

Appendix

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Existing Intersection Traffic Counts

A & R Engineering, Inc.

2160 Kingston Court, Suite 'O',
Marietta, GA 30067

TMC DATA

Wilkerson Mill Rd-Tatum Rd @ SR 14

Roosevelt Hwy

7-9 am | 4-6 pm

File Name : 20220151

Site Code : 20220151

Start Date : 4/12/2022

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Groups Printed- Cars,Buses & Trucks

	Wilkerson Mill Rd Northbound				Tatum Rd Southbound				SR 14 Roosevelt Hwy Eastbound				SR 14 Roosevelt Hwy Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	1	8	13	10	9	6	25	3	84	6	93	17	58	4	79	210
07:15 AM	6	1	4	11	14	7	4	25	0	86	6	92	21	61	2	84	212
07:30 AM	5	4	8	17	13	6	4	23	4	94	11	109	25	63	8	96	245
07:45 AM	6	2	15	23	19	8	2	29	3	97	12	112	29	56	9	94	258
Total	21	8	35	64	56	30	16	102	10	361	35	406	92	238	23	353	925
08:00 AM	5	2	14	21	15	8	4	27	4	83	7	94	24	63	12	99	241
08:15 AM	5	0	7	12	10	4	5	19	5	75	5	85	18	67	6	91	207
08:30 AM	3	0	4	7	7	1	6	14	4	73	3	80	15	61	4	80	181
08:45 AM	4	3	4	11	10	1	5	16	2	78	3	83	9	58	3	70	180
Total	17	5	29	51	42	14	20	76	15	309	18	342	66	249	25	340	809
*** BREAK ***																	
04:00 PM	7	9	21	37	9	5	5	19	4	62	4	70	4	105	8	117	243
04:15 PM	4	8	17	29	8	2	4	14	3	67	3	73	8	128	9	145	261
04:30 PM	9	14	22	45	9	1	3	13	5	66	5	76	8	125	10	143	277
04:45 PM	5	15	21	41	12	2	5	19	6	68	4	78	10	121	7	138	276
Total	25	46	81	152	38	10	17	65	18	263	16	297	30	479	34	543	1057
05:00 PM	10	14	26	50	11	4	5	20	4	64	3	71	10	115	16	141	282
05:15 PM	8	16	18	42	12	11	5	28	4	71	3	78	9	117	15	141	289
05:30 PM	9	15	11	35	13	10	4	27	5	75	2	82	11	113	16	140	284
05:45 PM	8	15	7	30	11	9	5	25	4	69	3	76	9	109	14	132	263
Total	35	60	62	157	47	34	19	100	17	279	11	307	39	454	61	554	1118
Grand Total	98	119	207	424	183	88	72	343	60	1212	80	1352	227	1420	143	1790	3909
Apprch %	23.1	28.1	48.8		53.4	25.7	21		4.4	89.6	5.9		12.7	79.3	8		
Total %	2.5	3	5.3	10.8	4.7	2.3	1.8	8.8	1.5	31	2	34.6	5.8	36.3	3.7	45.8	

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Roosevelt Hwy

7-9 am | 4-6 pm

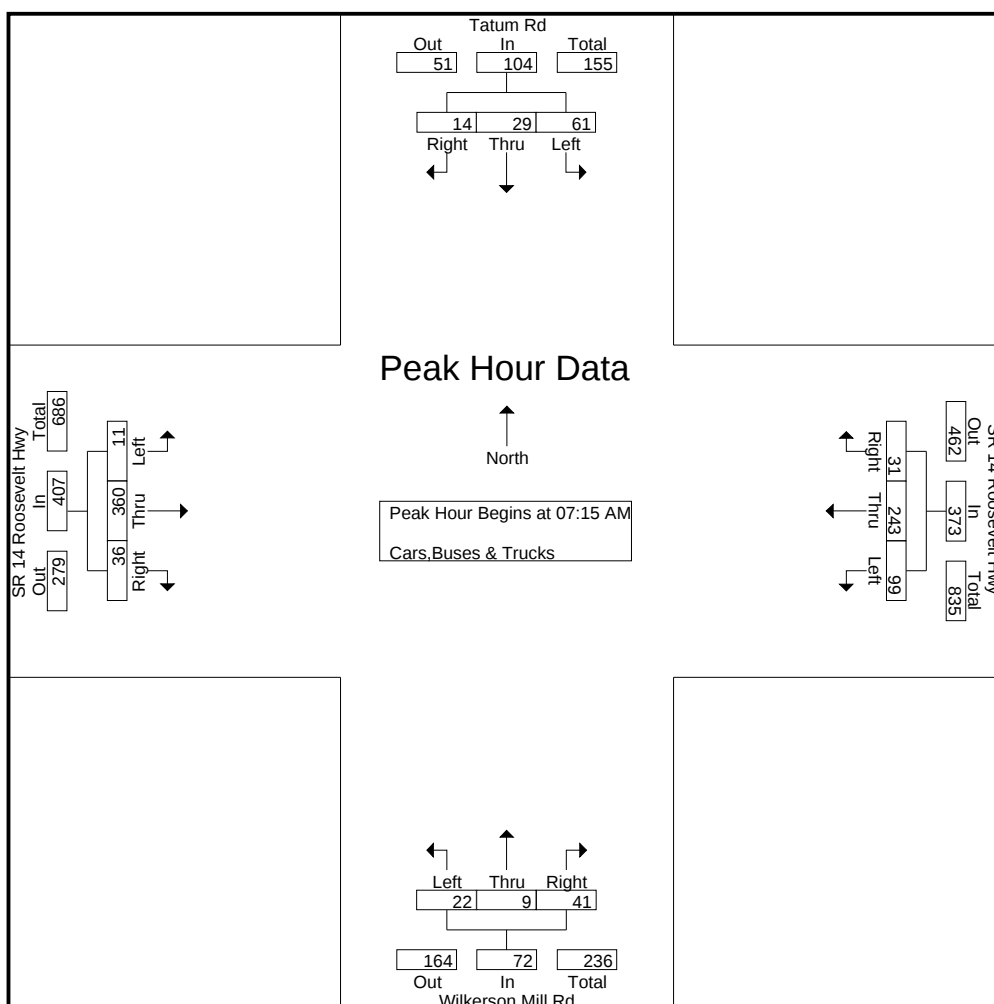
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	1	4	11	14	7	4	25	0	86	6	92	21	61	2	84	212
07:30 AM	5	4	8	17	13	6	4	23	4	94	11	109	25	63	8	96	245
07:45 AM	6	2	15	23	19	8	2	29	3	97	12	112	29	56	9	94	258
08:00 AM	5	2	14	21	15	8	4	27	4	83	7	94	24	63	12	99	241
Total Volume	22	9	41	72	61	29	14	104	11	360	36	407	99	243	31	373	956
% App. Total	30.6	12.5	56.9		58.7	27.9	13.5		2.7	88.5	8.8		26.5	65.1	8.3		
PHF	.917	.563	.683	.783	.803	.906	.875	.897	.688	.928	.750	.908	.853	.964	.646	.942	.926



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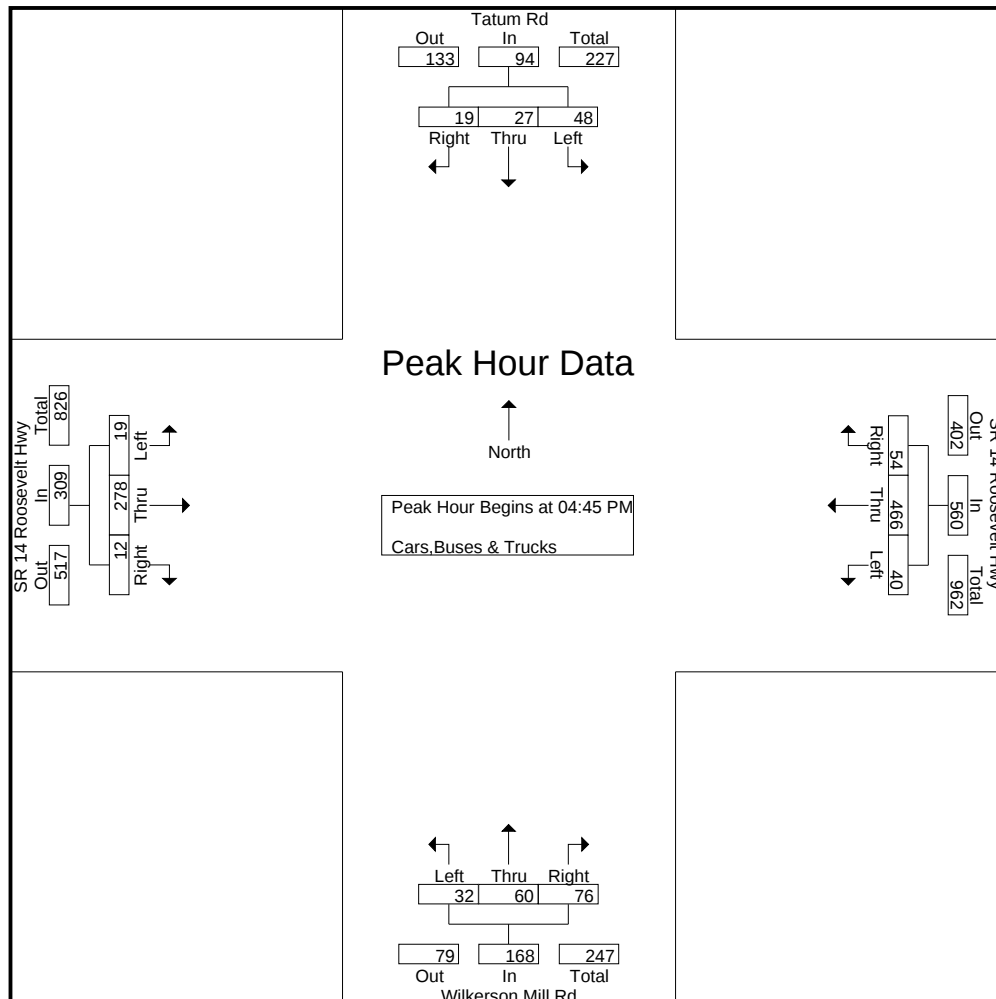
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	5	15	21	41	12	2	5	19	6	68	4	78	10	121	7	138	276
05:00 PM	10	14	26	50	11	4	5	20	4	64	3	71	10	115	16	141	282
05:15 PM	8	16	18	42	12	11	5	28	4	71	3	78	9	117	15	141	289
05:30 PM	9	15	11	35	13	10	4	27	5	75	2	82	11	113	16	140	284
Total Volume	32	60	76	168	48	27	19	94	19	278	12	309	40	466	54	560	1131
% App. Total	19	35.7	45.2		51.1	28.7	20.2		6.1	90	3.9		7.1	83.2	9.6		
PHF	.800	.938	.731	.840	.923	.614	.950	.839	.792	.927	.750	.942	.909	.963	.844	.993	.978



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Tatum Rd @ Old Tatum Rd -
Shugart Data Center Drwy
7-9 am | 4-6 pm

File Name : 20220141
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Shugart Data Center Drwy

7-9 am | 4-6 pm

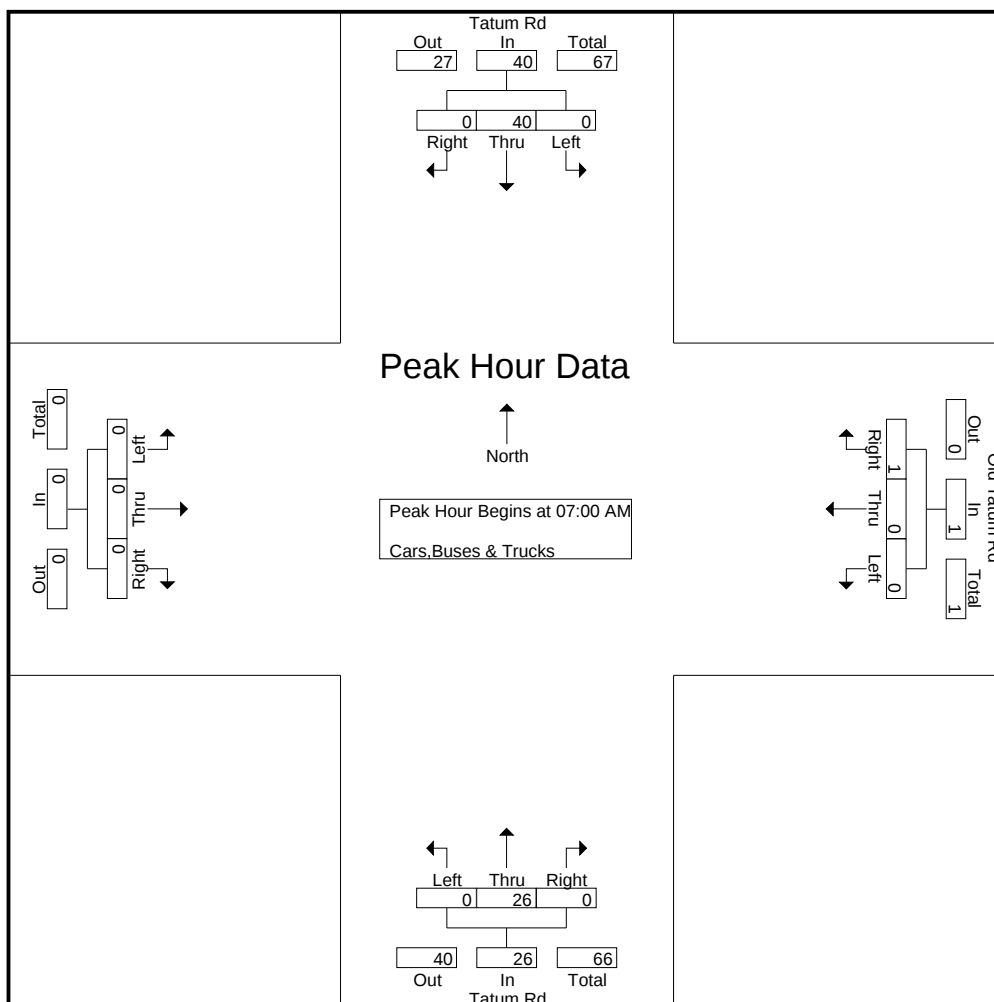
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	7	0	7	0	10	0	10	0	0	0	0	0	0	0	0	17
07:15 AM	0	8	0	8	0	9	0	9	0	0	0	0	0	0	1	1	18
07:30 AM	0	5	0	5	0	9	0	9	0	0	0	0	0	0	0	0	14
07:45 AM	0	6	0	6	0	12	0	12	0	0	0	0	0	0	0	0	18
Total Volume	0	26	0	26	0	40	0	40	0	0	0	0	0	0	1	1	67
% App. Total	0	100	0		0	100	0		0	0	0		0	0	100		
PHF	.000	.813	.000	.813	.000	.833	.000	.833	.000	.000	.000	.000	.000	.000	.250	.250	.931



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7-9 am | 4-6 pm

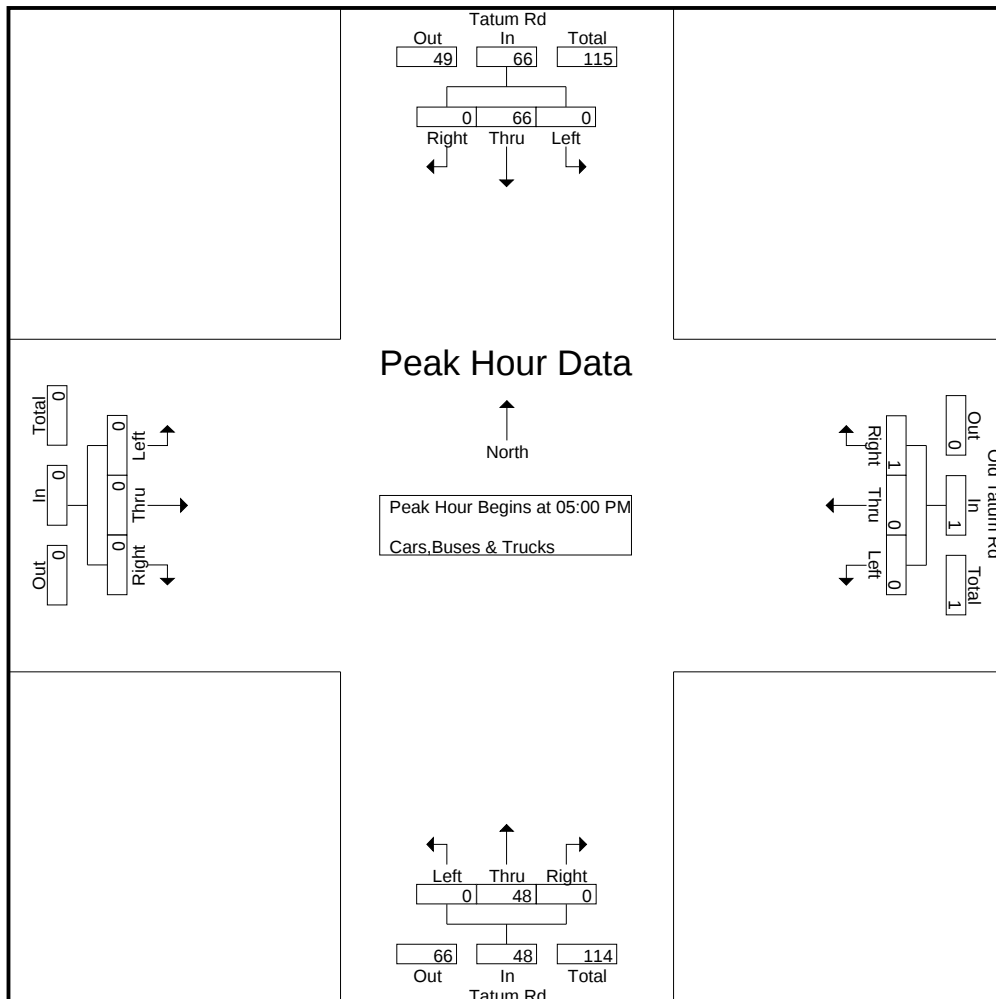
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	15	0	15	0	13	0	13	0	0	0	0	0	0	0	0	28
05:15 PM	0	10	0	10	0	13	0	13	0	0	0	0	0	0	0	0	23
05:30 PM	0	12	0	12	0	21	0	21	0	0	0	0	0	0	1	1	34
05:45 PM	0	11	0	11	0	19	0	19	0	0	0	0	0	0	0	0	30
Total Volume	0	48	0	48	0	66	0	66	0	0	0	0	0	0	1	1	115
% App. Total	0	100	0		0	100	0		0	0	0		0	0	100		
PHF	.000	.800	.000	.800	.000	.786	.000	.786	.000	.000	.000	.000	.000	.000	.250	.250	.846



GRTA Letter of Understanding



LETTER OF UNDERSTANDING

April 12, 2022

Michael Trader
Microsoft Corporation
Redmond, WA 98052

RE: **Microsoft Data Center Palmetto DRI (#3576)**

Dear Michael Trader:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on April 4, 2022, regarding **Microsoft Data Center Palmetto DRI (#3576)** Development of Regional Impact (DRI). The *GRTA DRI Review Procedures*, as well as the inputs and parameters documented in this Letter of Understanding and the revised Methodology Meeting Packet, shall be adhered to in preparing the GRTA required Transportation Study.

PROJECT OVERVIEW

- The proposed site is located to the northwest of Johnson Road and Williams Road. In general, the development is located to the west/north of I-85.
- The proposed development includes 1,180,000 square feet of data center space and 67,500 square feet of admin space.
- The projected build-out is one phase to be completed by 2032.
- The proposed development includes one full access to the existing Old Tatum Road/PHB access roadway and one emergency-only access on Johnson Road.
- The DRI trigger for this development is a land disturbance permit.
- The vehicular trip generation is estimated to be 1,992 net daily trips based on the *ITE Trip Generation Manual 11th edition*.
- The applicant is applying for approval under GRTA's expedited Traffic Impact Study review process.

STUDY NETWORK

1. SR 14/US 29 (Roosevelt Highway) @ Wilkerson Mill Road / Tatum Road
2. Tatum Road @ Old Tatum Road

METHODOLOGY MEETING PACKET INPUTS & PARAMETERS

- The Site Plan shall meet all the applicable requirements in Section 7.1 of the *GRTA DRI Review Procedures*.
- All Study Network intersections shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions, and (3) future "build" conditions as specified in the *GRTA DRI Review Procedures*.
- This DRI shall be modeled and reviewed in one phase to be completed by 2032.
- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.

- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.
- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Mixed-use and pass-by reductions are not allowed for this site. Pass-by reductions shall not exceed 15% of a roadway's traffic volume standard established in Appendix 7.2.
- The trip assignment approach in the revised Methodology Meeting Packet shall be utilized for all Study Network intersection movements.
- The applicant shall research TIP, STIP, RTP and GDOT's construction work program, as well as any local government and transit operator plans (SPLOST, CIP, etc.), to determine the open date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. Programmed transportation projects anticipated to open on or before the Build Out year of the DRI Project shall be modeled as completed in the No-Build and Build conditions unless approved otherwise.
- A 3.4% annual traffic Background Growth Rate shall be used for all roadways.
- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA, unless specified otherwise. As specified in Section 2.3, turning movement counts shall be collected while local schools are in session, on a Tuesday, Wednesday or Thursday (unless approved otherwise) and not during holiday periods (weeks of July 4th, Thanksgiving and +/- 5 days of Christmas).
- COVID-19: The transportation analysis shall utilize existing turning movement count data when available during COVID. All counts older than a year shall be grown by the Background Growth Rate unless approved otherwise. If new counts are required, a control count location where existing count data is available shall be used for developing traffic growth extrapolation rates. The traffic engineer shall submit the proposed growth rates to GRTA, GDOT and local government stakeholders for input and GRTA approval before submitting the Transportation Study.

ADDITIONAL REQUIREMENTS

All applicable requirements of the *GRTA DRI Review Procedures* must be met for the Transportation Study to be considered complete. The *GRTA DRI Review Procedures* are located on GRTA's DRI website: <https://www.srta.ga.gov/programs-projects/dev-of-regional-impact/> Contact GRTA staff if you have any questions on these requirements.

The Transportation Study shall also include as attachments the native LOS modeling file (i.e., Synchro modeling files) as well as the modeling reports (PDFs) for all Study Network intersections for the Existing, No-Build and Build conditions for all phases. The PDF reports shall be numbered (in page headers) and organized in order according to the Study Network numbering sequence in this Letter of Understanding. The reports shall also be organized in the following sequence: *Existing condition AM, Existing condition PM, No-build condition AM, No-Build condition PM, Build condition AM, Build condition PM*. If improvements are modeled, those PDFs shall be labeled as such and follow the appropriate condition's applicable peak period.

The Transportation Study appendices shall also include all turning movement count data, regardless of if using historic data or newly collected turning movement counts.

When documenting any Queue Length impacts required in Section 3.2.3.6, the TIS Executive Summary shall also note any individual *movements* not meeting the LOS standard where the DRI Project adds trips in the Build condition and exceeds available storage capacity for that movement.

When identifying mitigations in the existing, no-build and build conditions, the mitigations identified in preceding conditions shall not be modeled as complete when conducting the LOS analysis. The same mitigation may still be proposed as mitigation in the subsequent condition but it shall not be included as completed in the default analysis. For example, a turn lane may be identified as a needed improvement in the no-build condition. The turn lane should

not be modeled as completed in the build condition. The turn lane should only be modeled as complete in the no-build with improvements condition and the build with improvements condition.

DRI REVIEW PACKAGE SUBMITTAL

GRTA will begin reviewing the DRI once the DRI Review Package is submitted and deemed complete. The DRI Review Package includes: the permitting Local Government inputting both Department of Community Affairs (DCA) forms into the DCA DRI website; and the **Traffic Engineer submittal of the GRTA Transportation Study (including LOS appendices, traffic count data and any other required attachments) and Site Plan to GRTA staff and ALL stakeholders included in the CC list of this Letter of Understanding.**

All DRI Review Packages shall be submitted electronically via email to all stakeholders in the CC list of the Letter of Understanding. If the DRI Review Package total file size is greater than 10 MB, the DRI Review Package shall be submitted via email with a FTP link provided for downloading the files.

Please contact me if you have any questions about the Letter of Understanding or the *GRTA DRI Review Procedures*.

Sincerely,

Elizabeth Davis
Senior Transit and Transportation Planner

Cc:

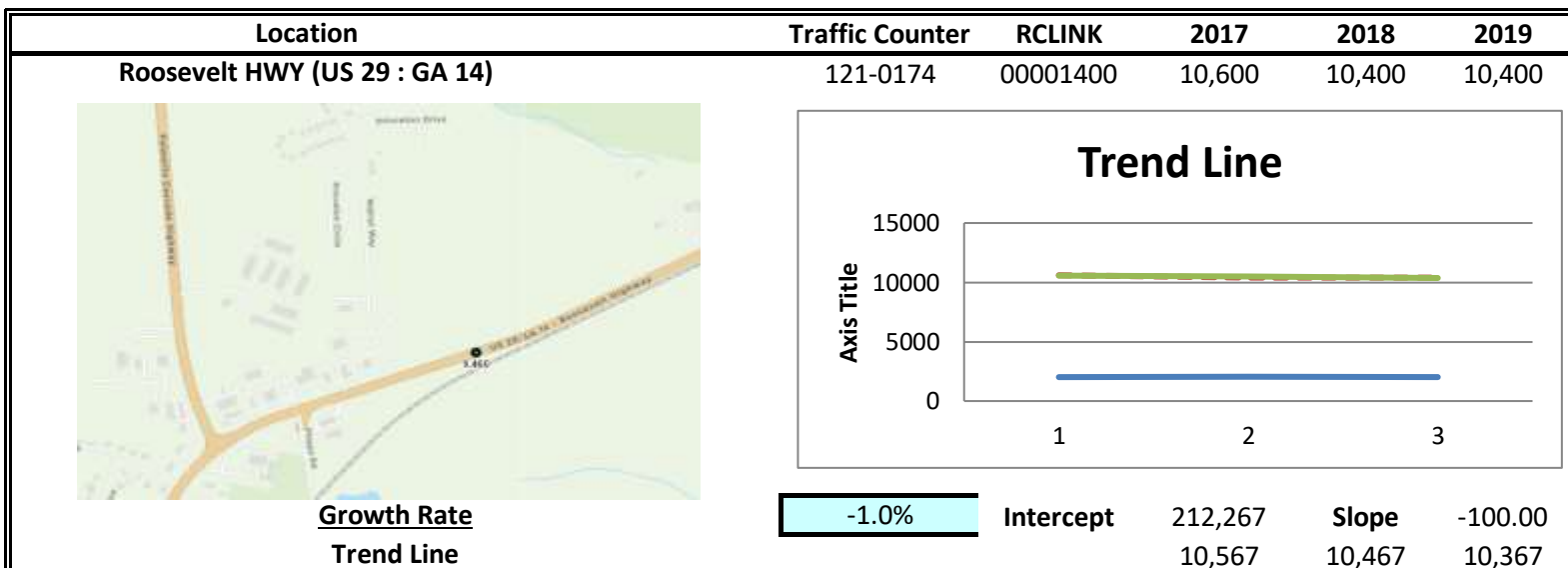
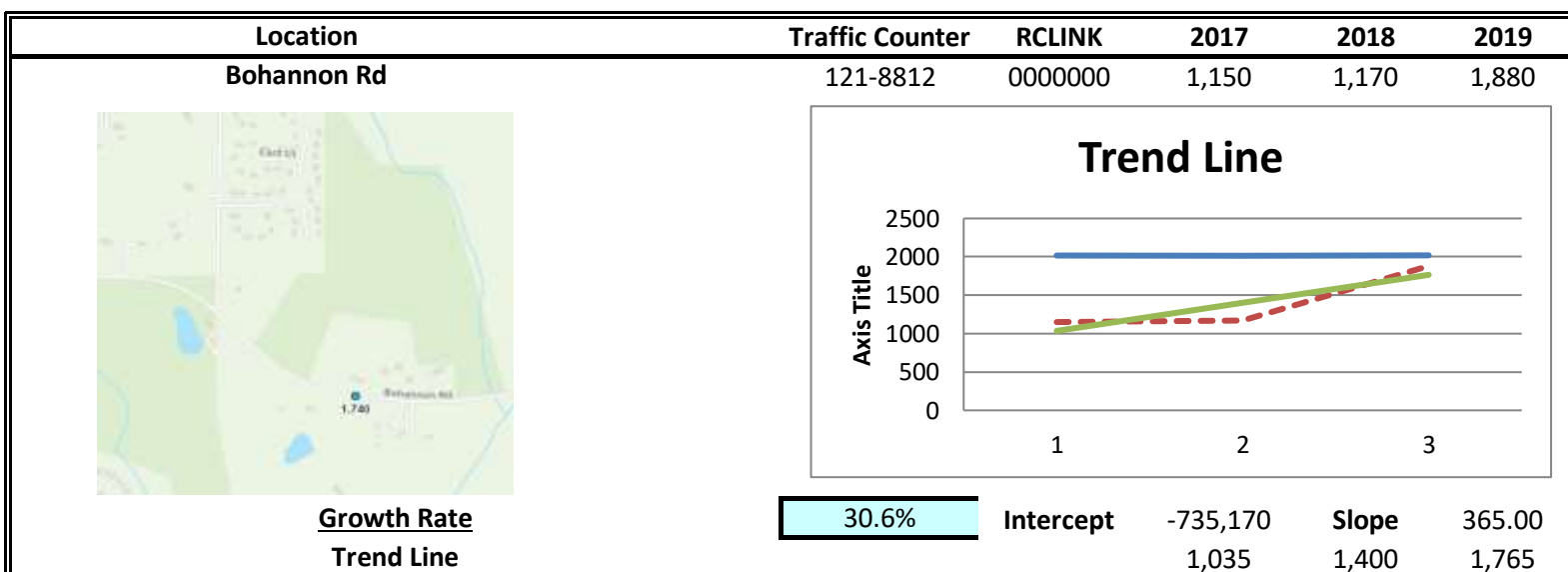
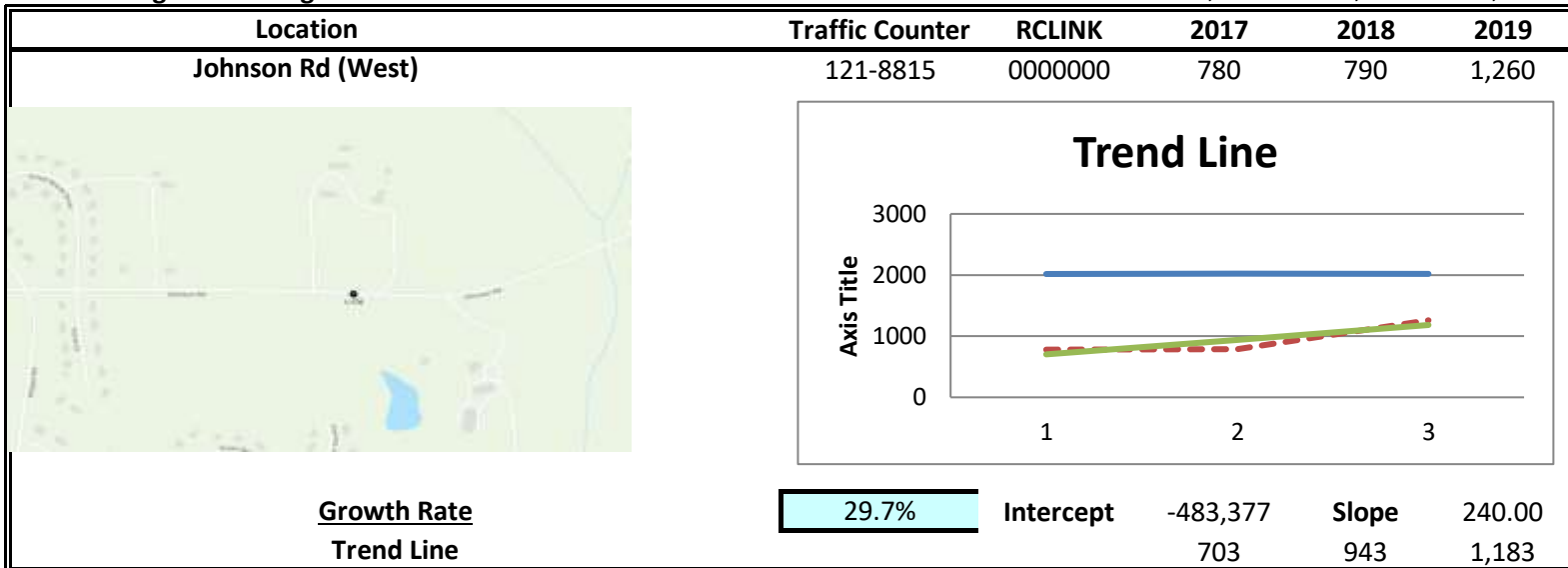
Donald Shockey, ARC
Aries Little, ARC
Clark Boddie, City of Palmetto
Marissa Jackson, City of South Fulton
Chanelle Blaine, Fayette County
Deborah L Bell, Fayette County
Joshua M Montefusco, GDOT
Joshua Higgins, GDOT
Landon Perry, GDOT
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Abdul Amer, A&R Engineering
Doug Munnell, Charles Abbott Associates, Inc.
Lawyers
Rebecca Lindsay, Gresham Smith
Alexis Jones, Microsoft Corporation
Sid Janga, Microsoft Corporation
Ambieca Saha, Microsoft Corporation
Lara Pollitt, Microsoft Corporation
Brendan Gallagher, Microsoft Corporation
Hillary Murray, Microsoft Corporation
Marc Bourget, Morrison Hershfield Engineering
Mark DeSouza, Thomas and Hutton
Brad Sanderson, Thomas and Hutton

Linear Regression of Daily Traffic

Location	Growth Rate	R Squared	Station ID	Route	2017	2018	2019
Johnson Rd (West)	29.7%	0.77	121-8815	0000000	780	790	1,260
Bohannon Rd	30.6%	0.77	121-8812	0000000	1,150	1,170	1,880
Roosevelt HWY (US 29 : GA 14)	-1.0%	0.75	121-0174	00001400	10,600	10,400	10,400
Fayetteville Rd	0.4%	0.75	121-0763	00139115	2,690	2,690	2,710

Weighted Average **3.4%** 0.63 Sum of Count Stations = 15,220 15,050 16,250



Existing Intersection Analysis

HCM 6th TWSC
1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

1a. Existing 2022 AM
04/21/2022

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	360	36	99	243	31	22	9	41	61	29	14
Future Vol, veh/h	11	360	36	99	243	31	22	9	41	61	29	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	387	39	106	261	33	24	10	44	66	31	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	387	0	0	769	884	194	696	884	131
Stage 1	-	-	-	-	-	-	411	411	-	473	473	-
Stage 2	-	-	-	-	-	-	358	473	-	223	411	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1300	-	-	1168	-	-	291	283	815	328	283	894
Stage 1	-	-	-	-	-	-	589	593	-	541	557	-
Stage 2	-	-	-	-	-	-	633	557	-	759	593	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1300	-	-	1168	-	-	240	255	815	278	255	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	255	-	278	255	-
Stage 1	-	-	-	-	-	-	584	588	-	536	506	-
Stage 2	-	-	-	-	-	-	531	506	-	700	588	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			2.2			12.4			22.8		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	567	1300	-	-	1168	-	-	312				
HCM Lane V/C Ratio	0.137	0.009	-	-	0.091	-	-	0.358				
HCM Control Delay (s)	12.4	7.8	-	-	8.4	-	-	22.8				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile O(veh)	0.5	0	-	-	0.3	-	-	1.6				

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	26	0	0	40
Future Vol, veh/h	0	1	26	0	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	28	0	0	43
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	71	28	0	0	28	0
Stage 1	28	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	933	1047	-	-	1585	-
Stage 1	995	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	933	1047	-	-	1585	-
Mov Cap-2 Maneuver	933	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1047	1585	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	-	-	0	8.4	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	278	12	40	466	54	32	60	76	48	27	19
Future Vol, veh/h	19	278	12	40	466	54	32	60	76	48	27	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	284	12	41	476	55	33	61	78	49	28	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	476	0	0	284	0	0	656	880	142	769	880	238
Stage 1	-	-	-	-	-	-	322	322	-	558	558	-
Stage 2	-	-	-	-	-	-	334	558	-	211	322	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1082	-	-	1275	-	-	351	284	880	291	284	763
Stage 1	-	-	-	-	-	-	664	650	-	482	510	-
Stage 2	-	-	-	-	-	-	653	510	-	771	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1082	-	-	1275	-	-	304	270	880	211	270	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	270	-	211	270	-
Stage 1	-	-	-	-	-	-	652	638	-	473	494	-
Stage 2	-	-	-	-	-	-	582	494	-	624	638	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.6			15.5			23.7		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	513	1082	-	-	1275	-	-	287				
HCM Lane V/C Ratio	0.334	0.018	-	-	0.032	-	-	0.334				
HCM Control Delay (s)	15.5	8.4	-	-	7.9	-	-	23.7				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.1	-	-	1.4				

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	48	0	0	66
Future Vol, veh/h	0	1	48	0	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	56	0	0	78
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	134	56	0	0	56	0
Stage 1	56	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	860	1011	-	-	1549	-
Stage 1	967	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	860	1011	-	-	1549	-
Mov Cap-2 Maneuver	860	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.6	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1011	1549	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	-	-	0	8.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Future “No-Build” Intersection Analysis

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	482	48	133	326	42	29	12	55	82	39	19
Future Vol, veh/h	15	482	48	133	326	42	29	12	55	82	39	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	518	52	143	351	45	31	13	59	88	42	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	518	0	0	1033	1187	259	935	1187	176
Stage 1	-	-	-	-	-	-	550	550	-	637	637	-
Stage 2	-	-	-	-	-	-	483	637	-	298	550	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1204	-	-	1044	-	-	187	187	740	220	187	837
Stage 1	-	-	-	-	-	-	487	514	-	432	470	-
Stage 2	-	-	-	-	-	-	534	470	-	686	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1204	-	-	1044	-	-	129	159	740	169	159	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	159	-	169	159	-
Stage 1	-	-	-	-	-	-	481	507	-	426	406	-
Stage 2	-	-	-	-	-	-	403	406	-	607	507	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			2.4			21.5			69.9		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	320	1204	-	-	1044	-	-	192
HCM Lane V/C Ratio	0.323	0.013	-	-	0.137	-	-	0.784
HCM Control Delay (s)	21.5	8	-	-	9	-	-	69.9
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.4	0	-	-	0.5	-	-	5.4

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	35	0	0	54
Future Vol, veh/h	0	1	35	0	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	38	0	0	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	96	38	0	0	38	0
Stage 1	38	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	903	1034	-	-	1572	-
Stage 1	984	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	903	1034	-	-	1572	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	-	1034	1572	-
HCM Lane V/C Ratio	-	-	-	0.001	-	-
HCM Control Delay (s)	-	-	0	8.5	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection												
Int Delay, s/veh	14.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	373	16	54	624	72	43	80	102	64	36	25
Future Vol, veh/h	25	373	16	54	624	72	43	80	102	64	36	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	381	16	55	637	73	44	82	104	65	37	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	637	0	0	381	0	0	880	1180	191	1031	1180	319
Stage 1	-	-	-	-	-	-	433	433	-	747	747	-
Stage 2	-	-	-	-	-	-	447	747	-	284	433	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	943	-	-	1174	-	-	241	189	818	187	189	677
Stage 1	-	-	-	-	-	-	571	580	-	371	418	-
Stage 2	-	-	-	-	-	-	560	418	-	699	580	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	1174	-	-	184	175	818	98	175	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	175	-	98	175	-
Stage 1	-	-	-	-	-	-	555	564	-	361	398	-
Stage 2	-	-	-	-	-	-	466	398	-	507	564	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.6			38.5			103.7		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	326	943	-	-	1174	-	-	146
HCM Lane V/C Ratio	0.704	0.027	-	-	0.047	-	-	0.874
HCM Control Delay (s)	38.5	8.9	-	-	8.2	-	-	103.7
HCM Lane LOS	E	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	5	0.1	-	-	0.1	-	-	5.9

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	64	0	0	88
Future Vol, veh/h	0	1	64	0	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	75	0	0	104
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	179	75	0	0	75	0
Stage 1	75	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	811	986	-	-	1524	-
Stage 1	948	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	986	-	-	1524	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.7	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	986	1524	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	-	-	0	8.7	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	-	0	0	

Future “No-Build” Intersection Analysis with Improvements

Timings

2c. No-Build 2032 AM (Improved)

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	15	482	48	133	326	42	29	12	82	39
Future Volume (vph)	15	482	48	133	326	42	29	12	82	39
Lane Group Flow (vph)	16	518	52	143	351	45	0	103	0	150
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		6			2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	6	6	6	2	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	75.0	75.0	75.0	75.0	75.0	75.0	45.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5		5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None
v/c Ratio	0.03	0.31	0.07	0.35	0.21	0.06		0.25		0.43
Control Delay	6.5	7.4	2.8	10.4	6.9	2.8		8.7		16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	6.5	7.4	2.8	10.4	6.9	2.8		8.7		16.6
Queue Length 50th (ft)	2	31	0	17	20	0		7		23
Queue Length 95th (ft)	9	66	12	55	45	11		38		74
Internal Link Dist (ft)		2221			2108			834		2094
Turn Bay Length (ft)	210		230	235		240				
Base Capacity (vph)	1008	3539	1583	859	3539	1583		1398		1316
Starvation Cap Reductn	0	0	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0	0	0		0		0
Reduced v/c Ratio	0.02	0.15	0.03	0.17	0.10	0.03		0.07		0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 39.9

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)



HCM 6th Signalized Intersection Summary

2c. No-Build 2032 AM (Improved)

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	482	48	133	326	42	29	12	55	82	39	19
Future Volume (veh/h)	15	482	48	133	326	42	29	12	55	82	39	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	518	0	143	351	0	31	13	0	88	42	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	697	1747		605	1747		337	93		346	66	
Arrive On Green	0.49	0.49	0.00	0.49	0.49	0.00	0.13	0.13	0.00	0.13	0.13	0.00
Sat Flow, veh/h	1030	3554	1585	883	3554	1585	966	719	0	1063	507	0
Grp Volume(v), veh/h	16	518	0	143	351	0	44	0	0	130	0	0
Grp Sat Flow(s),veh/h/ln	1030	1777	1585	883	1777	1585	1685	0	0	1571	0	0
Q Serve(g_s), s	0.3	2.5	0.0	3.3	1.6	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	1.9	2.5	0.0	5.9	1.6	0.0	0.6	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.70		0.00	0.68		0.00
Lane Grp Cap(c), veh/h	697	1747		605	1747		430	0		412	0	
V/C Ratio(X)	0.02	0.30		0.24	0.20		0.10	0.00		0.32	0.00	
Avail Cap(c_a), veh/h	2655	8502		2285	8502		2254	0		2287	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	4.4	0.0	6.1	4.2	0.0	11.3	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.4	0.1	0.0	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.0	0.4	0.1	0.0	0.3	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.7	4.6	0.0	6.6	4.3	0.0	11.4	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	A	A		A	A		B	A		B	A	
Approach Vol, veh/h		534	A		494	A		44	A		130	A
Approach Delay, s/veh		4.6			4.9			11.4			12.4	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.8		9.3		19.8		9.3				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		69.5		39.5		69.5		39.5				
Max Q Clear Time (g_c+I1), s		7.9		4.2		4.5		2.6				
Green Ext Time (p_c), s		6.4		0.6		7.1		0.2				

Intersection Summary

HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

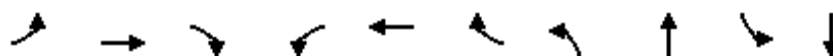
Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	35	0	0	54
Future Vol, veh/h	0	1	35	0	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	38	0	0	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	96	38	0	0	38	0
Stage 1	38	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	903	1034	-	-	1572	-
Stage 1	984	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	903	1034	-	-	1572	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.5	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1034	1572	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	-	-	0	8.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Timings

2d. No-Build 2032 PM (Improved)

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	373	16	54	624	72	43	80	64	36
Future Volume (vph)	25	373	16	54	624	72	43	80	64	36
Lane Group Flow (vph)	26	381	16	55	637	73	0	230	0	128
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		6			2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	6	6	6	2	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	65.0	65.0	65.0	65.0	65.0	65.0	55.0	55.0	55.0	55.0
Total Split (%)	54.2%	54.2%	54.2%	54.2%	54.2%	54.2%	45.8%	45.8%	45.8%	45.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5		5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None
v/c Ratio	0.08	0.24	0.02	0.12	0.40	0.10		0.50		0.33
Control Delay	7.6	7.6	3.1	7.9	8.6	2.7		15.1		14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	7.6	7.6	3.1	7.9	8.6	2.7		15.1		14.4
Queue Length 50th (ft)	3	24	0	6	44	0		34		20
Queue Length 95th (ft)	14	54	6	24	91	15		98		63
Internal Link Dist (ft)		2221			2108			834		2094
Turn Bay Length (ft)	210		230	235		240				
Base Capacity (vph)	764	3539	1583	980	3539	1583		1565		1387
Starvation Cap Reductn	0	0	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0	0	0		0		0
Reduced v/c Ratio	0.03	0.11	0.01	0.06	0.18	0.05		0.15		0.09

Intersection Summary

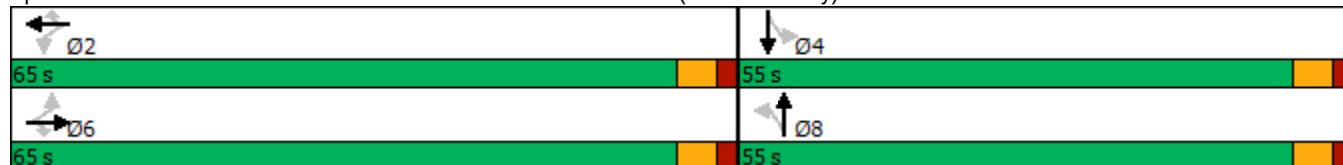
Cycle Length: 120

Actuated Cycle Length: 40.7

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)



HCM 6th Signalized Intersection Summary

2d. No-Build 2032 PM (Improved)

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	373	16	54	624	72	43	80	102	64	36	25
Future Volume (veh/h)	25	373	16	54	624	72	43	80	102	64	36	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	381	0	55	637	0	44	82	0	65	37	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	543	1760		674	1760		231	174		327	98	
Arrive On Green	0.50	0.50	0.00	0.50	0.50	0.00	0.14	0.14	0.00	0.14	0.14	0.00
Sat Flow, veh/h	791	3554	1585	1002	3554	1585	498	1231	0	938	696	0
Grp Volume(v), veh/h	26	381	0	55	637	0	126	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	791	1777	1585	1002	1777	1585	1729	0	0	1634	0	0
Q Serve(g_s), s	0.6	1.8	0.0	1.0	3.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	1.8	0.0	2.8	3.3	0.0	1.9	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.35		0.00	0.64		0.00
Lane Grp Cap(c), veh/h	543	1760		674	1760		404	0		425	0	
V/C Ratio(X)	0.05	0.22		0.08	0.36		0.31	0.00		0.24	0.00	
Avail Cap(c_a), veh/h	1708	6992		2149	6992		2887	0		2631	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.9	4.3	0.0	5.1	4.7	0.0	12.0	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.1	0.3	0.0	0.4	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.1	0.0	0.1	0.3	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	4.4	0.0	5.2	5.0	0.0	12.4	0.0	0.0	12.1	0.0	0.0
LnGrp LOS	A	A		A	A		B	A		B	A	
Approach Vol, veh/h	407		A	692		A	126		A	102		A
Approach Delay, s/veh	4.5			5.0			12.4			12.1		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	20.5			9.8			20.5			9.8		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	59.5			49.5			59.5			49.5		
Max Q Clear Time (g_c+I1), s	5.3			3.5			6.0			3.9		
Green Ext Time (p_c), s	9.6			0.5			5.2			0.7		

Intersection Summary

HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	64	0	0	88
Future Vol, veh/h	0	1	64	0	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	75	0	0	104
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	179	75	0	0	75	0
Stage 1	75	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	811	986	-	-	1524	-
Stage 1	948	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	986	-	-	1524	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.7	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	986	1524	-	
HCM Lane V/C Ratio	-	-	0.001	-	-	
HCM Control Delay (s)	-	-	0	8.7	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	-	0	0	

Future “Build” Intersections Analysis

Intersection												
Int Delay, s/veh	37.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	482	83	203	326	42	44	19	84	82	57	19
Future Vol, veh/h	15	482	83	203	326	42	44	19	84	82	57	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	518	89	218	351	45	47	20	90	88	61	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	518	0	0	1192	1337	259	1088	1337	176
Stage 1	-	-	-	-	-	-	550	550	-	787	787	-
Stage 2	-	-	-	-	-	-	642	787	-	301	550	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1204	-	-	1044	-	-	143	152	740	170	152	837
Stage 1	-	-	-	-	-	-	487	514	-	351	401	-
Stage 2	-	-	-	-	-	-	429	401	-	683	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1204	-	-	1044	-	-	70	119	740	108	119	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	119	-	108	119	-
Stage 1	-	-	-	-	-	-	481	507	-	346	317	-
Stage 2	-	-	-	-	-	-	267	317	-	568	507	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			3.3			83			255.8		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	1204	-	-	1044	-	-	128
HCM Lane V/C Ratio	0.85	0.013	-	-	0.209	-	-	1.327
HCM Control Delay (s)	83	8	-	-	9.4	-	-	255.8
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	6.1	0	-	-	0.8	-	-	11

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	52	35	53	123	54
Future Vol, veh/h	22	52	35	53	123	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	56	38	57	132	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	389	67	0	0	95	0
Stage 1	67	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	615	997	-	-	1499	-
Stage 1	956	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	559	997	-	-	1499	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		5.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	559	997	1499	-
HCM Lane V/C Ratio	-	-	0.042	0.056	0.088	-
HCM Control Delay (s)	-	-	11.7	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2	0.3	-

Intersection												
Int Delay, s/veh	45.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	373	26	75	624	72	78	97	172	64	41	25
Future Vol, veh/h	25	373	26	75	624	72	78	97	172	64	41	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	210	-	230	235	-	240	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	381	27	77	637	73	80	99	176	65	42	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	637	0	0	381	0	0	927	1224	191	1083	1224	319
Stage 1	-	-	-	-	-	-	433	433	-	791	791	-
Stage 2	-	-	-	-	-	-	494	791	-	292	433	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	943	-	-	1174	-	-	223	178	818	172	178	677
Stage 1	-	-	-	-	-	-	571	580	-	349	399	-
Stage 2	-	-	-	-	-	-	526	399	-	692	580	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	1174	-	-	160	162	818	~ 65	162	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	162	-	~ 65	162	-
Stage 1	-	-	-	-	-	-	555	564	-	339	373	-
Stage 2	-	-	-	-	-	-	420	373	-	436	564	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	120.1	255.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	943	-	-	1174	-	-	104
HCM Lane V/C Ratio	1.11	0.027	-	-	0.065	-	-	1.276
HCM Control Delay (s)	120.1	8.9	-	-	8.3	-	-	255.6
HCM Lane LOS	F	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	13.9	0.1	-	-	0.2	-	-	9.1

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	123	64	16	36	88
Future Vol, veh/h	52	123	64	16	36	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	145	75	19	42	104
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	273	85	0	0	94	0
Stage 1	85	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	716	974	-	-	1500	-
Stage 1	938	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	695	974	-	-	1500	-
Mov Cap-2 Maneuver	695	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		2.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	695 974	1500	-	
HCM Lane V/C Ratio	-	-	0.088 0.149	0.028	-	
HCM Control Delay (s)	-	-	10.7 9.3	7.5	0	
HCM Lane LOS	-	-	B A	A	A	
HCM 95th %tile Q(veh)	-	-	0.3 0.5	0.1	-	

Future “Build” Intersections Analysis with Improvements

Timings

3c. Build 2032 AM - Improved

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	15	482	83	203	326	42	44	19	82	57
Future Volume (vph)	15	482	83	203	326	42	44	19	82	57
Lane Group Flow (vph)	16	518	89	218	351	45	0	157	0	169
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		6			2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	6	6	6	2	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	79.0	79.0	79.0	79.0	79.0	79.0	41.0	41.0	41.0	41.0
Total Split (%)	65.8%	65.8%	65.8%	65.8%	65.8%	65.8%	34.2%	34.2%	34.2%	34.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5		5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None
v/c Ratio	0.03	0.30	0.11	0.52	0.20	0.06		0.38		0.45
Control Delay	6.6	7.5	2.3	13.4	7.0	2.7		14.1		20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	6.6	7.5	2.3	13.4	7.0	2.7		14.1		20.1
Queue Length 50th (ft)	2	35	0	32	23	0		19		33
Queue Length 95th (ft)	10	76	16	100	52	12		77		106
Internal Link Dist (ft)		2221			2108			834		2094
Turn Bay Length (ft)	210		230	235		240				
Base Capacity (vph)	1008	3539	1583	859	3539	1583		1201		1178
Starvation Cap Reductn	0	0	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0	0	0		0		0
Reduced v/c Ratio	0.02	0.15	0.06	0.25	0.10	0.03		0.13		0.14

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 46.1

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)



HCM 6th Signalized Intersection Summary
1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

3c. Build 2032 AM - Improved

04/21/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	482	83	203	326	42	44	19	84	82	57	19
Future Volume (veh/h)	15	482	83	203	326	42	44	19	84	82	57	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	518	0	218	351	0	47	20	0	88	61	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	710	1908		614	1908		316	102		294	104	
Arrive On Green	0.54	0.54	0.00	0.54	0.54	0.00	0.14	0.14	0.00	0.14	0.14	0.00
Sat Flow, veh/h	1030	3554	1585	883	3554	1585	961	716	0	893	724	0
Grp Volume(v), veh/h	16	518	0	218	351	0	67	0	0	149	0	0
Grp Sat Flow(s),veh/h/ln	1030	1777	1585	883	1777	1585	1678	0	0	1617	0	0
Q Serve(g_s), s	0.3	2.7	0.0	6.1	1.7	0.0	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	2.0	2.7	0.0	8.8	1.7	0.0	1.1	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.70		0.00	0.59		0.00
Lane Grp Cap(c), veh/h	710	1908		614	1908		418	0		398	0	
V/C Ratio(X)	0.02	0.27		0.36	0.18		0.16	0.00		0.37	0.00	
Avail Cap(c_a), veh/h	2360	7599		2028	7599		1722	0		1781	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.6	4.3	0.0	6.7	4.1	0.0	13.1	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.7	0.1	0.0	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.3	0.0	0.8	0.2	0.0	0.7	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	4.5	0.0	7.4	4.2	0.0	13.3	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	A	A		A	A		B	A		B	A	
Approach Vol, veh/h	534		A	569		A	67		A	149		A
Approach Delay, s/veh	4.5			5.4			13.3			14.4		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	24.0			10.4			24.0			10.4		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	73.5			35.5			73.5			35.5		
Max Q Clear Time (g_c+I1), s	10.8			4.9			4.7			3.1		
Green Ext Time (p_c), s	7.6			0.7			7.2			0.3		

Intersection Summary

HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	52	35	53	123	54
Future Vol, veh/h	22	52	35	53	123	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	56	38	57	132	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	389	67	0	0	95	0
Stage 1	67	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	615	997	-	-	1499	-
Stage 1	956	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	561	997	-	-	1499	-
Mov Cap-2 Maneuver	561	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.7	0	5.3			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 561 997 1499	-	-		
HCM Lane V/C Ratio	-	- 0.042 0.056 0.088	-	-		
HCM Control Delay (s)	-	- 11.7 8.8 7.6	-	-		
HCM Lane LOS	-	- B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.1 0.2 0.3	-	-		

Timings

3d. Build 2032 PM - Improved

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	25	373	26	75	624	72	78	97	64	41
Future Volume (vph)	25	373	26	75	624	72	78	97	64	41
Lane Group Flow (vph)	26	381	27	77	637	73	0	355	0	133
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		6			2			8		4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	6	6	6	2	2	2	8	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	55.0	55.0	55.0	55.0	55.0	55.0	65.0	65.0	65.0	65.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	45.8%	54.2%	54.2%	54.2%	54.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5		5.5		5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None
v/c Ratio	0.09	0.26	0.04	0.19	0.44	0.10		0.63		0.28
Control Delay	10.6	10.2	4.8	11.4	11.5	3.6		16.9		12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	10.6	10.2	4.8	11.4	11.5	3.6		16.9		12.9
Queue Length 50th (ft)	4	32	0	12	58	0		61		22
Queue Length 95th (ft)	19	74	12	43	125	19		162		66
Internal Link Dist (ft)		2221			2108			834		2094
Turn Bay Length (ft)	210		230	235		240				
Base Capacity (vph)	693	3335	1493	923	3335	1496		1523		1333
Starvation Cap Reductn	0	0	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0	0	0		0		0
Reduced v/c Ratio	0.04	0.11	0.02	0.08	0.19	0.05		0.23		0.10

Intersection Summary

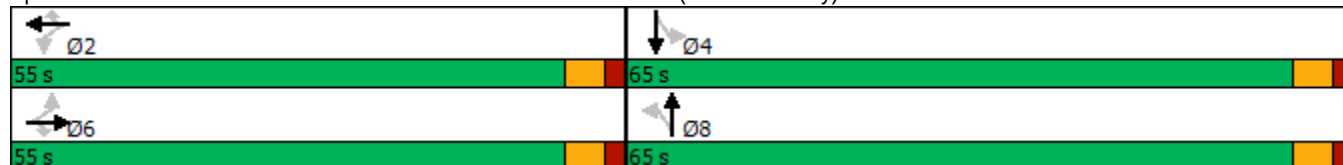
Cycle Length: 120

Actuated Cycle Length: 47.1

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)



HCM 6th Signalized Intersection Summary

3d. Build 2032 PM - Improved

1: Tatum Rd/Wilkerson Mill Rd & SR 14/US 29 (Roosevelt Hwy)

04/21/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	373	26	75	624	72	78	97	172	64	41	25
Future Volume (veh/h)	25	373	26	75	624	72	78	97	172	64	41	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	381	0	77	637	0	80	99	0	65	42	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	515	1701		643	1701		274	184		322	153	
Arrive On Green	0.48	0.48	0.00	0.48	0.48	0.00	0.18	0.18	0.00	0.18	0.18	0.00
Sat Flow, veh/h	791	3554	1585	1002	3554	1585	628	1047	0	799	869	0
Grp Volume(v), veh/h	26	381	0	77	637	0	179	0	0	107	0	0
Grp Sat Flow(s),veh/h/ln	791	1777	1585	1002	1777	1585	1675	0	0	1668	0	0
Q Serve(g_s), s	0.7	2.0	0.0	1.5	3.6	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.3	2.0	0.0	3.5	3.6	0.0	3.0	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.00	0.61		0.00
Lane Grp Cap(c), veh/h	515	1701		643	1701		458	0		475	0	
V/C Ratio(X)	0.05	0.22		0.12	0.37		0.39	0.00		0.23	0.00	
Avail Cap(c_a), veh/h	1365	5520		1720	5520		3172	0		2967	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.6	4.9	0.0	5.9	5.3	0.0	12.0	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.2	0.3	0.0	0.5	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	0.3	0.0	0.2	0.6	0.0	1.6	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	5.0	0.0	6.1	5.6	0.0	12.5	0.0	0.0	11.7	0.0	0.0
LnGrp LOS	A	A		A	A		B	A		B	A	
Approach Vol, veh/h	407		A	714		A	179		A	107		A
Approach Delay, s/veh	5.1			5.6			12.5			11.7		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	20.8			11.1			20.8			11.1		
Change Period (Y+Rc), s	5.5			5.5			5.5			5.5		
Max Green Setting (Gmax), s	49.5			59.5			49.5			59.5		
Max Q Clear Time (g_c+I1), s	5.6			3.6			6.3			5.0		
Green Ext Time (p_c), s	9.6			0.6			5.0			1.1		

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	123	64	16	36	88
Future Vol, veh/h	52	123	64	16	36	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	610	0	-	-	160	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	145	75	19	42	104
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	273	85	0	0	94	0
Stage 1	85	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	716	974	-	-	1500	-
Stage 1	938	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	696	974	-	-	1500	-
Mov Cap-2 Maneuver	696	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		2.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	696	974	1500	-
HCM Lane V/C Ratio	-	-	0.088	0.149	0.028	-
HCM Control Delay (s)	-	-	10.7	9.3	7.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.5	0.1	-

Traffic Volume Worksheets

21-123 Shugart Data Center / Microsoft CCO06 - City of Palmetto, GA (DRI #3576)
Traffic Volumes

A&R Engineering
April 2022

1. SR 14 @ Wilkerson
A.M. Peak Hour

	Tatum Road				Wilkerson Mill Road				SR 14/US 29 (Roosevelt Highway)				SR 14/US 29 (Roosevelt Highway)			
	Northbound			Tot	Southbound			Tot	Eastbound			Tot	Westbound			
Condition	L	T	R		L	T	R		L	T	R		L	T	R	Tot
Existing 2022 Traffic Counts:	22	9	41	72	61	29	14	104	11	360	36	407	99	243	31	373
Growth Factor (%):	3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4	
No-Build 2032 Volumes:	29	12	55	96	82	39	19	140	15	482	48	545	133	326	42	501
Total New Trips:	15	7	29	51	0	18	0	18	0	0	35	35	70	0	0	70
Future 2032 Traffic Volumes:	44	19	84	147	82	57	19	158	15	482	83	580	203	326	42	571

P.M. Peak Hour

Condition	Tatum Road				Wilkerson Mill Road				SR 14/US 29 (Roosevelt Highway) Eastbound				SR 14/US 29 (Roosevelt Highway) Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	32	60	76	168	48	27	19	94	19	278	12	309	40	466	54	560
Growth Factor (%):	3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4	
No-Build 2032 Volumes:	43	80	102	225	64	36	25	125	25	373	16	414	54	624	72	750
Total New Trips:	35	17	70	122	0	5	0	5	0	0	10	10	21	0	0	21
Future 2032 Traffic Volumes:	78	97	172	347	64	41	25	130	25	373	26	424	75	624	72	771

21-123 Shugart Data Center / Microsoft CCO06 - City of Palmetto, GA (DRI #3576)
Traffic Volumes

A&R Engineering
April 2022

2. Tatum Rd @ PVH-Site Drwy

A.M. Peak Hour

Condition	Tatum Road Northbound				Tatum Road Southbound				-				Phillips-Van-Heusen (PVH) Northern Driveway Westbound			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	26	0	26	0	40	0	40	0	0	0	0	0	0	1	1
Growth Factor (%):	3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4	
No-Build 2032 Volumes:	0	35	0	35	0	54	0	54	0	0	0	0	0	0	1	1
Total New Trips:	0	0	53	53	123	0	0	123	0	0	0	0	22	0	51	73
Future 2032 Traffic Volumes:	0	35	53	88	123	54	0	177	0	0	0	0	22	0	52	74

P.M. Peak Hour

Condition	Tatum Road Northbound				Tatum Road Southbound				-				Phillips-Van-Heusen (PVH) Northern Driveway Westbound			
	Northbound				Southbound				Eastbound				Westbound			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2022 Traffic Counts:	0	48	0	48	0	66	0	66	0	0	0	0	0	0	1	1
Growth Factor (%):	3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4		3.4	3.4	3.4	
No-Build 2032 Volumes:	0	64	0	64	0	88	0	88	0	0	0	0	0	0	1	1
Total New Trips:	0	0	16	16	36	0	0	36	0	0	0	0	52	0	122	174
Future 2032 Traffic Volumes:	0	64	16	80	36	88	0	124	0	0	0	0	52	0	123	175