

AtkinsRéalis 28175 Haggerty Road Novi, MI 48377 Atkinsrealis.com

Nov 30, 2023

Paul Modi, PE S.M. Engineers, LLC 1939 Lincolnshire Drive Rochester Hills, MI 48309

RE: Intersection Analysis, M-36 at Hamburg Rd, Hamburg Twp, Michigan

Dear Mr. Modi:

Per your request Atkins Michigan, Inc. has updated the traffic study, dated May 2022, completed for evaluating impact of a proposed residential development south of M-36/Hamburg Road intersection in Hamburg Township. This update covers the changes in the site plan developed since the previous version of the study was completed and submitted to MDOT for review.

The junction is a three-leg stop sign-controlled intersection, located on M-36 approximately 2.75 miles west of US-23 in Hamburg Township, a part of the MDOT University Region. Figure 1 shows the intersection location.

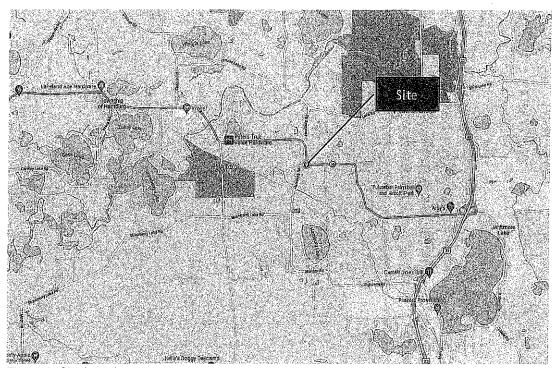


Figure 1- Site Location

As a part of the original study, Atkins collected peak hour traffic volume data, prepared trip generation estimates and distributed traffic to the roadway network. Subsequently we conducted capacity analysis for the existing and proposed conditions. The development has expanded from the original concept and the revised site plan has the following details:

- Single-family housing 40 units (seven 4 unit buildings, one 5 unit building, and one 7 unit building)
- Proposed 1,395 ft² office area
- Two additional fuel pump stations added to the existing gas station

Additional 2,000 ft² retail area added to existing gas station

Existing Conditions

M-36 is a state trunkline that runs in the east-west direction providing a key connection between US-23 and the US-127. At the project location, it has a three-leg intersection with M-36 on the east leg with a 2-lane cross section with a posted speed limit of 45 mph. The north leg is also M-36 with a 3-lane cross section with a posted speed limit of 40 mph. Hamburg Road is the westerly leg with a 2-lane cross section and a posted speed limit of 25 mph.

The M-36 southbound approach and the Hamburg Road eastbound approach have Stop sign control. The westbound M-36 approach has a free flow movement with a continuous green arrow for the right turning movement, see Figure 2 below.

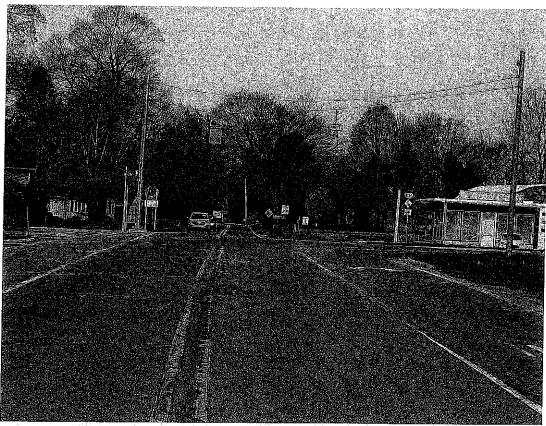


Figure 2- Westbound M-36 Approach at Hamburg Rd Intersection

Data Collection

Atkins collected existing weekday intersection turning movement counts on Wednesday May 11, 2022, during the morning (7:00-9:00 am) and afternoon (3:45-5:45 pm) peak hours. The highest hour period of traffic was observed to be 7:15-8:15 am for morning and 4:30-5:30 pm for the afternoon. The traffic count data is provided in the Attachment A.

Development Details

The existing location is an undeveloped site. The proposed residential development is comprised of 38 units of single-family homes and a community office with an area of 1,395 ft². The proposed site plan is included as Attachment B. The development will be connected to the existing M-36/Hamburg Rd intersection on the south side as a fourth leg, see Figure 3 below.

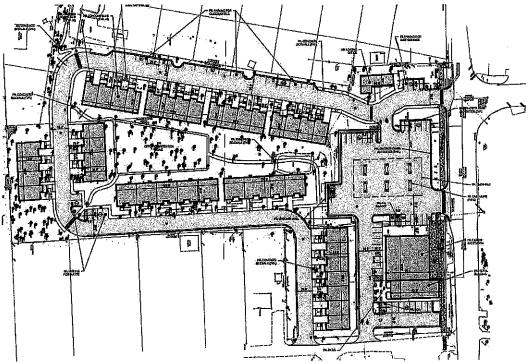


Figure 3- Proposed Site Plan and Access Layout

Trip Generation Estimate for the Proposed Development

To evaluate the trip generation potential for a proposed development, an estimate of number of trips to be generated using variables such as land use type, area, number of employees etc.is conducted. A trip is a single or one-directional vehicle movement with either the origin or the destination as the study site. Thus a vehicle entering and leaving a site would be recorded as generating two trips.

The most widely used source for estimating future trips is the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Trips are estimated by rates or equations provided in the *Trip Generation Manual* for the applicable type of land use. The average trip generation rates in the Trip Generation Manual represent weighted averages from studies conducted throughout the United States and Canada.

The number of trips that would be generated by the proposed residential development was estimated based on ITE Land Use type **Single-Family Detached Housing (Code 210)** using the number of dwelling units (38). The number of trips that would be generated by the proposed office area manufacturing development was estimated based on ITE Land Use type **General Office (Code 710)** using the gross floor area (1,395 ft²). The number of trips that would be generated by the additional fuel pumps and retail area was estimated based on ITE Land Use **Convenience Store/Gas Station (Code 945)**.

Table 1 - ITE Site Generated Peak Hour Traffic Volumes Rates

Land Use	Trips	Rate	<u>tn</u>	Out
210 Single-	AM Peak Hour	Ln(T)=0.91 Ln(X)+0.20	26%	74%
Family Housing	PM Peak Hour	Ln(T)=0.94 Ln(X)+0.34	64%	36%
710 Office -	AM Peak Hour	1.16/1,000 ft ² GFA	83%	17%
7 TO Office	PM Peak Hour	1.15/1,000 ft² GFA	17%	83%
945 Convenience	AM Peak Hour	10.98/Veh Fueling Stn	50%	50%
Store	PM Peak Hour	4.34/Veh Fueling Stn	50%	50%

Based on the rates and equations provided in Table 1, future site trips were estimated. These estimates are based on peak hour of the adjacent street traffic, typically 7-9 am in the morning and 4-6 pm in the afternoon and are provided in Table 2

Table 2 - Estimated Site Generated Peak Hour Traffic Volumes

Land Use	Trips	Total	ln	Out
210 Single-Family	AM Peak Hour	34	9	25
Housing	PM Peak Hour	39	25	14
710 Office	AM Peak Hour	4	4	0
7 to Office	PM Peak Hour	5	1	4
945 Convenience	AM Peak Hour	22	11	11
Store/Gas Stn	PM Peak Hour	9	4	5
Total AM peak hour		60	24	36
Total PM Peak Hour		53	30	23

The trip estimate for the Convenience store and gas station was estimated based on the difference in the trip rate for the Convenience Store/Gas Station (GFA 2-4K) with 8 fueling pumps and 945 Convenience Store/Gas Station (GFA 4-5.5K) with 10 fueling pumps.

Trip Distribution

The directions from which vehicles will approach and depart a site is a function of several variables, including the population and employment distribution within the development's area of influence, the operational characteristics of the street system, and the ease with which drivers can travel over various sections of the roadway network without encountering congestion.

The directional distribution of new trips generated by the proposed development was based on the existing traffic pattern and is summarized in Table 3.

Table 3 – Trip Distribution Percentage AM/PM Peak Hours

		In		Out						
Trips	From East	From North	From West	To East	To North	To West				
	M-36	M-36	Hamburg Rd	M-36	M-36	Hamburg Rd				
AM Peak Hour	32%	56%	12%	59%	34%	7%				
PM Peak Hour	60%	33%	7%	28%	60%	12%				

The estimate of directional distribution of new trips generated by the proposed development based on the existing traffic pattern is provided in Table 4.

Table 4 – Trip Distribution Estimate AM/PM Peak Hours

		ln			Out		
Trips	From East	From North	From West	To East	To North	To West	
	M-36	M-36	Hamburg Rd	M-36	M-36	Hamburg Rd	
AM Peak Hour	8	13	3	21	12	3	
PM Peak Hour	18	10	2	6	14	3	

Existing Condition -Level of Service Analysis

Existing peak hour vehicle delays and Levels of Service (LOS) were performed for the un-signalized three-legged intersection of M-36 and Hamburg Rd using Synchro (Version 11) traffic analysis software. This analysis was based on the existing, traffic volumes, lane use and traffic control. The Highway Capacity Manual grade intersections in terms of Level of Service (LOS) from A to F with F being the worst traffic operation condition.

The directional distribution of new trips generated by the proposed development was based on the existing traffic pattern.

Table 5 - Existing Peak Hour Traffic Volumes

Condition -	SB	M-36	WB	-36	EB Hamburg Rd			
	Left	Right	Thru	Right	Left	Thru		
Existing AM	377	28	25	204	41	45		
Existing PM	260 74		47	566	50 2			

The existing traffic control, stop sign for southbound and eastbound movements, in Synchro doesn't produce correct delay results. Therefore, minor modifications were introduced by making the east-west legs free and kept the southbound approach Stop sign controlled. The LOS based on existing conditions is provided in Table 6.

Table 6 - Existing Peak Hour LOS (Delay) Results

Condition	SB	M-36	W	B-36	EB Hamburg Rd
	Left	Right	Thru	Right	Left/Thru
Existing AM	B (14.2)	A (8.5)	Free	Free	A (7.8)
Existing PM	B (12.6)	A (8.8)	Free	Free	A (9.1)

Future Condition - Level of Service Analysis

Future peak hour vehicle delays and Levels of Service (LOS) were performed for the new 4-legged intersection of M-36 and Hamburg Rd using Synchro (Version 11) traffic analysis software. This analysis was based on the future projected traffic volumes, new intersection geometry and traffic control. The future volumes at the intersection are provided in Table 7.

Table 7 – Future Projected Peak Hour Traffic Volumes

Volumes		SB M-3	6	N	3 Drive	<i>N</i> ay	EB	Hambu	rg Rd		WB M-3	36
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing AM	377	n/a	28	n/a	n/a	n/a	41	45	n/a	n/a	25	204
New Trips	0	13	0	3	12	21	0	0	3	18	0	0
Total	377	13	28	3	12	21	41	45	3	18	25	204
Existing PM	260	n/a	74	n/a	n/a	n/a	50	25	n/a	n/a	47	566
New Trips	0	10	0	3	14	6	0	0	2	18	0	0
Total	260	10	74	3	14	6	50	25	2	18	47	566

The traffic control used in the existing conditions, two-way stop sign control for east and west legs, was retained with the new south leg added as stop sign controlled approach. The LOS based on future geometry and projected traffic volumes is provided in Table 8.

Table 8 – Future Peak Hour LOS (Delay) Results – Two Way Stop Control

Approach	NB Driveway	SB	M-36	EB Hamburg Rd	WB M-36
Control	Stop Sign	Stop	o Sign	Free	Free
Movement	Left/Thru/Right	Left/Thru	Right	Left	Left
AM Peak	B (10.5)	C (22.9)	A (8.6)	A (7.9)	A (7.4)
PM Peak	C (17.3)	B (17.3)	A (8.9)	A (9.4)	A (7.3)

In addition to the 2-way stop control, a 4-way stop control scenario was also evaluated. A channelized island was assumed to be in place for the westbound right turn movement. The LOS based on a 4-Way Stop control is provided in Table 9.

Table 9 – Future Peak Hour LOS (Delay) Results – Four Way Stop Control

Approach	NB	S	В	EB	W	В		
Approacti	Driveway	M-	36	Hamburg Rd	M-36			
Control	Stop Sign	Stop	Sign	Stop Sign	Stop Sign	Free		
Movement	Left/Thru/Right	Left/Thru	Right	Left	Left/Thru	Right		
AM Peak	A (9.9)	D (30.5)	A (8.1)	B (11.6)	B (10.1)	B (12.1)		
PM Peak	B (11.2)	C (22.8)	A (10.0)	B (12.0)	B (10.1)	F (66.6)		

Summary

The proposed development will add 60 new trips in the AM peak and 53 new trips in the PM peak. It is recommended to update the existing traffic control for the intersection to a Two-Way Stop sign control with the north and south legs operating with a Stop sign control and east and west legs operating as free movements.

Based on the overall intersection analysis the intersection will continue to operate at LOS B or better with the reconfigured geometry, 2-way traffic control and addition of the new south leg. The critical movement, southbound left-turns, will experience a minor degradation from LOS B to LOS C during the AM Peak hour.

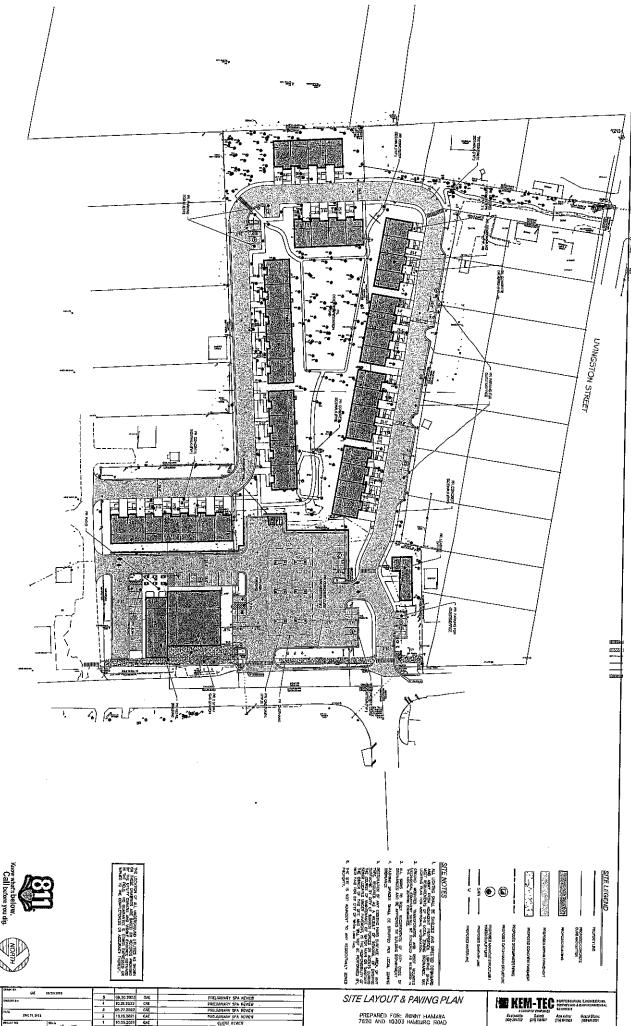
Should you have any questions or need additional information, please contact me at (248) 250 4843 or by email Tanveer.khan@atkinsrealis.com.

Sincerely,

Tanveer Khan, PE, PTOE

Senior Project Manager

Attachment A: Proposed Development Site Plan



C3.0

SITE LAYOUT & PAVING PLAN SCALE: 1"= 40"

AGRIPPO COMPACE

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ESTIMATION OF COM

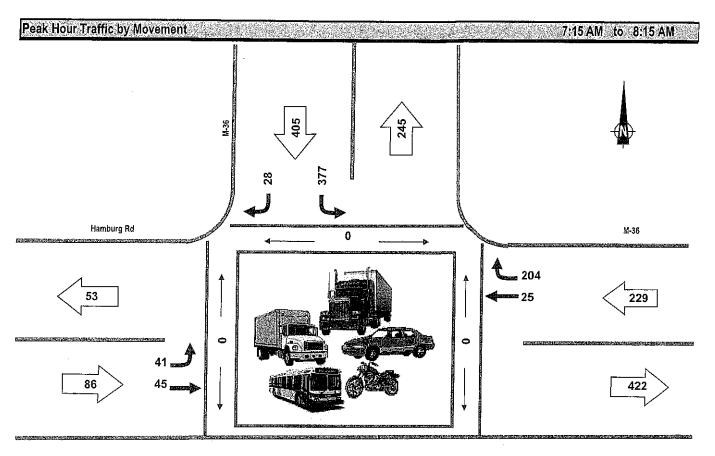
Attachment B: Traffic Volumes

Morning Peak Period

Project: 100079442

Municipality: Hamburg Twp, MI Weather: Clear Vehicle Class: All Motorized Vehicles

Notes: Peak Hour Traffic Counts



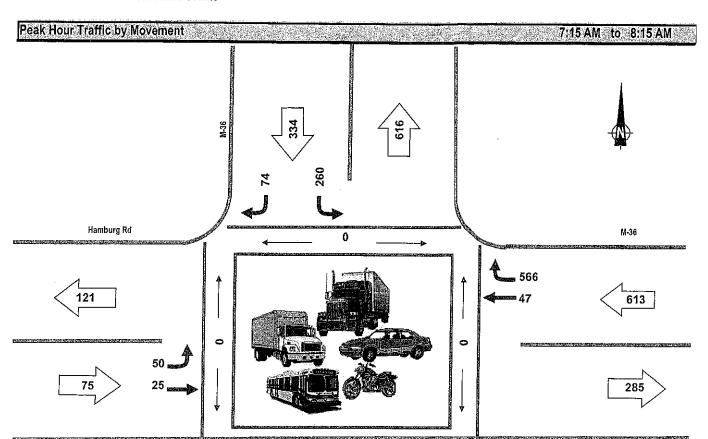
Intersection Peak Hour is Highlighted in YELLOW

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Afternoon Peak Period

Project: 100079442 Municipality: Hamburg Twp, MI Weather: Clear Vehicle Class: All Motorized Vehicles

Notes: Peak Hour Traffic Counts



Intersection Peak Hour is Highlighted in YELLOW

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Attachment B: Synchro Analysis Reports

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Approach	EB	- WB	\$	Children and a service of the Control of the Contro		3462					
HCM Control Delay so HCM LOS	6.1	0	11.	8 B			al .				
		vi have it			es a second		ig ig va				<i>3</i> .41
Miner Lane/Major Mvmt		AND REPORT OF THE PROPERTY OF THE PARTY OF T	WBT WBI	RSBLn1	SBLn2						
Capacity (veh/h) HCM Lane V/C Ratio	92 0.05	والمناف المنافي المنافية المستويدة والمنافية والمنافية		- 756 - 0.374	1017						
HCM Control Delay (s)	9		-	- 0.374 - 12.6	8.8	of the first				ar era e	
HCM Lane LOS HCM 95th %tile Q(veh)		A - 2 -	-	- B - 17	A 0.3			NEW STREET			*3434
From 35th wine Alvern	Ų			i sadda	U.3			G ng akatawa	<u> </u>		SALON.

Intersection													
Int Delay, s/veh	12.7	-					a ang ang ang ang ang ang ang ang ang an				and the second s	- The state of the	
Movement	EBL ,	EBY VEBR	WBL WE	BT WBR	NBL	NBT	NBR	SBL	- SBT	SBR			
Lane Configurations Traffic Vol. veh/h	41	↑ ⊹45 3	18 :	ት 7 24 204	en e	ф	**********		4	7		Thi Colorador	F 2530018151978
Future Vol, veh/h	41	45 3	2012 1.00 P. 10 P.	24 204 24 204	3. 3	. 12 12	21 21	377 377	13 13	28 28	S. Sant		S44 (0)
Conflicting Peds, #/hr	0	0 0	0	0 0	0	0.	0		. 0				
Sign Control RT Channelized	PEPERATURE EXPENSE OF THE	ree Free	Free Fre		Stop	Stop	Stop	Stop	Stop	Stop			
Storage Length	<u> </u>	- None	•	- None - 225	(1) (4) 4 (_	None			None 0			
Veh in Median Storage	,#	0 -		0	-	0	Services Secure		- 0	V 			
Grade, %		0 -		0 -	violation of the state of the	0			0	-			
Peak Hour Factor Heavy Vehicles, %	92 2	92 92 2 2		2 92 2 2	92 2	92	92	92	92	92			
Mymt Flow	49	54 3		2 244 9 244	3	2 4 13	2 23 -	2 4 5 1	2 - 14	2 - 33 -	4.5040		(5 A 5 A 1
	A Control of the Cont	O Maria Maria - Li Albade di Labar Maria Albari, si	under de la					8003769280					
	lajor1	, i	lajor2	1	/linor/l		M	nor2					
Conflicting Flow All	273	0 0	57	0 0	369	467	56	241	224	29			- Control of the Cont
Stage 1 Stage 2	•	,		•	154 215	154	•	69∗ 470	69	(18 97 <u>1</u> -69			
Critical Hdwy	4,12		4.12		∠15 -7.12 ≥	313 6.52	6.22	172 7.12	155 6.52	6.22			
Critical Hdwy Stg 1			-	-	6.12	5.52	·	6.12	5.52	. Y.C.	75.255		
Critical Hdwy Stg 2	0.040			<u>.</u>	6.12	5.52		6.12	5,52				
Follow-up Hdwy Pot Cap-1 Maneuver	2.218 1 29 0	A consider A State State of the control of the state of the state of	2.218 154 7	• • • • • • • • • • • • • • • • • • • •	3.518 ² 588		CARGO BANGO A PARK AN	.518 4 7 13	- man harmon a series	3.318 1046 —		A Company	6446 (SI
Stage 1			-	-	848	770	-	941	837	1040			
Stage 2	•				787	657		830	769	137 b			
Platoon blocked, % Mov Cap-1 Maneuver	1290		1547		536	466	1011	654	639	1046	wat is round	SAMES DATAGE	25240753884
Mov Cap-2 Maneuver	-			•	536	466		654	639	1040			
Stage 1	•		•	100,45 cm	815	740		904	824	160 PM			
Stage 2	- *9* (27.85) \$6		Na 1627 S. 1722	e a sto	737	646	-	766	739	- 40076140	Marka Santa Santa	T#/#://2010/##8	
							eren ere sena					\$5.250 (0.50 <u>)</u>	
Approach HCM Control Delay, s	EB -		WB		NB: 10.5			SB					
HCM LOS	0.4		UU		ти.э В			21.9 C					
PROBLEM STATE	A STATE OF THE STA		. Tagenta in Earling				NET CONTRACT	100					4 6
Minor Lane/Major Mymt	- NBLr	ni EBL	EBT EBR	WBL	WBT. V	VBR SB	Ln1 SB	Lin2					
Capacity (veh/h)	69	1290	69-30 Sec. 9	1547			654 1	046	25 64		in the second	1	
HCM Lane V/C Ratio	D. Balanco and E. Company Market Market Annual Com-	57 0.038	COMMISSION STREET, A PROPERTY OF STREET	0.013	1827 Gartos	- 0.		032	444400	Carlon Carlo		- Larren and Artista	
HGM Control Delay (s) HCM Lane LOS	; 10	.5 7.9 B A		7.4 A		79 fe 27 -	22.9 C	8.6 - A	de de const				
HCM 95th %tile Q(veh)		2 0.1		0		er de ege		0.1			765 T. L. 2564		44 8554 85 85
The second secon	an agrano, ang tantagan dig 17 y 29 h Car (S) (S)	u. e las arentes Arreiras (L.C.P.I	a service ar ineció de Salad de Salad.	na ana disempak dia MANSE S	or manufactures.				os valetooi	omende Militali (1981)		escales (Percelage	ASSENCES (S)

Intersection Int Delay, s/veh	5.9		374					į,								
	EBL.			ans.	106±							9845 <u>14 (1</u> 78 <u>1</u> 2)	Marian Rayan			
Movement Lane Configurations	EBL		EBR	WBL			NBL	NBT.	NBR	SBL		20.744.2010-040				
Traffic Vol., ven/h	50	↑ 25	2	18	↑ 47	56 6	3	റ 14	6	260	4 10	" 74				1.408824 1.408824
Future Vol, veh/h	50	25	2	18	47	566	3	14	6	The second of the second of the second	10					
Conflicting Peds, #/hr	0	0	0	0	0	0	0		0						e e i mento constanti	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	and the second second	Stop	ovene e	13127-7		
RT Channelized		de la company	None	(10	None	17.6.4		None	<u>.</u>	e (5)/637	-None				
Storage Length	trating were the	-	- Eartheathraphana		en e	225	SAN SANASAN MANAGA	in Vivinge i nama ni nem	-	600 CT 400 CT (CT CT C	-	0	and a contract			
Veh in Median Storage	,# -	0	osa d	•	0			.0			0		Table on			
Grade, % Peak Hour Factor	- 92	0 92	- 92	- 92	0 92	92	- 92	0 92	- 92	- 92	0 92	- 92				200.03119
Heavy Vehicles, %	2		2	- 3 <u>2</u> 2	9 <u>2</u> 2	92 2	92. 2	92 2	92 2	9 <u>2</u> 2	92 2	92 2				
Mvmt Flow	60	30	_ 	- 20 ·	_ _56	677	3	15	. 7	_	11-	- 88	e de la	Postavaja	out the second	9.65
Company of the Compan		Standard See S. A. S.			STIFES.							•				
Major/Minor I	/lajor1		M	ajor2		i A	/inord			Vinor2						
Conflicting Flow All	733	0	0	32	0	0	635	924	31	258	248	56				
Stage 1	all light	7 S-1	•				151	151		and a second second	96			a silan		
Stage 2		-	approved (Contractive SC	=		-	484	773	H	162	152	• · · · · · · · · · · · · · · · · · · ·				
Critical Hdwy	4.12			4.12	-		7.12	6.52	6.22	7.12	6.52	6.22				8775 1276
Critical Hdwy Stg 1	- 67050656464	Nemoskog	• 017:00:00:00		■ PottSinGitedes	=	6.12	5.52	ERNOR KONSES	6.12	5.52	Of a Shart surface.	L-PSecret Act of Lo	05 (1904 Out Divin 1904	u netta kan delektronensi kerina	fr. mr. man
Critical Hdwy Stg 2	0.040				i i	-	6.12	5.52		1	5,52				e di S	
Follow-up Hdwy Pot Gap-1 Maneuver	2.218 - 872 -	-	and the second second	.218 1580	- Marka		3.518 - 39 1 -	A SECURE SECURE SECURITION OF THE		100 NATE - 70 MAG	4.018					ecos e
Stage 1	.0/2			1900			851	269 772	1043	ୀ 6 95 ୁ 911	ა ით ა 815	1011				
Stage 2	r develope to	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			NACTO AFT	65,7601 sag	564	409		840	772		00/45/53			
Platoon blocked, %		-	-		-	-	A STATE OF THE	DANGE (SIS	a member	underfor.			en e			
Mov.Cap+1 Maneuver.	872		•	580	. •		327	244	1043	612	595	1011				
Mov Cap-2 Maneuver	H STOCKETS RESIDENCES		Elleviste is Month visi	a Interwedent beskriveren	-	and the second section of the second section of the second second second second section of the second secon	327	244		612	595	-	and real about	and the second	CONTRACTOR CONTRACTOR	
Stage 1	10 to 1		1.5	1	(1) - (1)		791	718		847	795	•				
Stage 2		• Varadore		-	- 57550000	<u>-</u>	495	399	- 1000000000000000000000000000000000000	760	718	ever ress	TVI GUT HEL	5556040000000	25000 S S S S S S S S S S S S S S S S S S	USSW#1
			Came, S		enderse.		3,650 (3),36		<u>LEwell</u>	66,78	<u> </u>	u duga				r Zi
Approach	: EB			WB			NB:	4.75		- \$B		7. 1				
HCM Control Delay, s	6.1			0.2		100	17.3			15.5						
HCM LOS				es es voicos	T. S. COMPTENDE	507/W/07/W/0	C	9797974879829	58805013W9	C	generaliseren	8,325,527,6459602.	ioterescerences	odd haddad y ac ba		2501.8E
<u>La distribuit function de la companie de la compan</u>	edka.Ma.id	(4.14.6)		. Marka	<u>Latera</u>				102.00		out to	5 45 AS		<u> </u>	<u>Planiero</u>	
Minor Lane/Major Mymt	- NE		THE SECTION AND PROPERTY.	EBT I			WBT _i	WBR SE						= =		
Capacity (veh/h)		318	872	•		580		5 T.	611	200						
HCM Lane V/C Ratio			.069	_ Magazason	- 0.	.012	- - 		.527 (in retoativo	e Neprance	SALES FILES	significação de como d	STREET, STREET, AM	880/19a
HCM Control Delay (s) HCM Lane LOS		17,3	9.4		Sign was	7.3				8.9	707957					
HCM 95th %tile Q(veh)	Market M	C 0.3	A 0.2 -	eragen kin	1 10.00	A O	- 120 <u>6</u>	v 1981 <u>-</u> V 1981 <u>1</u> 40 (1	C 3,1	A 0.3	(*************************************		3000000			7 73
COM CORE TORIS (4/4GH)	with head			ude on			. Li lia			UN			eriche di		<u> </u>	ried

Intersection Intersection Delay, s/veh	20.9						il a sa				
Intersection LOS	· ·····C										
Movement	EBL" E	ST. EBI	₹ ÷ WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Traffic Vol. veh/h	41	† 15		4	7		4			4	7
Future Vol, veh/h	41 4	45 45 (the contract of the contract o	45 A MARKET CONTRACTOR	Contract to the second	1.177.17.17.17.17.17.17.17.17.17.17.17.1	Westernament	21 21	377 377	13 ° 13	28 28
Peak Hour Factor	0.92 0.9	elember of the control of	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, % Mvmt Flow	2 49 (2 2 54 3	2 20			2 3	2 13	2 23	2 451	2 	2
Number of Lanes	0	1 (81.00 (B112.00 (123.00 (B12.00	4 9 1	***********1	0	ان ا	0	49 I 0	, (1 4) 1	33 1
Approach	EB		WB			⇒ NB			.SB		
Opposing Approach	WB	Parata Source (action)	EB	eranga sebagaa	i kyddigret dwy et	SB	v kodrani od ragoda v	n tron and order process	NB	en i global Arian van der der	Character Co.
Opposing Lanes Conflicting Approach Left	∠ SB	las Carrolla	NB						1 WB		
Conflicting Lanes Left	2		1			1			2		
Conflicting Approach Right Conflicting Lanes Right	NB 1		SB 2		-	WB		775 204	EB		Easte
HCM Control Delay	11.6		<u>2</u> 11.8	<u> ,</u>		9.9			1 29		
HCMLOS	В.	and the second	В			A		A se	, D		on it
Lane	NBLn	i Ediki	WBLn1	WAL-0	്റ്റി ^ഇ	ODI O					
Vol Left, %	89 89	4-2	43%	WBLn2 0%	SBLn1 97%	SBLn2 0%		<u></u>			
Vol Thru, %	339		-57%	0%	3%	e 0%					Wast.
Vol Right, %	58%		0%	100%	0%	100%	RANTINA TIBUT ANGERYANGO YO				aredicas
Sign Control Traffic Vol by Lane	Stoj 36	Charles and the contract of th	Stop 42	Stop 204	Stop., 390	Stop					
LTVol	J.		18	204 - 0	390 .:: 377	28 0			47.5		
Through Vol	12	2 45	24	0	13	0		a de la composição de l			
RT Vol Lane Flow Rate	2	The latest of the state of the	. 0	204	0	28					100
Geometry Grb	39 6		48 7	244 7	465 7	33 7				1.57 64 15	
Degree of Util (X)	0.069		0.089	0.388	0.81	0.047	<u> Phaire a seid</u>				
Departure Headway (Hd)	6.324	6.821	6.658	5.73	6:275						
Convergence, Y/N	Yes		Yes	Yes	Yes	Yes	TO SECURE OF SERVICE PROCESSION OF COMME		×4400 × 5040 × 50	ara, mangan pangangan da	and detailed
Cap	564	DESCRIPTION OF REAL PROPERTY.	537	627	576	704		2010 <u>2018</u>			
Service Time HCM Lane V/C Ratio	4.386		4.41	3.482	4.009	2.814				STATER AND THE TANK OF	ASSESSATIONS A
HCM Control Delay	0.069 9.9	MATECON SO BEITE STATE OF	0.089	0.389 12.1	0.807	0.047			2000		
HCM Lane LOS	9.9 A		10.1 B	12.1 B	30.5 D	8.1 A					Nagarija Nagarija
HCM 95th-tile Q	0.2	CONTRACTOR SERVICES	0.3	1.8	8	0.1					

Timing Plan: AM PEAK ATKINS

Intersection Intersection Delay, s/veh	43.3										
Intersection LOS	E,	3 (A. 4)									4 (5)
Movement	EBL I	edt – El	BR WBL	BAS SECTION AND THE SECTION	THE PERSON NAMED IN COLUMN TWO	NBL	**************************************	NBR	SBL	Secretary Transfer of the Party	SBR
Lane Configurations Traffic Vol. veh/h	50	↑ 25	-2 18	ተ 3 47	* 566	3	ቆ 14	6	260	मी 10	آم 74
Future Vol, veh/h	50 50	25 25	2 18	A - Company of the Co	566	3	14	6	260	10	74
Peak Hour Factor).92 0,	92 0.92		0.92	0.92	0.92	- 0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2 2		2	2	2	2	2	2	2
Mymt Flow	60	30	2 20		677	3	15 1	7	*311 = 0	<u>11 8</u> 1	88 1
Number of Lanes	0	1	0 0		1	0]	0	•	[
Approach	EB.		WE	The second secon		NB			SB		
Opposing Approach	WB		EE	(artikale tikolisa)		SB 2			NB	talojenika	
Opposing Lanes Conflicting Approach Left	2 SB		NB NB			<i>.∠</i> EB			WB		
Conflicting Lanes Left	- 2	and is select	11		1	- 1			2		
Conflicting Approach Right	NB		SB			WB	Secure of the state of the secure of	20022000000000000000	ΕB		
Conflicting Lanes Right	1		. 2	ing a second	10 10 10 10 10 10 10 10 10 10 10 10 10 1	2			1		
HCM Control Delay	12		60.9			11.2 R			20		
HCM LOS	В		- 1						· C		
							to disconnect but				
Lane	and the second contract of the second contrac		11 WBLn1						* a J	10 10 10	
Vol Left, %		3% 65 1 % 32			96% -4%	0% - 10%				i de la companya de	A6.11
Vol Thru, % Vol Right, %		Contract of the second	<i>% 12%</i> % 0%			100%					
Sign Control		top Ste			Stop	Stop	2.1				
Traffic Vol by Lane			77 65		270	74	wines were supported the	eneral deposit a conserva de la conserva de	a (New York of the State of the	reactive needs referred Vogel.	HESSENAGE
LT:Vol			50 - 18	AND THE PARTY OF T	260	0					
Through Vol		14 2 6	25 47 2 0		10 0	0 74					AG. N
RT Vol Lane Flow Rate			2 0 92 76	200	322	88					
Geometry Grp		6	6 7		7	7			10000000		
Degree of Util (X)		052 0.18	500 to 300 to		0.649	0.149	22-21-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2				and the second
Departure Headway (Hd)		746 7 .34	الماسلان والمستورة والالاربياء والمناهد فالتدوات	The second secon	7.422	6.219					
Convergence, Y/N		es Y			Yes	Yes				54 7 4 5 7 8 7	
Cap		165 49 746 5.34		663 3.232	489 5.122	580 3.919					
Service Time HCM Lane WC Ratio		740 5.32)54 0.18		The same and the same states and the same	0.658	0.152					or socrapy
HCM Control Delay			i2 10.1	66.6	22.8	10		and the second second	THE CONTRACTOR OF STREET		Carrie Carrie
HCM Lane LOS			В В	F	C	A					
HCM 95th-tile Q		0.2 0	.7 0.5	17.2	4.6	0.5					