STIMMEL ENGINEERING William P. Stimmel, P.E., P.P., PTOE

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# **Traffic Impact Analysis**

for

# Shameer Properties, LLC

212-216 Ernston Road – Block 444.04, Lots 23-25, 28

Borough of Sayreville, Middlesex County, New Jersey

William P. Stimmel, P.E., P.P., PTOE NJ PE Lic. # 45161 Revised August 8, 2023

### September 28, 2022 **Revised August 8, 2023**

Borough of Sayreville – Planning Board 167 Main Street Sayreville, NJ 08872

Re: Masjid Sadar & Community Center 212 – 216 Ernston Road – Block 444.04, Lots 23-25, 28 Borough of Sayreville, Middlesex County, New Jersey

Honorable Board Members:

This report has been prepared to address traffic impacts associated with the re-development of the referenced site. Specifically, this report will determine existing traffic volumes at the site driveways and nearest roadway intersection, project future traffic volumes based on the proposed use and provide a comparison of same. Site access, site circulation and parking concerns will also be discussed.

### **Existing Site Conditions**

The site consists of Lots 23-25 and 28 in Block 444.04 and has an area of 2.49 acres. 212 and 214 Ernston Road are developed with existing single-family residential structures. 216 Ernston Road is developed with the existing Masjid Sadar. The site is located along the westbound side of Ernston Road, to the west of the intersection with Center Avenue, as shown on the attached **Figure 1**.

Vehicular access to the properties is provided four driveways along westbound Ernston Road.

### **Proposed Site Conditions**

The applicant intends to remove all existing structures on the subject property and construct a new mosque with associated community space and offices. The proposed mosque will be centrally located on the subject property. Parking and circulation areas will be located to the east of the building. Portions of the site to the north, south and west of the principal structure will be landscaped.

A total of 109 parking spaces will be provided on site. 64 parking spaces will be located in a belowgrade parking garage underneath the building. The remaining 45 parking spaces will be located in the surface parking lot.

Access to the facility will be provided via two full-movement driveways along westbound Ernston Road. The centerlines of the proposed driveways will be separated by approximately 130 feet. Note that the location and design of the driveways is ultimately subject to review and approval by Middlesex County.

### Schedule of Events

The client has provided a schedule of events which is attached to this report. A summary of the traffic and parking associated with regular events is as follows:

- Regular Prayers (Daily) 15-30 vehicles/15-30 parking spaces
- Friday Afternoon Prayers 2 sessions with 60-90 vehicles/60-90 parking spaces at each sessions
- Religious Education (Sunday afternoons) 32 children attending, < 32 vehicles/minimal parking due to drop-off
- Prayer for the Deceased (as needed) 60-100 persons attending, 30-50 vehicles/30-50 parking spaces
- Religious Wedding (as needed, typically Saturday afternoon) 20-30 persons attending, 10-15 vehicles/10-15 parking spaces
- Family Nights (once/month, Friday night) 90-100 persons attending, 20-25 vehicles/20-25 parking spaces

It is important to note that these are all scheduled events. There will not be a situation where two events are scheduled at the same time.

### **Existing Roadway Network**

Ernston Road, also known as County Route 673, is under the jurisdiction of Middlesex County. One lane is provided for each direction of travel in the eastbound and westbound directions. The speed limit along Ernston Road is posted as 35 miles per hour.

Bordentown Avenue, also known as County Route 615, is under the jurisdiction of Middlesex County. One lane is provided for each direction of travel in the northbound and southbound directions. The speed limit along Bordentown Avenue is posted as 40 miles per hour in the vicinity of the site.

There are four driveways which intersect Ernston Road along the site frontage. 212 and 214 Ernston Road have typical residential driveways. 216 Ernston Road has one residential driveway and one driveway with a width of approximately 40 feet which leads to a paved parking lot to the west of the principal structure.

The intersection of Ernston Road and Bordentown Avenue is a four-leg intersection controlled by a traffic signal. The northbound, southbound and eastbound approaches to the intersection each provide a left-turn lane, a through lane and a right-turn lane. The westbound approach to the intersection provides a left-turn lane, a through lane and a shared through/right-turn lane.

There are two minor intersections along Ernston Road between the site frontage and the intersection with Bordentown Avenue (Parkway Place, Rutgers Road). These are stop controlled intersections with the Ernston Road traffic having the right-of-way. Any site-generated traffic added to the intersection is expected to consist primarily of through traffic along Ernston Road and will have a minimal impact on operations at these locations. Therefore, these intersections were not included in the analysis.

### **Existing Traffic Volumes**

Manual turning movement counts were conducted on Friday, April 29, 2022 from 12:00 p.m. until 4:00 p.m. at the two driveways for 216 Ernston Road. Given the existing development pattern and low volumes of traffic associated with 212 Ernston Road and 214 Ernston Road, these driveways were not included in the traffic count program. Note that at the time these traffic counts were performed, the mosque on the property was being used and experienced higher than typical driveway volumes due to holiday traffic.

These time periods were selected to capture the concurrent peaks of street traffic and site-generated traffic, as well as traffic associated with the dismissal of the nearby Samsel Upper Elementary School. The existing peak hour traffic volumes at the mosque driveways were found to occur from 1:00 p.m. until 2:00 p.m. which reflects the peak times for Friday prayers.

At the request of the Board Engineer, additional traffic counts were conducted at the intersection of Ernston Road and Bordentown Avenue on Friday, June 16, 2023 from 12:00 p.m. until 4:00 p.m. and again on Sunday, June 18, 2023 from 9:30 a.m. until 1:30 p.m. This intersection was selected due the potential for site-generated traffic and turning movements impacting operations. The Sunday peak hour was included in the analysis due to the relatively high volume of street traffic during the Sunday peak hour.

Peak hour traffic volumes for the intersection of Ernston Road and Bordentown Avenue are shown on the attached Figure 2, which provides a schematic representation of the study area.

### **Other Nearby Mosques**

At the request of the Board Engineer, traffic data was collected at existing mosques in the vicinity of the site to establish vehicle occupancy rates. Specifically traffic counts were conducted during Friday prayers at the Anjuman e Burhani Mosque in East Brunswick and Dawatul Islamia Mosque in Somerset. These counts showed average occupancies of 1.82 persons/vehicle and 1.88 persons/vehicle, respectively.

### Analysis of Existing Traffic Volumes

Existing Traffic Volumes at the study intersection were analyzed utilizing Highway Capacity Software ("HCS"), which is based on methodologies contained in the Highway Capacity Manual. This software evaluates the operational efficiency of individual movements, approaches and for the intersection as a whole, based on average delay in seconds per vehicle. This average delay translates to a letter grade on an "A" through "F" scale, with "A" representing the best conditions and "F" being the worst. These letter grades are referred to as Levels of Service. The Level of Service and average delay for existing conditions are summarized in the appendix of this report.

Results of the analyses of existing traffic volumes for the study intersection are shown on attached **Figure 3**. As indicated, all movements at the intersection operate at Level of Service "C" or "D" under existing conditions.

### **Site Generated Traffic Volumes**

Typically, site generated traffic for proposed developments is based on data presented by the Institute of Transportation Engineers ("ITE") in the publication <u>Trip Generation</u>, which is currently in its 11th Edition. In this case, the ITE has very limited data available for mosques (2 sample sites) and no data was available through NJDOT. Therefore, projections of future traffic volumes are based on a comparison of existing traffic volumes at the site versus those anticipated by the client as a result of the proposed development.

Currently the site has Friday prayers once during the Friday afternoon period. 150 vehicles enter the site for Friday prayers based on the traffic counts during a holiday period.

Based on a schedule of events provided by the client, the Friday afternoon prayers are expected to be the main generator of traffic associated with the proposed mosque. Attendance at the regular Friday services is expected to be no greater than 90 vehicles (180 trips).

The Board Engineer had also requested that the traffic associated with the religious instruction for children on Sundays be included in the analysis of traffic operations. It is expected that the religious instruction would generate 30 vehicles (60 trips) at the start of the session and 30 vehicles (60 trips) at the end of the session as parents would likely drop-off their children and return at the end of the session.

The projected site-generated traffic was routed to/from the site based on existing travel patterns and the distribution of site generated traffic counted at the site driveways during June 2022.

The projected site-generated traffic volumes are shown on attached **Figure 4**. These volumes reflect the existing distribution of traffic to/from the east and west, projected driveway volumes and the proposed driveway configuration at the site.

### Comparison to Church

The ITE has published data for Churches based on 16 studies. Using the assemblage area of 14,941 s.f., the traffic associated with a church would be 105 vehicles (211 trips) during the critical Sunday peak hour. This is comparable to traffic associated with the proposed mosque, although the church would experience its peak traffic generation on Sunday morning as opposed to Friday afternoon.

### **Future Traffic Volumes**

In order to account for background traffic growth in the area as well as other developments in Sayreville, existing traffic volumes were increased by an annual 1% growth rate over a two year year build-out period (2023 to 2025), to develop the future "No-Build" Traffic volumes. The 1% growth rate was selected based on data published by NJDOT for minor arterial roadways in Middlesex County. Future "No-Build" traffic volumes are shown on attached **Figure 5**. Site-generated traffic volumes were added to the "No-Build" traffic volumes to develop the future "Build" traffic volumes, which are shown on attached **Figure 6**.

### **Analysis of Future Traffic Volumes**

Future "No-Build" and "Build" traffic volumes were analyzed using HCS. Results of these analyses are shown on the attached **Figures 7 and 8**, for the "No-Build" and "Build" traffic volumes, respectively.

Note that there is no change when comparing Levels of Service for movements under existing, "No-Build" and "Build" conditions at the study intersection. In addition, all movements at the site driveways are projected to operate at Level of Service "C" or better during both the Friday and Sunday peak periods. As with existing conditions, the Level of Service and average Delay for "No-Build" and "Build" analyses is summarized in the appendix of this report.

The applicant has also agreed to hire an off-duty officer from the Sayreville Police Department to control traffic at the site driveways during and after Friday prayer services as well as at periodic events which are expected to have higher than typical attendance.

Per the results of these analyses, the impact of site-generated traffic on Levels of Service is negligible.

### **Parking Supply**

Based on a review of the site plan prepared by AWZ Engineering, last revised February 3, 2023, the applicant is required to provide 113 parking spaces for the combined place of worship, gymnasium, offices and classrooms. A total of 109 parking spaces are proposed. Accordingly a variance is required.

The gymnasium will not be in use when the prayer services are being conducted. Parking required for the gymnasium constitutes 46 of the total 113 required parking spaces. Therefore the proposed parking supply is adequate for the intended use of the property.

### Site Layout/Circulation

The following site layout and circulation comments are based on the site plan prepared by AWZ Engineering, Inc.:

- The typical parking spaces on site measure nine feet wide by eighteen feet deep in accordance with accepted engineering standards.
- Six ADA accessible parking spaces are provided, including two van-accessible parking spaces, which satisfies accessibility requirements.
- Twenty-four foot wide circulation aisles are adequate for parking with two-way traffic.
- The provision of multiple access allows for safe and efficient access to the site.

### **Middlesex** County Review

Note that application materials have been provided to Middlesex County for review. As noted above, the proposed driveways are subject to review and approval of the County as Ernston Road is under County jurisdiction. At this point, the County has not granted final approval, but the substance of their

comments has been addressed by the preparation of revised plans and documents, and it is anticipated that final approval from Middlesex County will be received within the next three months.

### Conclusion

The proposed development will have minimal impact on operations at the study intersection and site driveways. Adequate parking and circulation areas are provided on the site to accommodate the volume of traffic expected for the proposed use and the types of vehicles expected to access the facility on a regular basis.

Attachments Figures 1-8 HCS Reports Traffic Count Data NJDOT Growth Rates LOS/Delay Table Weekly Schedule Church Traffic Projections

















### **HCS7 Signalized Intersection Results Summary**

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## **HCS7 Signalized Intersection Results Summary**

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Green Ratio (	g/C )			0.42	0.31	0.31	0.42	0.31	0.31	0.45	0.32	0.32	0.45	0.32	0.32
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Uniform Delay	(d1),	s/veh		25.1	39.6	32.4	26.7	36.8	36.8	23.5	39.4	34.8	23.2	37.5	33.7
Incremental D	elay (d	2 ), s/veh		0.2	3.0	0.0	0.3	0.2	0.3	0.2	3.7	0.2	0.1	1.2	0.1
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Control Delay	(d), s/	veh		25.3	42.5	32.4	27.0	37.0	37.1	23.6	43.1	35.0	23.3	38.7	33.8
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Agency						-			ouration,	and the second	0.250				
Analyst				Analysi	s Date	8/2/202	23		rea Type	9	Other		<u>م</u> م		→ <u>}</u>
Jurisdiction				Time P	eriod			F	PHF		0.97		*	W F B	
Urban Street				Analysi	is Year	2023		A	nalysis F	Period	1> 7:0	0	*		
Intersection		Ernston Road/Borde	ento	File Na	me	i1 frida	y no bui	ild.xus						htr	
Project Descript	tion	ernston road - friday	/ no bui	ld				1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -			A COLUMN TWO IS NOT		1	4 † <del>4</del> * † †	11
Demand Inform	notion				EB			WB			NB			SB	
Approach Move	and the second second second			L	T	R	L	T	R	L	T	R	L	Т	R
A CONTRACTOR OF A CONTRACTOR O	ACCOUNTED TO A CONTRACTOR OF THE OWNER OF THE			112	344	89	148	397		157	414	155	34	345	126
Demand (v), v	en/n		and the second	112	577	0.0	140	001	00	101			A SALE AND		
Signal Informa	tion				Contraction of the Astronomy	R		124			Pro-				1
Cycle, s	131.0	Reference Phase	2		20	-38					1		4	5 "	Þ
Offset, s	0	Reference Point	End			-Si	1		M		1.0	1	2	3	4
Uncoordinated	Yes	Simult. Gap E/W	On	Green Yellow		38.0 4.0	19.0 4.0	40.0	0.0	0.0			<del>}</del>		stz
Force Mode	Fixed	and the second se	On	Red	0.0	0.0	0.0	0.0	0.0	0.0		5	6	7	Ye
Force Mode	Tixeu	Sindit. Cap N/C	UII	1100	10.0	10.0	1010					A A A A A A A A A A A A A A A A A A A			
Timer Results				EBL		EBT	WBL		WBT	NBL	5 70	NBT	SBL		SBT
Assigned Phase	e			5		2	1		6	3		8	7		4
Case Number			1000	1.1		3.0	1.1	Sale US	4.0	1.1		3.0	1.1	1999	3.0
Phase Duration	I S			22.0		42.0	22.0		42.0	23.0	) 4	14.0	23.0		44.0
Change Period		a) s	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	4.0		4.0	4.0		4.0	4.0	and the second	4.0	4.0		4.0
Max Allow Heat	a start water and the second			3.1		3.1	3.1		3.1	3.1		3.1	3.1		3.1
Queue Clearan				7.3		24.2	9.1		16.5	9.3		29.5	3.5	and level	23.8
Green Extensio	and the second se	and the second		0.1		1.6	0.2		1.7	0.2		1.8	0.0		2.0
Phase Call Pro		(90), 3		1.00		1.00	1.00		1.00	1.00		1.00	1.00	)	1.00
Max Out Proba	And the second			0.00		0.02	0.00		0.00	0.00	and the second s	0.09	0.00		0.02
Max Out 1100a	ionity		-				THE REAL PROPERTY OF	3.6.2	1212				Say 15	Star in .	
Movement Gro	oup Res	sults	Sign Street		EB	1.1		WB			NB		a seale	SB	
Approach Move	ement			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move	ement			5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow	Contractor of the Contractor of the Contractor	/ ), veh/h		115	355	92	153	244	235	162	427	160	35	356	130
A RECOMMENDATION OF THE PARTY	COR THE REAL PROPERTY OF LONG AND INCOME.	ow Rate (s), veh/h/	In	1753	1841	1560	1753	1841	1747	1753	1841	1560	1753	1841	1560
Queue Service	Time (	g s), S		5.3	22.2	5.8	7.1	14.2	14.5	7.3	27.5	10.4	1.5	21.8	8.3
A CONTRACTOR OF THE OWNER OWN	A REAL PROPERTY AND A REAL	ce Time (g c), s		5.3	22.2	5.8	7.1	14.2	14.5	7.3	27.5	10.4	1.5	21.8	8.3
Green Ratio (g				0.43	0.29	0.29	0.43	0.29	0.29	0.45	0.31	0.31	0.45	0.31	0.31
Capacity (c),				444	534	452	402	534	507	434	562	476	385	562	476
Volume-to-Cap		atio (X)		0.260	0.664	0.203	0.379	0.458	3 0.464	0.373	0.759	0.335	0.091	0.633	0.273
And the state of t	The Post of Column State and Adversion	t/In ( 50 th percentile	)	56.6	267.1	57.4	76.7	166	155.1	78	339.1	102.3	15.6	259.2	81.4
Second and second s	and the second se	veh/In ( 50 th percent	A DESCRIPTION OF A DESC	2.2	10.4	2.2	3.0	6.4	6.2	3.0	13.1	4.0	0.6	10.0	3.2
		(RQ) (50 th percen	And a second	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay	Column and the second second			24.2	40.9	35.1	26.1	38.1	38.1	24.4	41.1	35.2	23.6	39.2	34.5
Incremental De		A CONTRACTOR OF		0.1	2.5	0.1	0.2	0.2	0.2	0.2	5.4	0.2	0.0	1.8	0.1
Initial Queue D	And the residence of Land on Manager II			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	CONTRACTOR OF THE OWNER	NAMES OF TAXABLE PARTY OF TAXABLE PARTY OF TAXABLE PARTY OF TAXABLE PARTY.		24.3	43.4	35.2	26.4	38.3	38.4	24.6	46.5	35.4	23.7	40.9	34.6
Level of Service	Contract for the contract of the second			С	D	D	С	D	D	С	D	D	С	D	С
Approach Dela		and a more than the state of the second s		38.	1	D	35.4	4	D	39.	4	D	38.	2	D
Intersection De		the state of the state					7.8		and a little backle and and				D		
interection De			Con Provide						and have been			(A)	187		
Multimodal R	esults				EB			WB			NB			SB	
Pedestrian LO		e / LOS		2.1	3	В	2.1	3	В	2.1	3	В	2.3	0	В
Bicycle LOS S				1.4		А	1.0	1	A	1.7	2	В	1.3	5	А
	JUIUT L											0		023 12-45	0.00 014

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		HCS	7 Siar	nalized	d Inte	rsect	ion Re	esult	s Sum	mary	,				
												- Contractor			
General Inform	ation							In	ntersecti	on Info	rmation	า	2.	╡╧╘┿┊╞╕ ┙╡┖╺	1.
Agency								D	uration, l	h	0.250			2+2	2
Analyst				Analysi	s Date	8/2/202	23	A	rea Type	1	Other		4		▲ 
Jurisdiction				Time P	and designed of the same lands of the same			P	HF		0.99		*		4
Urban Street				Analysi		2023		A	nalysis F	Period	1> 7:0	0	L L		T.
Intersection		Ernston Road/Borde	ento	File Na	and the same state of the second second	a di seconda da second	lay no b	uild.xu	IS					htr.	
Project Descrip	tion	ernston road - sund	Constraint of the second second	1		1							11	-1 ++ + + 1-	C
T TOJECT Descrip	lion	officient road												W. A. R. D.	
Demand Inform	nation	Same and	- Aller	- Antonio	EB			WB	- Andrew	1-2-25	NB			SB	
Approach Move	ement			L	Т	R	L	T	R	L	Т	R	L	Т	R
Demand (v), v	and the country of the second second second			143	395	59	148	476	79	148	421	198	54	350	150
Signal Informa	tion					- 2		126	1			_		~ ~	
Cycle, s	130.0	Reference Phase	2		2.0	tie ~		51	12		×		2		4
Offset, s	0	Reference Point	End	Green	15.0	40.0	18.0	41.0	0.0	0.0	100	1962 Za	K		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow		4.0	4.0	4.0	0.0	0.0		~	7	5	V
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0	A STREET	5	6	7	8
		And a state of the						- Creating		D. Contraction					ODT
<b>Timer Results</b>				EBL		EBT	WBL	-	WBT	NBL		NBT	SBL		SBT
Assigned Phas	е			5		2	1		6	3		8	7		4
Case Number			A Second	1.1		3.0	1.1		4.0	1.1		3.0	1.1	in the second	3.0
Phase Duration	1, S			19.0		44.0	19.0		44.0	22.0	ADDER WARDEN WARDEN	45.0	22.0		45.0
Change Period	, ( Y+R	c), S	A Country	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
Max Allow Hea	dway (	MAH ), s		3.1		3.1	3.1		3.1	3.1		3.1	3.1		3.1
Queue Clearar	nce Time	e (gs), s		8.7		26.9	9.0		18.7	8.6		28.7	4.3		23.2
Green Extensio	on Time	(ge), s		0.1		1.8	0.1		1.9	0.2		2.1	0.0		2.2
Phase Call Pro	bability		Contract of the	1.00		1.00	1.00	Sector Sector	1.00	1.00		1.00	1.00		1.00
Max Out Proba	ability			0.03	;	0.03	0.04		0.00	0.00		0.07	0.00		0.01
Movement Gr	oup Re	sults			EB		and the second s	WB			NB			SB	
Approach Mov				L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move	LUALD DATE OF THE OWNER OF THE OWNER		Sec.	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow	and so the article of the second second second second second	/) veh/h		144	399	60	149	286	274	149	425	200	55	354	152
Construction of the second		ow Rate (s), veh/h/	ľn	1753	1841	1560	1753	1841	1749	1753	1841	1560	1753	1841	1560
Queue Service	on one to have be called an approximation of the second			6.7	24.9	3.6	7.0	16.6	16.7	6.6	26.7	13.1	2.3	21.2	9.6
And the second s	and the second se	ce Time $(g_c)$ , s	1700	6.7	24.9	3.6	7.0	16.6	16.7	6.6	26.7	13.1	2.3	21.2	9.6
Green Ratio (	and the second se	(3- <i>n</i> -		0.42	0.31	0.31	0.42	0.31	0.31	0.45	0.32	0.32	0.45	0.32	0.32
Capacity ( c ),	service in the second se		1022701	394	566	480	355	566	538	437	581	492	387	581	492
Volume-to-Cap	COMPANY OF THE CASE OF THE OWNER OF THE COMPANY OF THE CASE OF THE	atio (X)		0.366	0.704	- A construction of the second	Contraction of the second second	0.505	and a second	0.342	0.733	0.407	0.141	0.609	0.308
2	AND IN THE REAL PROPERTY OF	t/In (50 th percentile	)	72.3	301.3		75.2	192.5		70.3	325.5	128.6	24.2	249.3	94
The second s	and a second	veh/In ( 50 th percent	A COLORED AND THE REAL PROPERTY OF A DESCRIPTION OF A DES	2.8	11.7	1.4	2.9	7.5	7.2	2.7	12.6	5.0	0.9	9.7	3.6
E	And the owner of the local data of the local dat	(RQ) (50 th percer	CONTRACTOR OF THE OWNER OF THE OWNER OF THE	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay	and the synthesis of the second second			25.2	39.8	32.4	26.9	36.9		23.6	39.6	34.9	23.4	37.7	33.7
Incremental D	PLATER AND ADDRESS OF A DESCRIPTION OF A			0.2	3.4	0.0	0.3	0.3	0.3	0.2	4.2	0.2	0.1	1.3	0.1
Initial Queue D	Contraction of the Contract of Contract			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	and service in the service in the service in the	CONTRACTOR OF A DESCRIPTION OF A		25.4	43.1	32.4	27.2	37.2		23.8	43.8	35.1	23.4	39.1	33.9
Level of Service	and the survey of the survey o			C	D	C	С	D	D	С	D	D	С	D	С
Approach Dela	CORRECT OFFICE AND ADDRESS AND ADDRESS			37.0	1	D	35.	dimension of the second	D	37.	B and a second s	D	36.	1	D
Intersection D	and president and the second distances			51.4	-		6.7						D		
miler section D	ciay, 5/V				The States							1 - 1 + 8			
Multimodal R	esults				EB			WB	No.		NB		-	SB	
Pedestrian LC	and the second state of the second state of the	e / LOS		2.1	Contraction of the second	В	2.1		B	2.1		В	2.2	9	В
1 Guodinan EC		LOS		1.4	and the second s	A	1.0	Interaction over a state of the	А	1.7		В	1.4	1	A

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### **HCS7 Signalized Intersection Results Summary**

		HCS	7 Sigi	nalized	d Inte	rsect	ion R	esult	s Sum	nmary					
								1.		la fa	and in		J.	4.1.4.1.4	L.
General Inform	ation								ntersecti		and the second se	n		JIL	
Agency				-					uration,		0.250		2		~
Analyst						8/2/202	23	CONTRACTOR OF THE OWNER	rea Type	9	Other				* }-
Jurisdiction				Time P	and the owner in particular control of the				HF		0.97	_		3	
Urban Street				Analysi	s Year	and grane construction of the second s			nalysis F	Period	1> 7:0	0			r r
Intersection		Ernston Road/Borde	ento	File Na	me	i1 frida	y build.>	kus						111	
Project Descript	tion	ernston road - friday	/ build										1	4 1 4 Y 1	IT.
Demand Inform	ation				EB			WB			NB			SB	
Approach Move					Т	R	L	T	R	L	T	R	L	Т	R
And the second	Contraction of the contraction of the			112	377	89	166	445	the second second second	157	414	170	37	345	126
Demand (v), v	en/n		- Martin	112	511	00	100	110							
Signal Informa	tion					. 2	5	24						K	r
Cycle, s	131.0	Reference Phase	2		20	THE R	7	5	121		*		€,		4
Offset, s	0	Reference Point	End	Green	18.0	38.0	19.0	40.0		0.0			5		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow		4.0	4.0	4.0	0.0	0.0		7	7	5	V
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0		5	6	7	8
				EDI		EDT			WBT	NBL		NBT	SBL		SBT
Timer Results				EBL		EBT 2	WBL 1	-	6	3		8	7		4
Assigned Phase	e			5	_				and a second second second second	1.1	-	3.0	1.1		3.0
Case Number	-			1.1		3.0	1.1		4.0	23.0		44.0	23.0		44.0
Phase Duration				22.0		42.0	22.0		42.0	Construction of the owner own			4.0		4.0
Change Period				4.0	100	4.0	4.0		4.0	4.0		4.0 3.1	3.1	a suite and a suite of the suit	3.1
Max Allow Hea	STATISTICS AND INCOMES AND INCOMES	And the second		3.1		3.1	3.1		3.1	3.1		29.5	3.6		23.8
Queue Clearan	THE R. LEWIS CO., LANSING MICH.			7.3		26.9	10.1		18.5	9.3	Contraction of the second second				23.0
Green Extensio				0.1		1.7	0.2		1.9	0.2		1.9	0.0		1.00
Phase Call Pro	and the second second second second			1.00	anatana fanatana	1.00	1.00		1.00	1.00	and the second second second second	1.00	1.00	NALESCO DE LA COMPANYA DE	
Max Out Proba	bility			0.00		0.06	0.01		0.00	0.00		0.10	0.00		0.02
Movement Gro	oup Re	sults			EB			WB			NB			SB	
Approach Move	STATISTICS IN CONTRACTOR OF			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move	NAME OF TAXABLE PARTY AND ADDRESS OF TAXABLE PARTY AND ADDRESS OF TAXABLE PARTY ADDRES			5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow	the state of the second se	/). veh/h		115	389	92	171	275	263	162	427	175	38	356	130
And the second sec	CONTRACTOR OF AN ADDRESS OF ADDRESS	low Rate (s), veh/h/	'In	1753	1841	1560	1753	1841	1746	1753	1841	1560	1753	1841	1560
Queue Service	and the second second second second			5.3	24.9	5.8	8.1	16.3	16.5	7.3	27.5	11.5	1.6	21.8	8.3
		ce Time $(g_c)$ , s	1995	5.3	24.9	5.8	8.1	16.3	16.5	7.3	27.5	11.5	1.6	21.8	8.3
Green Ratio (		<u>, , , , , , , , , , , , , , , , , , , </u>		0.43	0.29	0.29	0.43	0.29	0.29	0.45	0.31	0.31	0.45	0.31	0.31
Capacity ( c ),	Constant of the owner owner owner owner owner			423	534	452	379	534	506	434	562	476	385	562	476
Volume-to-Cap	CALIFORNIA CONTRACTOR OF CALIFORNIA	atio (X)		0.273	0.728		0.452	0.515	0.520	0.373	0.759	0.368	0.099	0.633	0.273
An other states and the state of the state o	Construction of the second	t/In (50 th percentile	)	56.7	305.2	and the second se	87.2	190.7		78	339.1	113.5	17	259.2	81.4
		/eh/In ( 50 th percent	NAMES OF A DESCRIPTION OF	2.2	11.8	2.2	3.4	7.4	7.1	3.0	13.1	4.4	0.7	10.0	3.2
En one early to the second		(RQ) (50 th percer		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay	the state of the s			24.5	41.8	35.1	27.1	38.8	38.9	24.4	41.1	35.6	23.7	39.2	34.5
Incremental De	where the rest of the local division of the	A CONTRACTOR OF		0.1	4.3	0.1	0.3	0.4	0.4	0.2	5.4	0.2	0.0	1.8	0.1
Initial Queue D				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay				24.6	46.2	35.2	27.5	39.2	39.3	24.6	46.5	35.8	23.7	40.9	34.6
Level of Service				C	D	D	С	D	D	С	D	D	С	D	С
Approach Dela				40.3	L	D	36.4	<u> </u>	D	39.	4	D	38.	1	D
Intersection De	No. of Concession, Name of Street, or other			TUA			8.5				1		D		
inter occurrent De	, .,	A COMPANY TRANSPORT										14-1-1-2			
Multimodal R	esults			· see a	EB	140.5		WB	-		NB	- Street		SB	
Pedestrian LO	S Score	e / LOS		2.1	3	В	2.1	3	В	2.1	3	В	2.3	0	В
Bicycle LOS S	core / L	OS		1.4	7	А	1.0	7	А	1.7	5	В	1.3	5	Α

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		HCS	7 Sigi	nalize	d Inte	rsect	ion R	esul	ts Sun	nmary	1				
									ntersect	on Info	rmatio			4 1 40 1 40	U.
General Inform	ation											1		111	
Agency								and the second second	Duration,		0.250		4		
Analyst					Service of the local data and the	8/2/202	23	and the second second	Area Type	9	Other			W E	***
Jurisdiction				Time P					PHF		0.99	-	× -		-
Urban Street				Analysi		2023			Analysis I	Period	1> 7:0	0	7		ŕ
Intersection		Ernston Road/Borde	An other statement in the second statement	File Na	me	i1 sund	day build	d.xus						htr	
Project Descript	tion	ernston road - sund	ay build											4 T 44 T 14	
Demand Inform	nation			- Tille	EB			WE	3		NB		a series and	SB	1. J. 19
Approach Move	and the second second second second			L	Т	R	L	Т	R	L	Т	R	L	Т	R
Demand (v), v	Conversion and the second s			143	406	59	154	492	2 82	148	421	203	55	350	150
Signal Informa	tion	and the second second	Corners and	4	-	_ 5		20	24				And And Address of the owner of the owner of the owner of the owner owner owner owner owner owner owner owner o	K	L
Cycle, s	130.0	Reference Phase	2		P .	H P			17		-		<b>A</b>	)."	4
Offset, s	0	Reference Point	End	Green	15.0	40.0	18.0	41.0		0.0			N A		1.77
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow		4.0	4.0	4.0	0.0	0.0		*	7	5	1
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0		5	6	7	8
				EDI		CDT	WBL		WBT	NBL		NBT	SBL		SBT
Timer Results				EBL		EBT 2	1		6	3	-	8	7		4
Assigned Phase	e			5		3.0	1.1		4.0	1.1		3.0	1.1		3.0
Case Number				1.1			1.1		4.0	22.0		45.0	22.0		45.0
Phase Duration				19.0		44.0			44.0	4.0		4.0	4.0		4.0
Change Period	and the second second			4.0		4.0	4.0		3.1	3.1		3.1	3.1	the second s	3.1
Max Allow Hea				3.1		3.1	3.1			8.6		28.7	4.3		23.2
Queue Clearan	Non-State State State State of State of			8.7		27.8	9.3		19.4	La la compañía de la			President and the second		2.2
Green Extensio		(ge), s		0.1		1.8	0.1		2.0	0.2	and the second design of the	2.1	0.0		1.00
Phase Call Pro	CALIFORNIA CONTRACTOR AND			1.00	Common and C	1.00	1.00		1.00	1.00	nin minter and a second second	1.00	1.00		0.01
Max Out Proba	bility			0.03	3	0.05	0.06	5	0.00	0.00		J.07	0.00		0.01
Movement Gro	oup Res	sults		Contraction.	EB			WB			NB			SB	
Approach Move				L	Т	R	L	Т	R	L	Т	R	L	Т	R
Assigned Move				5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow	or second se	/), veh/h		144	410	60	156	296	284	149	425	205	56	354	152
An open of the second s		ow Rate (s), veh/h/	In	1753	1841	1560	1753	1841	1749	1753	1841	1560	1753	1841	1560
Queue Service	and the second distance in the	and the second		6.7	25.8	3.6	7.3	17.3	17.4	6.6	26.7	13.5	2.3	21.2	9.6
A CONTRACTOR OF A CONTRACTOR O	LINE REPORT AND ADDRESS	ce Time (g c), s		6.7	25.8	3.6	7.3	17.3	17.4	6.6	26.7	13.5	2.3	21.2	9.6
Green Ratio (g				0.42	0.31	0.31	0.42	0.31	0.31	0.45	0.32	0.32	0.45	0.32	0.32
Capacity (c),	NAME OF A DESCRIPTION OF A			388	566	480	348	566	538	437	581	492	387	581	492
Volume-to-Cap	strength on the Directory of the Directo	atio (X)		0.373	0.724	0.124	0.447	0.52	3 0.527	0.342	0.733	0.417	0.143	0.609	0.308
	and the second second second second second	t/In ( 50 th percentile	)	72.4	313.9	35.1	78.5	201	187	70.3	325.5	132.3	24.7	249.3	94
		eh/In ( 50 th percent		2.8	12.2	1.4	3.0	7.8	7.5	2.7	12.6	5.1	1.0	9.7	3.6
Burner presidentities and the second se	CONTRACTOR OF THE OWNER	(RQ) (50 th percer	Annual Contraction of the Annual Contraction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay	Contraction of the local division of the loc	and the second design of the second		25.3	40.1	32.4	27.3	37.1	37.2	23.6	39.6	35.1	23.4	37.7	33.7
Incremental De	International Contemport			0.2	4.0	0.0	0.3	0.4	0.5	0.2	4.2	0.2	0.1	1.3	0.1
Initial Queue D	and the second se	in the second		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay				25.6	44.1	32.4	27.6	37.6	37.7	23.8	43.8	35.3	23.5	39.1	33.9
Level of Service	Contraction of the second second second			С	D	С	С	D	D	С	D	D	С	D	С
Approach Dela	and the second	And a second		38.0	6	D	35.	5	D	37.	7	D	36.	1	D
Intersection De	Contract of the loss of the loss of the loss of the	and the second				and the second second second second	7.0						D		
										A CAL				02	
Multimodal R	and a second second second second			1	EB		1000	WE		-	NB	-		SB	-
Pedestrian LO	S Score	e/LOS		2.1		В	2.1		В	2.1	and the second se	В	2.2	en an	B
Bicycle LOS S	core / L	OS		1.5	0	B	1.0	9	Α	1.7	7	В	1.4	1	Α

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HCS<sup>™</sup> Streets Version 7.8.5

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		H	CS7 1	wo-	Way	Stop	-Con	trol	Repo	ort						
General Information		and a second	State of the		Ne ser		Site II	nform	nation							
Analyst	W Stim	nmel			and the second		Interse	ction		1	Ernsto	n-West [	Drive (d1)	)		
Agency/Co.	VV Still			S Statistics			Jurisdia			1200					and the second	1
Date Performed	8/2/20	23					East/W	est Stre	et		Ernsto	n Road				
Analysis Year	2023	1990 - 199				1	North/	South S	treet	12.0	West [	Driveway	1			
Time Analyzed				No. of Concession, Name			Peak H	lour Fac	tor		0.97					
Intersection Orientation	East-V	Vest	and the second				Analys	is Time	Period (h	nrs)	0.25	- 12				
Project Description	and the second second		friday b	uild												
Lanes	Cimbro	-				<b>1</b>	Thereas.				No. of Street					
				J 4 1 4 4 4 4	ר ר ר	۲ or Street Ea	st-West	4 4 4 4 4 4 6								
Vehicle Volumes and Adjustments         Approach       Eastbound       Westbound       Northbound         Movement       U       L       T       R       U       L       T	Line in			Ci contra												
	bound			Southb												
Movement	Major Street: East-West         Major Street: East-West         Diroach       Westbound       Northbound         U       L       T       R       U       L       T       Northbound         vement       U       L       T       R       U       L       T       Northbound		U	L	Т	R										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		33	551			a Balan	637	12	1.1.1					6		51
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked									16-51							
Percent Grade (%)														C	)	
Right Turn Channelized																
Median Type   Storage				Und	ivided									Conditioner Street		
Median Type   Storage         Undivided           Critical and Follow-up Headways         4.1         Image: Critical Headway (sec)         4.1         Image: Critical Headway (sec)         Image: Crital Headway (sec)         Image: Critical																
			7.1		6.2											
Critical Headway (sec)		4.10				1.000				1				6.40		6.2
		2.2												3.5		3.3
Base Follow-Up Headway (sec)	al Headway (sec)       4.10       Image: Constraint of the sector								1000			3.50		3.3		
Base Follow-Up Headway (sec) Follow-Up Headway (sec)		2.20	Care and	1	al transfer	and the second		a state of the second se		Sector States and States and	A REAL PROPERTY AND		NAME AND ADDRESS OF TAXABLE PARTY.			
Follow-Up Headway (sec)	nd Leve	Link	ervice			and the second										
Follow-Up Headway (sec) Delay, Queue Length, an	nd Leve	el of S	ervice	•			and the second sec								59	
Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h)	nd Leve	<b>el of S</b> 34	ervice												59 393	
Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h)	nd Leve	<b>el of S</b> 34 930	ervice													
Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio	nd Leve	<b>el of S</b> 34 930 0.04	ervice	9 9 1											393	
Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh)	nd Leve	el of S 34 930 0.04 0.1	ervice												393 0.15	
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) Control Delay (s/veh)		<ul> <li>of S</li> <li>34</li> <li>930</li> <li>0.04</li> <li>0.1</li> <li>9.0</li> </ul>		2											393 0.15 0.5	
Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh)	nd Leve	<ul> <li>A of S</li> <li>34</li> <li>930</li> <li>0.04</li> <li>0.1</li> <li>9.0</li> <li>A</li> </ul>	ervico											1	393 0.15 0.5 15.8	

HCSTM TWSC Version 7.8.5 d1 friday build.xtw Generated: 8/2/2023 1:04:31 PM

		III	L3/	100-	vvay	Stop		nior	Repo	ЛС					- Lan	
General Information							Site I	nform	nation							
Analyst	W Stim	nmel					Interse	ction			Ernstor	n-East D	vrive (d2)	)		
Agency/Co.		See pro-					Jurisdie	ction								
Date Performed	8/2/20	)23					East/W	lest Stre	et		Ernstor	n Road				
Analysis Year	2023			100			North/	South S	treet	1	East D	riveway				
Time Analyzed							Peak H	lour Fac	tor		0.99					
Intersection Orientation	East-V	Vest	27 SR4-	1		Star Line	Analys	is Time	Period (h	nrs)	0.25	A Contraction	: Constanting			
Project Description	ernsto	on road -	- friday b	uild												
Lanes			1.44.2	-												
	EastboundementULTRity1U123ber of Lanes0010		۲ r Street. Ea		44440											
	justme		-			Mast	bound			North	bound			Southb	ound	
		1	-	D	Ū	L	T	R	U	L	Т	R	U	L	Т	R
AdjustmentsapproachEastboundMovementULTRriority1U123Number of Lanes0010		40	4	5	6		7	8	9		10	11	12			
	proachEastboundovementULTRority1U123umber of Lanes0010		0	0	1	0	1. 2. 2.	0	0	0	-	0	1	0		
Configuration			and the second second					TR							LR	
Volume (veh/h)		18	539	BURNA S	-		625	27		and and the		See.		9		24
		0												0		0
		· ·	1	1												
Percent Heavy Vehicles (%)		1000	No.	1	1000							2.25	entre		CELLER !	
Proportion Time Blocked														C		
Proportion Time Blocked Percent Grade (%)														C		
Proportion Time Blocked Percent Grade (%) Right Turn Channelized				Und	ivided									C		
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage	leadwa	VS		Und	ivided									(	)	
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b>	leadwa	<b>bys</b> 4.1		Und	ivided									7.1		6.2
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec)	leadwa	4.1		Und	ivided											6.2
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec)	leadwa	T		Und	ivided									7.1	)	6.2
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec)	leadwa	4.1 4.10 2.2		Und	ivided									7.1 6.40		6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec)		4.1 4.10 2.2 2.20	Prvice		ivided									7.1 6.40 3.5		-
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b>		4.10 2.2 2.20 • of S	ervice		ivided									7.1 6.40 3.5	33	6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h)		4.1 4.10 2.2 2.20 • of S 18	ervice		ivided									7.1 6.40 3.5		6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h)		4.1 4.10 2.2 2.20 <b>b of S</b> 18 939	ervice		ivided									7.1 6.40 3.5	33 341	6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio		4.1 4.10 2.2 2.20 <b>b of S</b> 18 939 0.02	ervice		ivided									7.1 6.40 3.5	33 341 0.10	6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh)		4.1 4.10 2.2 2.20 <b>b of S</b> 18 939 0.02 0.1	ervice		ivided									7.1 6.40 3.5	33 341 0.10 0.3	6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, au</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh) Control Delay (s/veh)		4.1       4.10       2.2       2.20       Image: Image of the second sec	ervice		ivided									7.1 6.40 3.5	33 341 0.10 0.3 16.7	6.2 3.3
Proportion Time Blocked Percent Grade (%) Right Turn Channelized Median Type   Storage <b>Critical and Follow-up H</b> Base Critical Headway (sec) Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) <b>Delay, Queue Length, an</b> Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q <sub>95</sub> (veh)		4.1 4.10 2.2 2.20 <b>b</b> of S 18 939 0.02 0.1 8.9 A	Cervice		ivided									7.1 6.40 3.5 3.50	33 341 0.10 0.3	6.2 3.

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HCSTM TWSC Version 7.8.5 d2 friday build.xtw

					- Ura soultes				Repo							
General Information							Site I	nform	nation		100 and				Carlone .	
Analyst	W Stin	nmel					Interse	ction			Ernsto	n-West	Drive (d1)			
Agency/Co.						- New Y	Jurisdi	ction	(四))		1		Section 1	- Antonio		1949
Date Performed	8/2/20	)23					East/W	lest Stre	et		Ernsto	n Road				
Analysis Year	2023						North/	South S	treet		West [	Driveway	1			
Time Analyzed							Peak H	lour Fac	tor		0.99					
Intersection Orientation	East-V	Vest			ine .		Analys	is Time	Period (H	nrs)	0.25	Same			14-	
Project Description	ernsto	n road -	sunday	build			-									
Lanes				1												
				J 4 1 X 4 1 C	n t Majo	ት Y 1 or Street: Ea	st-West	174 PT								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	r							1	bound		U	South	T	R
Movement						1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.1.1.1.1.1.1.1	1	U	L	Т	R 9	0	L 10	11	12
Priority	Eastburd         Westburd           U         L         T         R         U         L         T         R           1U         1         2         3         4U         4         5         6           0         0         1         0         0         1         0         1         0           LT         LT         H         H         H         T         T         T         T			-			7	8			0	1	0			
Number of Lanes			0	0	0		0	LR	0							
Configuration							2	LK	17							
Volume (veh/h)		11	653	(Serve)	1000		711	4		0.000	and the second	19.1000				0
Percent Heavy Vehicles (%)		0							-					0		0
Proportion Time Blocked		205135						1 200			1.11	a segura d		0		
Percent Grade (%)													The second	,		
Right Turn Channelized			Section.						1000		12 JON	5				
Median Type   Storage				Und	ivided											
<b>Critical and Follow-up H</b>	leadwa	ys										Service and				
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10	1									1		6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30
Delay, Queue Length, ar	nd Leve	l of S	ervice					-								
Flow Rate, v (veh/h)	T	11	T	1	1	T	1	Ι	T		T				19	
Capacity, c (veh/h)		889										14			362	
v/c Ratio		0.01								1					0.05	
95% Queue Length, Q <sub>95</sub> (veh)		0.0		1.5				250				1			0.2	
Control Delay (s/veh)		9.1									1	1			15.5	
		A		100	1. 1990	51.0		1. S. S. S.				14.4			С	
Level of Service (LOS)															and the second se	and in case of the local division of the loc
Level of Service (LOS) Approach Delay (s/veh)			0.3					1						1	5.5	

HCSTM TWSC Version 7.8.5 d1 sunday build.xtw

		H	CS7 T	WO-	Way	Stop	-Cor	ntrol	Repo	ort				E CARL		
General Information							Site I	nform	nation	1						
Analyst	W Stim	nmel					Interse	ction			Ernsto	n-East D	rive (d2)			
Agency/Co.		1.242				1	Jurisdi	ction	A.M.							
Date Performed	8/2/20	)23					East/W	/est Stre	et		Ernsto	n Road				
Analysis Year	2023	1000	1000	ale a		-2.5	North/	South S	street		East D	riveway				1
Time Analyzed							Peak H	lour Fac	tor		0.99					
Intersection Orientation	East-V	Vest					Analys	is Time	Period (	nrs)	0.25				12 (T)	
Project Description			sunday	build												
Lanes	(Carlos			(lary	<u></u>	1.2 60		Sam?								
Vehicle Volumes and Ad	justme	and the state	bound	J 4 1 X 4 1 C G		or Street: Ea				North	bound			South	bound	
	Inicial Volumes and Adjustments         Inicial Volumes and Inicial Volumes         Inicial Volumes and Inicial Volumes															

HCSTM TWSC Version 7.8.5 d2 sunday build.xtw Generated: 8/2/2023 1:23:26 PM

Study Name 1- ERNSTON RD & BORDENTOWN AVE-FRI Start Date 06-16-2023 Start Time 12:00 PM Site Code

		RORDENTOWN AVE	WN AVE	10 10 10 10 10 10 10 10 10 10 10 10 10 1		A CARLES AND	ERNSTON RD	(	State Party of	The second second second	BORDENTOWN AVE	DWN AVE			ERNSTON RD	RD	
		Southhound	puind				Westbound				Northbound	pund			Eastbound		
Start Time	Left	Thru	Right	I U-Tum	Left	Sec. 19	Thru Ri	Right	U-Tum	Left	Thru	Right	U-Tum	Left	Thru		U-Tum
12-00 DM	11				0	31	111	22	0	29	66	.9	0	27	89	19	0
10-15 DM	- ¢	74	33			ŝ	114	23	0	37	96	46	0	31	92	10	0
12-30 PM	0 0	100	30			38	113	21	0	22	98	36	0	34	06	18	0
12-45 PM	2 00	87	38		0	41	111	19	0	30	103	43	0	28	92	14	0
1-DO DM	α	75	38	States and	6	41	97	19	0	29	92	4	2 0	32	8	24	0
1.15 DM	• ₽	6	29		0	41	100	14	0	38	106	3	1 0	30	86	22	0
MD DA	2 6	10	70		0	36	107	18	0		106	3	5	20	81	27	0
1-45 PM	10	60	30		0	27	85	16	0		102	4	1	28	74	14	0
2-00 PM	įσ	87	23		0	35	86	10	0		80	5	1	26	74	14	0
2.15 PM		82	39		0	34	88	18	0		96	5.	0	20	72	17	0
MO OF-C		76	30		0	34	17	6	0		113	ð.	0		94	21	0
M DV-C	σ	104	26		0	26	92	12	0		110	4(	0		83	27	0
MD DO-6	5	103	i.e.		0	28	83	24	0		133	5	3		92	23	0
0.45 DM	1 +	75	33			40	110	21	0		92	25	2		83	19	0
0.20 DM	÷	86 BG	41			39	96	26	0		111	9	0		80	34	0
	2 0	8	34			51	06	18	0		96	4	1		105	30	0
	2	3	5		0	5		ł									
peak hour vol.	33	338	124		0	145	389	67	0	154	406	152	2 0	110	337	87	0
	Study Name	Study Name 1- ERNSTON RD & BORDENTOWN AVE-SUN	RD & BORDE	ENTOWN AVE	NUS-3												
	Start Date 06-18-20 Start Time 9:30 AM	Start Date 06-18-2023 Start Time 9:30 AM															
	Site Code																

Start Time         Left         Thru           Start Time         Left         Thru           9:30 AM         8         44           9:45 AM         14         60           10:05 AM         11         49           10:15 AM         10         46           10:15 AM         10         46           10:15 AM         10         46           10:45 AM         10         46           11:15 AM         14         66           11:15 AM         11         15         53           11:15 AM         11         13         14         66	Southbound	A STATE OF THE REAL PROPERTY OF		EKNSION KU	N RD			BORDENI	BORDENTOWN AVE			Envision NU Eacthound	2 -	
me Left Thru 4 4 11 14 8 4 11 15 5 4 15 5 4 15 5 4 15 5 15 5 11 15 5 111 15 5 11 15 5			and the second second	Mestbound	DUD						1 40		Diaht	11.Tum
α <u>τ</u> τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ	Right	U-Tum	Left	Thru	Right	U-Tum	Left	Thru	Right	Land-D	Lett		עומווו	IIIII-0
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 19	0	22	86	27	0	31	47	28	0	28	73		
2222222 2000 222 2000 222 222 222 222 2	0 27	0	20	97	19	0	26	55 55	33	0	33	121	13	
: 0 0 o ti 7 7		0	23	88	18	0	26	3 86	29	0	30	110	14	
: 0 o ti 7 t		0	33	95	29	0	30		29	0	19	81	17	
ω ή 7 7		0	26	87	22	0	34	4 85	39	0	28	108	19	
15		0	35	64	22	0	25	5 92	35	0	42	119	19	
4 1	3 32	0	23	118	21	0	29		38	0	37	100	27	
11	6 25	0	40	16	16	0	38	3 79	36	0	37	83	27	
		0	24	92	22	0	39		32	0	38	111	24	
1:45 AM 10 68		0	27	122	19	0	22		42	0	36	114	21	
16		0	26	80	12	0	36		42	0	38	104	27	
2 00		0	26	113	26	0	24	4 97	37	0	40	67	15	
15	S. S. A. L. S.	0	26	115	21	0	37	7 112	47	0	46	67	20	
15		0	33	138	22	0	40	74	36	0	36	06	19	
13		0	45	95	22	0	36	117	60	0	25	98	1	
10	7 41	0	41	119	12	0	32	2 110	51	0	33	104	12	
peak hour vol. 53 343	3 147	0	145	467	17	0	145	5 413	194	0	140	387	58	
						Page	te 1							

Study Name 1-ERNSTON RD AT DRIVEWAYS Start Date 04-29-2022 Start Time 12:00 PM Site Code

Start Time         Left         Right         Hard Right         U-Tum         Bear Right         U-Tum         Bear Left         Hard Left         Thru         U-Tum         Hard Left         Bear Left         Hard Right         U-Tum         Hard Left         Bear Left         Hard Left         Bear Left         Hard Left         Bear Left         Hard Left         Thru         U-Tum         Hard Left         Eart         Hard Left         Bear Left         Hard Left         Thru         U-Tum         Hard Left         Thru         U-Tum         Hard Left         Thru         U-Tum         Hard Left         Thru         U-Tum         Thru         Thru <thtru< th="">         Thru</thtru<>		の一日の	EAST C Sout	EAST DRIVEWAY Southbound			ERNSTON RD Westbound	N RD			ERNST	ERNSTON RD Eastbound			WEST ( Southe	WEST DRIVEWAY Southeastbound	X	1
	Start Time	Left	Right		U-Tum			Right	U-Tum	Hard Left	Left	Thru	U-Turn	Hard Left		ft Hard Rig	jht U-T	um
	2:00 PM	0	2		0	137	0 2	1	0	0	2	147	0	0		0	0	0
	2:15 PM	0	-	0	0	165	0 6	0	0	0	-	156	0	0	-	0	0	0
	2:30 PM	0		1 0	0	166	0	10	0	0	S		0	0	-	0	0	0
	2-45 PM	0	-	1 0	0	143	0	13	0	0	10		0	0	-	0	0	0
0       0       151       1       20       155       0       151       1       20         0       0       0       151       1       20       0       151       1       20       155       0       15       0       1         0       0       0       132       0       132       0       144       0       0       1       1       0       1       1       0       1 <td< td=""><td>MA 00</td><td>0</td><td>A CONTRACTOR</td><td>0 0</td><td>0</td><td>154</td><td>4 4</td><td>30</td><td>0</td><td>The state of</td><td>26</td><td></td><td>0</td><td>0</td><td></td><td>1</td><td>0</td><td>0</td></td<>	MA 00	0	A CONTRACTOR	0 0	0	154	4 4	30	0	The state of	26		0	0		1	0	0
0       0       168       0       14       0       0       0       14       0       0       0       1       0 <td>15 PM</td> <td>0</td> <td></td> <td>0 0</td> <td>0</td> <td>15.</td> <td>1</td> <td>20</td> <td>9</td> <td>5</td> <td>30</td> <td></td> <td>0</td> <td>1</td> <td></td> <td>0</td> <td>0</td> <td>0</td>	15 PM	0		0 0	0	15.	1	20	9	5	30		0	1		0	0	0
	30 PM	0		0 0	0	168	0 8	11	9	3	16		0	0		0	1	0
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	:45 PM			8	0	132	2 0	2	9	0 0		166	0	0		3	25	0
0       3       0       183       1       1       0       25         0       3       0       172       0       183       1       1         0       3       0       172       0       172       0       2         0       3       0       172       0       1       1       139       0       1         0       3       0       187       1       0       1       1       139       0       0       1         0       3       0       187       1       0       1       11       1	MU OO			1	0	6	0	0	9	0 0	0	160	0	0	6	7	63	0
0       3       0       172       0       0       1       139       0       0       0         0       2       0       187       1       1       139       0 <td< td=""><td>-15 PM</td><td>0</td><td></td><td>3</td><td>0</td><td>18,</td><td>3</td><td>-</td><td>0</td><td>0 0</td><td>0</td><td>155</td><td>0</td><td>0</td><td>6</td><td>2</td><td>12</td><td>0</td></td<>	-15 PM	0		3	0	18,	3	-	0	0 0	0	155	0	0	6	2	12	0
0       2       0       169       0       148       0       0         0       3       0       187       1       0       0       148       0       0         0       3       0       187       1       0       0       147       0       0       0         0       1       0       156       0       0       1       171       0       0       0         0       1       0       156       0       0       0       1       165       0 <t< td=""><td>30 PM</td><td>0</td><td>-</td><td>3</td><td>0</td><td>17.</td><td>2 0</td><td>0</td><td>0</td><td>0 0</td><td>-</td><td>139</td><td>0</td><td>0</td><td>6</td><td>-</td><td>0</td><td>0</td></t<>	30 PM	0	-	3	0	17.	2 0	0	0	0 0	-	139	0	0	6	-	0	0
0       3       0       187       1       0       187       1       171       0       0         0       1       0       156       0       156       0       1       162       0       0         0       1       0       0       170       0       0       1       162       0	2:45 PM	0	-	2 0	0	165	0	-	0	0	0	148	0	0	6	0	-	0
0     1     0     156     0     0     1     162     0     0       0     1     0     0     170     0     0     0     1     162     0     0       0     1     0     0     170     0     0     0     0     0     0       1     8     0     164     0     0     1     1     157     0     0       1     8     0     164     0     0     0     0     0     0	3:00 PM	0	-	3	0	18.	1 7	0	0	0 0	-	171	0	0	~	0	0	0
0         1         0         170         0         0         0         165         0 <td>3:15 PM</td> <td>0</td> <td>6</td> <td>1</td> <td>0</td> <td>150</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>~</td> <td>162</td> <td>0</td> <td>0</td> <td>6</td> <td>0</td> <td>0</td> <td>0</td>	3:15 PM	0	6	1	0	150	0	0	0	0	~	162	0	0	6	0	0	0
0 1 0 0 164 0 0 0 1 157 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3:30 PM	0	6	1 0	0	170	0	0		0	0	165	0	0	6	0	0	0
1 8 0 0 605 5 63 0 9 73 623 0 1 4	3:45 PM	0	6	1	0	16-	4 0	0	0	0 0		157	0	0	-	0	0	0
	peak hour	1	_	8	0	60	2	63		6 (	73		3	1	_	4	26	0

### Study Name Churchill Dawatul Islamia Start Date 06-16-2023 Start Time 12:00 PM Site Code

	N T	xit		Entran	ice		Pedest	rains
Start Time		Right -Veh	Left-Veh	Left-Occupancy	Right -Veh	Right-Occupancy	Enter	Exit
	Leit-Veil	i tigite von	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
12:15 PM	0		0		C	1,1,1,3,2,2	2	0
12:30 PM	0	0		1,2,2,2,1,3,3,1,2		A REAL PROPERTY AND A REAL	4	0
12:45 PM	0	2	14	1,2,3,3,1,4,2,3,1,2,1,1,4,1		2,1,1,3,4,3,2,1,1		U
1:00 PM	0	3	0	0		2,1,2,2,1,1,	5	C
1:15 PM	1	0	0	0	3	2,2,1	4	11
1:30 PM	0	0	0	0	0	0	4	3
1:45 PM	14	6	0	0	0	0	0	C
2:00 PM	5	7	0	0	0	0	0	
2:15 PM	3	3 2	0	0	0	0	0	(
2:30 PM	2	2 2	1	2	0	0	0	(
2:45 PM	0		0	0	0	0	0	(
3:00 PM	0	0 0	0	0	0	0	0	(
3:15 PM	(	3	0	0	0	0	0	(
3:30 PM	(	0 0	0	0	0		0	(
3:45 PM	(	0 0	0	0	0	0	0	(

average occupancy 1.88

### Study Name Dunhams Corner Rd & Anjuman Mosque Driveway Start Date 6/30/2023 Start Time 12:00 PM Site Code

			March 1				Pedes	rains
	E ALCONS DE	xit		E CARACTER STATE	ntrance			
Start Time	Left-Veh	<b>Right</b> -Veh	Left-Veh	Left-Occupancy	Right -Veh	Right-Occupancy	Enter	Exit
12:00 PM	1	0	2	1,1	0	0	0	0
12:15 PM	1	2	0	0	0	0	0	0
12:30 PM	0	0	2	1,2	1	2	0	0
12:45 PM	1	0	4	2,3,3,2	8	4,2,2,1,1,2,1,2	0	0
1:00 PM	1	1	6	2,2,1,1,1,4	5	1,2,2,4,3,	1	0
1:15 PM	C	0	4	1,1,2,2	2	2,2	2	0
1:30 PM	6	7	0	0	0	0	0	1
1:45 PM	6	6	0	0	1	2	0	0
2:00 PM	C	2	0	0	0	0	0	0
2:15 PM	2	0	0	0	0	0	0	0
2:30 PM	C	) 1	2	1,1	0	0	0	0
2:45 PM	1	2	0	0	1	3	0	0
3:00 PM	3	3 2	0	0	1	2	0	0
3:15 PM	1 1	2	0	0	1	1	1	0
3:30 PM	1	1	0	0	2	2,1	0	0
3:45 PM	4	1	6	1,1,2,3,2,2	2	1,1	0	0

average occupancy 1.82

ANNUAL D.         ANNUAL D.           Valid for NJDO1         Valid for NJDO1           Y         Interstate         Arterial           NIA         N/A         N/A           NIA         1.00%         1.50%           NA         1.00%         1.50%           NA         1.00%         1.50%           NA         N/A         N/A           NA         1.00%         1.50%           NA         1.00%         1.00%           NA         N/A         N/A           N/A         N/A         N/A           N/A         N/A         N/A           NA         N/A         N/A           NA         N/A         N/A           N/A         N/A         N/A           N/A         N/A         N/A           N/A         N/A         N/A           N/A         N/A	NJDOT ACCESS PERMIT	CESS I	PERMI	T RATF	TABL	u		
RURAL           RURAL           Other         Ninor         Major           Interstate         Principal         Minor         Major           NIA         1.00%         1.50%         1.00%           NIA         1.00%         1.50%         1.00%           NIA         NIA         NIA         NIA           NIA         1.50%         1.50%         1.25%           NIA         1.50%         1.00%         1.25%           NIA         1.00%         1.25%         1.00%           NIA         1.00%         1.25%         1.00%           NIA         NIA         NIA         NIA           NIA         1.00%         1.25%         1.00%           NIA         NIA         NIA         NIA           NIA         1.00%         1.25%         1.00%           NIA         NIA         NIA         NIA           NIA         NIA         NIA         NIA           NIA         NIA         NIA         NIA           NIA         NIA         NIA         NIA           NIA         1.00%         1.00%         1.25%           TH <th>Access Permits submitted April 2019 -</th> <th>ts submi</th> <th>tted Apr</th> <th>1 2019</th> <th>April 2021</th> <th>21</th> <th></th> <th></th>	Access Permits submitted April 2019 -	ts submi	tted Apr	1 2019	April 2021	21		
RURAL           Ather         Atherial         Minor         Major           Interstate         Arterial         Arterial         Collector           N/A         1.00%         1.50%         1.00%         1.55%           N/A         N/A         N/A         N/A         N/A           N/A         1.00%         1.55%         1.00%         1.25%           N/A         1.50%         1.00%         1.25%         1.00%           N/A         1.50%         1.00%         1.25%         1.00%           N/A         1.50%         1.00%         1.25%         1.00%           N/A         N/A         N/A         N/A         N/A           N/A         1.50%         1.00%         1.25%         1.00%           N/A         N/A         N/A         N/A         N/A           N/A         1.00%         1.00%         1.		Functional Classification	assification					
Other         Other         Minor         Major           Interstate         Arterial         Arterial         Collector           NI/A         1.00%         1.50%         1.00%           NI/A         1.00%         1.50%         1.00%           NI/A         N/A         N/A         N/A           NI/A         1.00%         1.55%         1.00%           NI/A         1.50%         1.25%         1.00%           N/A         1.50%         1.25%         1.00%           N/A         1.50%         1.25%         1.00%           N/A         N/A         N/A         N/A           N/A         1.00%         1.25%         1.50%	RAL				URBAN	N		
Interstate         Attental         Attantal		or Local	Interstate	Freeway	Principal Arterial	Minor Arterial	Collector	Local
NIA         NIA         NIA         NIA         NIA           NIA         NIA         NIA         NIA         NIA         NIA           NIA         NIA         NIA         NIA         NIA         NIA         NIA           1.50%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%           NIA         1.50%         1.50%         2.25%         1.00%         1.25%         1.00%           AND         NIA         1.00%         1.00%         1.00%         1.25%         1.00%           AND         NIA         NIA         NIA         NIA         NIA         NIA           ON         1.00%         1.25%         1.00%         1.25%         1.50%           FX         1.00%         1.75%         1.25%         1.50%           ON         1.00%         1.75%         1.25%         1.75%           TH         1.50%         1.00%         1.75%         1.75%         1.75%           TH         1.50%         1.00%         1.75%         1.75%         1.75%           TH         1.50%         1.00%         1.75%         1.75%         1.75%           TH	1 00%	1.1	N/A	1.00%	1.00%	1.00%	1.75%	1.00%
N         NA         NA </td <td>N/A</td> <td></td> <td>2.50%</td> <td>2.00%</td> <td>1.50%</td> <td>2.50%</td> <td>1.00%</td> <td>1.00%</td>	N/A		2.50%	2.00%	1.50%	2.50%	1.00%	1.00%
NI         1.50%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.00%         1.25%         1.	1.25% 1	-	2.00%	2.00%	1.00%	1.50%	1.50%	1.00%
NIA         1.50%         2.25%         1.00%         1.00%           RLAND         N/A         1.00%         1.00%         1.00%         1.00%           RLAND         N/A         N/A         N/A         N/A         N/A           NIA         1.00%         1.00%         1.00%         1.00%         1.00%           RLAND         N/A         N/A         N/A         N/A         N/A           N         1.00%         1.00%         1.75%         1.25%         1.25%           SEX         1.00%         1.75%         1.25%         1.75%         1.75%           SIDTH         1.50%         1.00%         1.75%         1.75%         X           NA         N/A         N/A         N/A         N/A         X           SIDTH         1.50%         1.00%         1.75%         1.75%	1.25%	6 1.00%	2.25%	1.75%	1.00%	1.00%	2.25%	1.00%
RLAND         NIA         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.00%         1.25%         N/A         N/A <t< td=""><td>1.00%</td><td>6 1.25%</td><td>N/A</td><td>1.00%</td><td>1.00%</td><td>1.00%</td><td>1.00%</td><td>1.00%</td></t<>	1.00%	6 1.25%	N/A	1.00%	1.00%	1.00%	1.00%	1.00%
NIA         N/A         N/A <td></td> <td>6 2.00%</td> <td>NIA</td> <td>1.00%</td> <td>1.00%</td> <td>1.25%</td> <td>1.25%</td> <td>1.00%</td>		6 2.00%	NIA	1.00%	1.00%	1.25%	1.25%	1.00%
ESTER       1.50%       1.25%       1.00%       1.25%       1.25%         N       N/A       N/A       N/A       N/A         RDON       1.00%       1.00%       1.00%       2.00%         RDN       1.00%       1.00%       1.00%       1.50%         RDN       1.00%       1.00%       1.75%       1.50%         COUTH       1.50%       1.00%       1.75%       1.25%         SEX       1.00%       1.00%       1.75%       1.25%         OUTH       1.50%       2.25%       1.00%       1.25%         S       1.25%       3.00%       1.00%       1.75%         NA       N/A       N/A       N/A       N/A         N/A       N/A       N/A       N/A       N/A         X       1.00%       1.00%       1.00%       1.00%		N/A	2.00%	3.00%	1.00%	2.00%	1.00%	1.50%
N/A         N/A         N/A         N/A           1.00%         1.00%         2.00%           1.50%         1.00%         1.50%           1.50%         1.00%         1.50%           1.50%         1.00%         1.55%           1.50%         1.75%         1.55%           1.00%         1.75%         1.25%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.50%         1.00%         1.75%           1.00%         1.75%         1.00%           1.50%         1.75%         1.00%		6 1.00%	2.50%	1.75%	1.00%	1.00%	2.25%	1.50%
DON     1.00%     1.00%     1.00%     2.00%       1     1.50%     1.00%     1.75%     1.50%       EX     1.00%     1.75%     1.56%       JTH     1.50%     2.25%     1.00%     1.25%       JTH     1.50%     2.25%     1.00%     1.25%       JTH     1.50%     2.25%     1.00%     1.25%       JTH     1.50%     1.00%     1.75%     1.75%       N/A     N/A     N/A     N/A       N/A     N/A     N/A     N/A       I.50%     1.00%     1.00%     1.00%       ET     2.00%     1.00%     1.75%     1.00%       ET     2.00%     1.00%     1.75%     1.00%	_	N/A	1.00%	1.00%	1.00%	1.00%	1.00%	1.50%
1.50%       1.00%       1.75%       1.50%         1.00%       1.00%       1.75%       1.50%         1.50%       2.25%       1.00%       1.25%         1.50%       2.25%       1.00%       1.25%         1.50%       1.00%       1.00%       1.75%         1.50%       1.00%       1.00%       1.75%         1.00%       1.00%       1.00%       1.75%         1.50%       1.00%       1.00%       1.75%         1.50%       1.00%       1.75%       1.00%         2.00%       1.00%       1.75%       1.00%         1.50%       1.00%       1.75%       1.00%		% 1.00%	2.25%	2.00%	1.25%	1.00%	2.50%	1.00%
1.00%       1.00%       1.75%       1.25%         1.00%       1.00%       1.75%       1.25%         1.25%       2.25%       1.00%       1.25%         1.25%       3.00%       1.00%       1.25%         1.25%       1.00%       1.75%       1.75%         1.50%       1.00%       1.00%       1.75%         1.50%       1.00%       1.75%       1.00%         1.50%       1.00%       1.75%       1.00%         1.00%       1.75%       1.00%       1.00%         1.00%       1.75%       1.00%       1.00%	1.50%		1.50%	2.50%	1.00%	1.00%	1.00%	1.00%
I.20%         I.25%         I.00%         I.00%           1.56%         2.25%         1.00%         1.00%           1.25%         3.00%         1.00%         1.25%           1.00%         1.00%         1.75%         1.75%           1.00%         1.00%         1.75%         1.75%           1.00%         1.00%         1.75%         1.00%           1.50%         1.00%         1.75%         1.00%           1.50%         1.00%         1.75%         1.00%           1.00%         1.75%         1.00%         1.00%           1.00%         1.75%         1.00%         1.00%		% 1.00%	1.50%	2.00%	1.00%	1.00%	1.00%	1.00%
S         1.25%         3.00%         1.00%         1.25%           1.00%         1.00%         1.00%         1.75%           C         N/A         N/A         N/A           1.50%         1.00%         1.75%           2.00%         1.00%         1.75%           2.00%         1.00%         1.75%           3.00%         1.00%         1.75%           3.00%         1.00%         1.00%           3.00%         1.00%         1.75%           3.00%         1.00%         1.75%           3.00%         1.00%         1.75%		% 1.75%	1.00%	1.75%	1.25%	1.00%	2.50%	1.00%
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SET         2.00%         1.00%         1.75%         1.00%           X         1.00%         1.00%         1.75%         1.50%		% 3.00%	2.00%	1.50%	1.25%	1.00%	1.00%	2.00%
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AN	N/A N/A	NIA	1.25%	1.50%	1.00%	1.00%	1.00%	1.00%
=N 1.00% 1.00% 1.00% 1.00%	-	% 1.25%	2.25%	1.00%	1.00%	1.00%	1.00%	1.00%

Future Growth (compounded) = Present Growth \* (1+Growth Rate) <sup># of years</sup>

years is 1.0612. The three-year peak hour forecast is 1,591.8, or 1,592 peak hour trips. [ $1592 = 1500(1+0.02)^3 = 1500(1.0612)$ ]

Example: Assume existing condition is 1,500 peak hour trips and the applicable growth rate is 2%. The multiplication factor for 2% compounded for 3 NOTE: For use in short term (within 1-3 years) background growth ONLY.

Levels of Service (Delay) Masjid Sadar 216 Ernston Road Township of Sayreville, Middlesex County, New Jersey

C (17.8) C (25.6) D (44.1) C (15.5) D (35.3) D (39.1) C (32.4) C (27.6) D (37.6) D (43.8) C (33.9) D (37.7) A (9.1) C (23.5) A (9.1) C (23.8) Build No-Build D (35.1) C (23.4) C (33.9) C (25.4) C (32.4) C (27.2) D (37.2) D (37.3) C (23.8) D (43.8) D (43.1) D (39.1) Sunday I i ı Existing D (43.1) D (35.0) C (23.3) D (38.7) C (33.8) C (25.3) D (42.5) C (32.4) C (27.0) D (37.0) D (37.1) C (23.6) I t I C (16.7) C (34.6) D (46.2) D (35.2) D (39.3) C (15.8) D (46.5) D (35.8) C (23.7) D (40.9) C (24.6) C (27.5) D (39.2) A (8.9) A (9.0) C (24.6) Build D (35.4) D (40.9) C (34.6) C (24.3) D (43.4) D (35.2) C (26.4) D (38.3) D (38.4) C (24.6) D (46.5) C (23.7) No-Build Friday 1 ł ł D (35.3) D (42.9) D (35.1) D (38.2) D (38.3) C (23.5) D (40.5) C(34.5) C (24.4) D (45.7) Existing C (24.2) C (26.2) Ĩ I I I Left/Right Southbound Left/Right Through Through Through **Through** Right Right Right Right Left Left Left Left Left Left Southbound Southbound Northbound Westbound Eastbound Eastbound Eastbound **Bordentown Avenue** West Driveway East Driveway Ernston Road / Ernston Road / Ernston Road /

Masjid Sadar & Community Center located at 216 Ernston Rd, Parlin, NJ 08859, has been a central hub for the Muslim community in the area. The center hosts a range of events, catering to the community's religious and social needs. The proposed Masjid Sadar & Community Center will have 105 parking spots, highlighting the center's high level of activity. The events will be for various reasons, such as meetings, seminars, or other gatherings. However, the following is a summary of events hosted by the center with an approximate number of attendees.

Note: There is ONLY ONE activity taking place at a time in the Building.

### Janaza: Prayer for the Deceased

Janazah is a funeral prayer performed in the Muslim faith. The funeral prayer was conducted in accordance with Islamic customs and traditions, and the community members gathered to pay their respects to the deceased. Masjid Sadar & Community Center hosted 60-100 people for this event. After the 1:20 pm prayer on a weekday, the family would join with congregants to pray the funeral prayer which last for 15 min

### Family Nights:

The community center occasionally organized family nights that offered families an opportunity to come together, learn and bond. The events attracted 90-100 attendees, with an average of 4-5 people per carpool. The initiative not only helped to reduce traffic congestion but also promoted social cohesion within the community. Once a Month, this time is on Friday Nights 7pm to 8pm

### Nikah: Religious Wedding

Masjid Sadar & Community Center served as a location for nikah events, which is a Muslim marriage ceremony. The events were generally attended by 20-30 people with an average of 2-4 people per car, and the center's staff helped the couples and their families in arranging the ceremony as per Islamic customs and traditions. This usually happens on Saturday at 4pm

### Jumah: Friday Prayer

Jummah is a congregational prayer that is performed every Friday in the Muslim faith. Masjid Sadar & Community Center hosted Jummah events, with two prayer sessions. The events were attended by 60-90 cars with an average of 2 people per car, indicating a decent number of attendees. This times are: 1<sup>st</sup> Prayer 12:15 to 12:45, 2<sup>nd</sup> Prayer 1:20-1:45

### **Regular Prayers:**

The community center hosted regular prayer sessions attended by 15-30 cars. These sessions provided community members with the opportunity to engage in religious practices within a communal environment. Prayer Times changes with change of time, summer months, winter months

Regular Prayers is Fajr-6am, Zuhr-1:20pm, Asr-4:30pm, Magrib-7pm, Easha-8:30pm

Sunday School is from 10am to 1pm

It has about 32 students learning about their religion.

### **Conclusion:**

Masjid Sadar & Community Center at 216 Ernston Rd, Parlin, NJ 08859, plays a critical role in serving the Muslim community's religious and social needs. The range of events hosted by the center is indicative of the community's diversity and the center's commitment to serving its members. The center's management should continue to provide a welcoming and safe environment for the community's various needs, fostering a sense of belonging and inclusion.

# Church

## (560)

### Vehicle Trip Ends vs: 1000 Sq. Ft. GFA On a: Sunday, Peak Hour of Generator

### Setting/Location: General Urban/Suburban

Number of Studies:	16
Avg. 1000 Sq. Ft. GFA:	38
Directional Distribution:	48% entering, 52% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
10.36	3.36 - 51.31	7.83

### **Data Plot and Equation**



Trip Gen Manual, 11th Edition

• Institute of Transportation Engineers