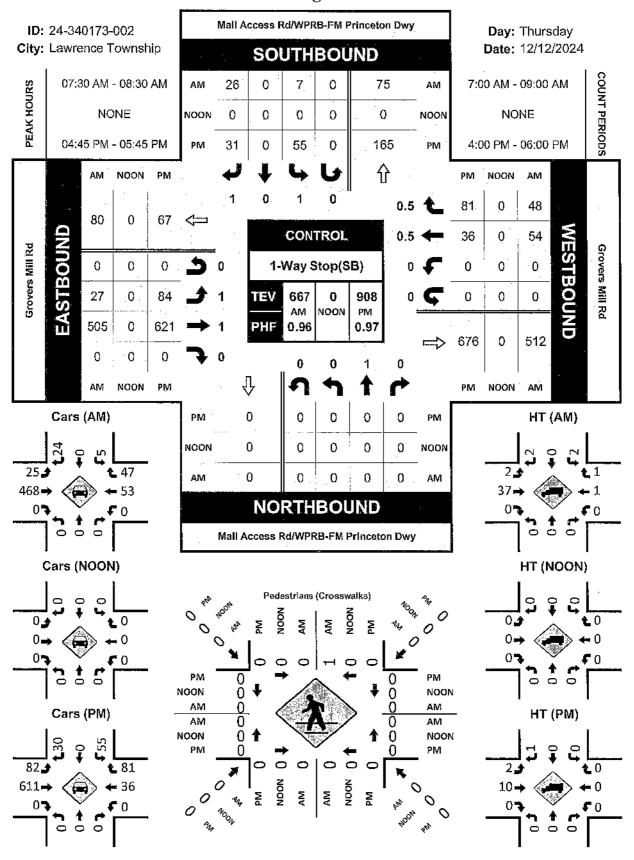
#### Vehicle Trip Generation per Dwelling Unit

		-	
	Average Rate	Range of Rates	Standard Deviation
-	0:39	0.34 - 0.43	0.04

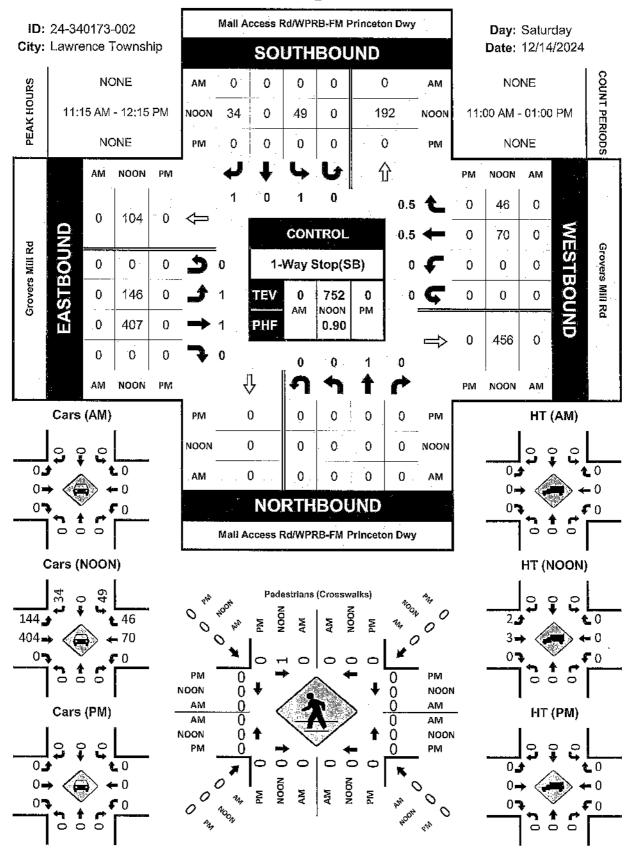
**Data Plot and Equation** 



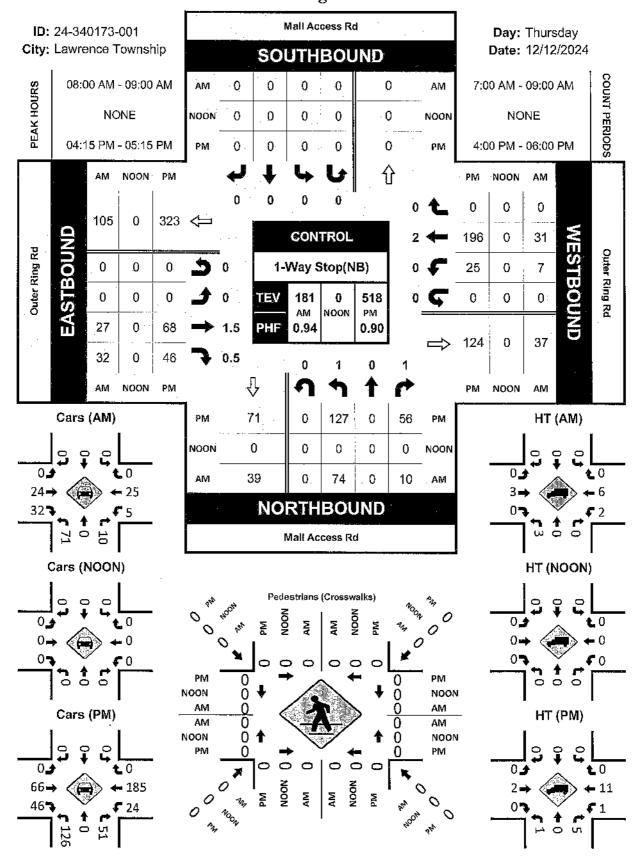
# Mall Access Rd/WPRB-FM Princeton Dwy & Grovers Mill Rd



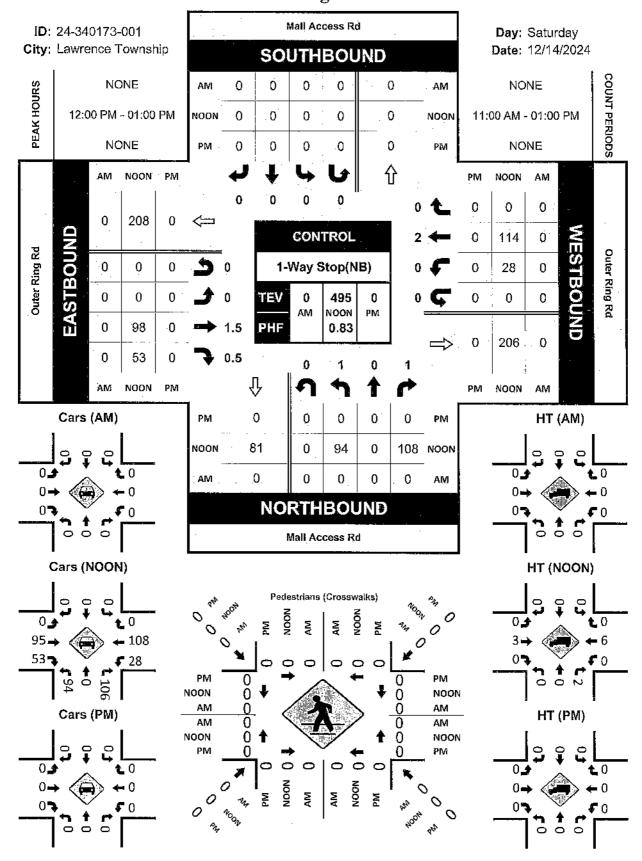
# Mall Access Rd/WPRB-FM Princeton Dwy & Grovers Mill Rd



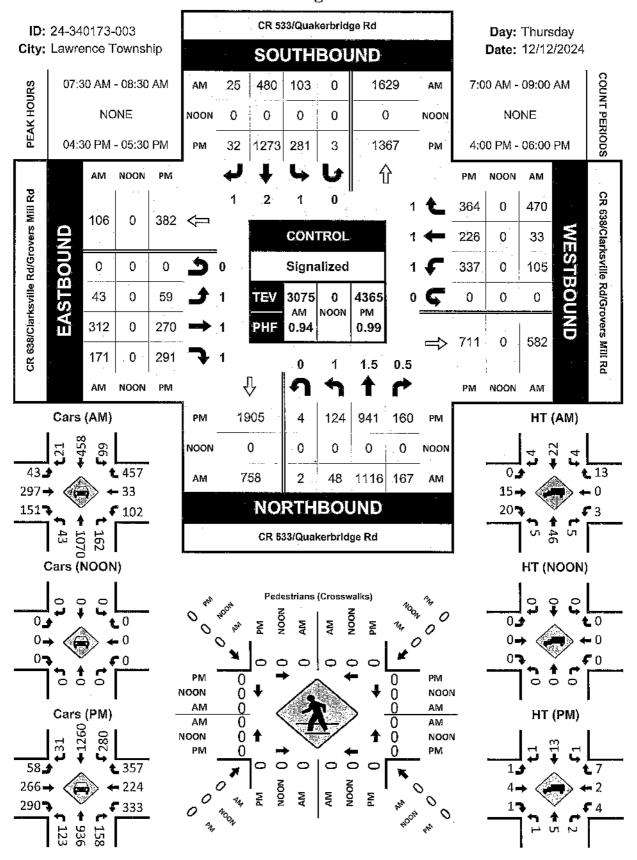
## Mall Access Rd & Outer Ring Rd



## Mall Access Rd & Outer Ring Rd



## CR 533/Quakerbridge Rd & CR 638/Clarksville Rd/Grovers Mill Rd



## CR 533/Quakerbridge Rd & CR 638/Clarksville Rd/Grovers Mill Rd

