

Sherwood Golf Club PUD

Traffic Impact Analysis

Brevard County, FL

May 2024

Kimley»Horn



TRAFFIC IMPACT ANALYSIS

Sherwood Golf Club PUD

Brevard County, FL

Prepared by:

Kimley-Horn and Associates, Inc.

Revised May 2024

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1.0 INTRODUCTION

Kimley-Horn has been retained to analyze and document the traffic impacts associated with the development of the Sherwood Golf Club Planned Unit Development (PUD). The proposed development is located in the southwest quadrant of Interstate 95 and State Road 46 off Carpenter Road in Brevard County.

Sherwood Golf Club is an existing residential development that includes a ±136.46-acre golf course that is no longer in use. This traffic study will evaluate a proposal to redevelop the golf course with the addition of the following:

- 228 Townhomes (Pod 1)
- 41 Single-family homes (Pod 3)
- 158 Townhomes (Pod 4)
- 178 Apartment Units (Pod 5)

The Methodology Statement used to guide this transportation analysis and is provided in **Appendix A**, along with County Staff's comments on the methodology. These comments were addressed in this analysis.

Access to the site will be provided via three (3) intersections on London Fog Road (labeled A, B, C), one (1) access point on Arnold Palmer Drive (labeled D), one (1) access point on Long Bow Drive (labeled Ingress/Egress #5), and three (3) connections to Carpenter Road (labeled Ingress/Egress #1, #2, #4). The conceptual site plan provided in **Appendix B**.

Pod 1 is anticipated for buildout in 2026. Pods 3, 4, and 5 are anticipated for buildout in 2030.

1.1 STUDY AREA

The study area, determined using the Brevard County *Guidelines on Minimum Requirements for Traffic Impact Analyses* (2022), was discussed and approved as part of the Traffic Impact Analysis Methodology (**Appendix A**). The agreed-upon study area roadway segments and intersections are listed below and displayed on **Figure 1**.

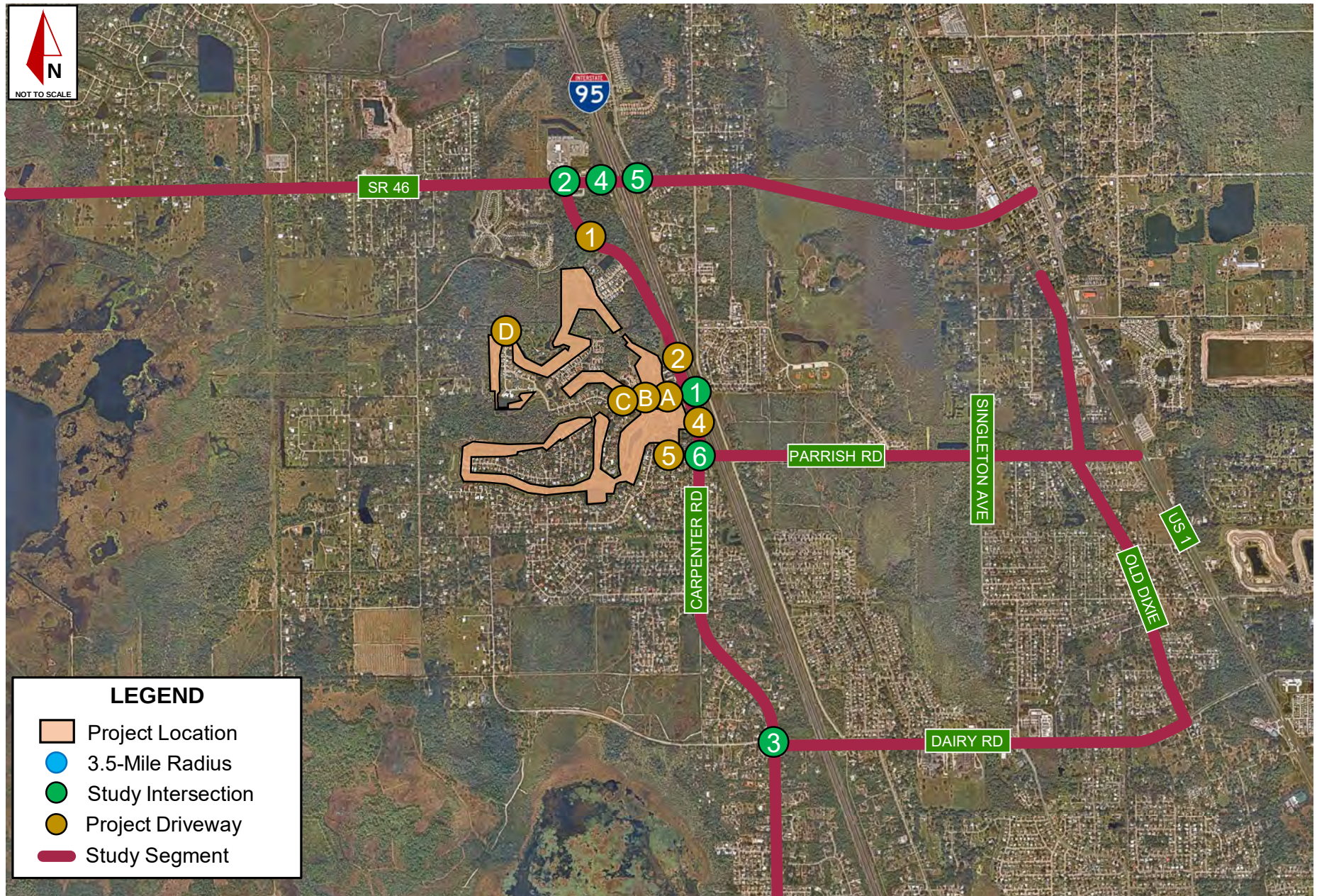
Study Area Roadway Segments

- 183 N Carpenter Rd from Dairy to SR-46
- 184 N Carpenter Rd from Garden to Dairy
- 188 N Carpenter Rd from Fox Lake to Garden
- 185 Dairy Rd from Carpenter to Holder
- 523 Dairy Rd from Holder to Singleton
- 186 Dairy Rd from Singleton to Old Dixie
- 199 SR 46 from I-95 to US 1
- 200 SR 46 from Fawn Lake to I-95
- 201 SR 46 from Volusia County to Fawn Lake
- 202 SR 406 (Garden Street) from I-95 to Singleton
- 203 SR 406 (Garden Street) from Singleton to Park
- 595 SR 406 (Garden Street) from Carpenter to I-95
- 240 Old Dixie from Dairy to Parker
- 241 Parrish from Singleton to US 1
- 242 Parrish from Holder to Singleton

- London Town from Arnold Palmer to Carpenter Rd

Study Area Intersections

- Study Intersection #1: N Carpenter Rd & London Town Rd
- Study Intersection #2: N Carpenter Rd & SR 46
- Study Intersection #3: N Carpenter Rd & Dairy Rd
- Study Intersection #4: SR 46 & I-95 NB Off-Ramp
- Study Intersection #5: SR 46 & I-95 SB On-Ramp
- Study Intersection #6: N Carpenter Rd & Longbow Rd
- Driveway #1: N Carpenter Rd & Ingress/Egress #1
- Driveway #2: N Carpenter Rd & Ingress/Egress #2
- Driveway #4: N Carpenter Rd & Ingress/Egress #4
- Driveway #5: Longbow Rd & Ingress/Egress #5
- Driveway A: London Tower Rd & Pod 1 Connection
- Driveway B: London Tower Rd & Pod 4 Connection
- Driveway C: London Tower Rd & Pod 1/Pod 4 Connection
- Driveway D: Arnold Palmer Dr & Pod 3 Connection



LEGEND

- Project Location
- 3.5-Mile Radius
- Study Intersection
- Project Driveway
- Study Segment

Figure 1: Project Location & Study Area

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2.0 EXISTING CONDITIONS ANALYSIS (2024)

2.1 EXISTING TRAFFIC COUNTS

Turning movement counts (TMCs) were collected at the study intersections on Wednesday, May 8, 2024 and are provided in **Appendix C**. Data was collected during the AM Peak Period (7:00 AM to 9:00 AM) and PM Peak Period (4:00 PM to 6:00 PM) at the study area intersections.

Turning movement volumes were adjusted by a seasonal factor (SF) based on data from FDOT's Florida Traffic Online (FTO) database, as shown in **Appendix D**. Turning movement volume worksheets for all intersections can be found in **Appendix E**.

Existing traffic signal timings were obtained from Brevard County and are provided in **Appendix F**.

2.2 EXISTING ROADWAY SEGMENT CONDITIONS

A roadway segment analysis was performed within the study area to determine existing Daily and PM peak hour conditions. The Daily analysis was conducted by comparing the 2024 Average Annual Daily Traffic (AADT) segment volumes to the TPO's Daily Maximum Service Volumes (MSV) corresponding to the adopted Level of Service (LOS) standard for each roadway segment. 2022 AADTs were obtained from the latest Space Coast Transportation Planning Organization (TPO) Traffic Count publication and grown to existing year 2024 using a 2% annual growth rate. The Space Coast TPO Traffic Count publication is provided in **Appendix G**.

Additionally, a PM peak hour roadway segment analysis was conducted by comparing peak hour two-way volumes to the peak hour two-way MSV corresponding to the adopted Level of Service (LOS) standard for each roadway segment. Existing peak hour two-way roadway segment volumes were obtained from the Space Coast TPO's most recent data collection. The FDOT Q/LOS Handbook was used to determine of each segment's peak hour two-way service volume. Excerpts from the Space Coast TPO Data Management System are provided in **Appendix F**.

Per County Comments, service volumes for SR 46 and SR 406 were determined using the 2023 Q/LOS handbook, assuming segments #199, #200, #202, #203, and #595 are classified as C3C. Segment #201 is classified as C3R. The state level of service standard for urban roadways is LOS D and LOS C for rural roadways.

Additionally, the County requested that London Town Road be included in the analysis. This segment is not included in the Space Coast TPO count document. Existing PM peak hour volumes were determined from the field collected data. A daily AADT for this segment was calculated by dividing the peak hour volume by the standard k-factor (0.09).

The existing roadway segment data is included in **Tables 1 and 2** for Daily and PM peak hour conditions, respectively. As shown in the tables, the analysis identifies no roadway segment capacity deficiencies within the study area under existing Daily and PM peak hour conditions.

Table 1: Existing Roadway Segment Analysis (Daily)

Roadway			Roadway Attributes					Daily - Existing (2024)				
			Functional Classification ¹	Number of Lanes	Speed Limit	Adopted LOS ¹	Daily MSV ¹	2022 AADT ¹	Growth Rate	Existing 2024 AADT ²	V/C Ratio	Existing Deficiency?
Carpenter												
183	Dairy	SR-46	Urban Major Collector	2	40	E	15,600	4,740	2%	4,931	0.32	No
184	Garden	Dairy	Urban Major Collector	2	30	E	15,600	5,420	2%	5,639	0.36	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	15,600	3,670	2%	3,818	0.24	No
Dairy												
185	Carpenter	Holder ³	Urban Major Collector	2	30	E	15,600	5,180	2%	5,497	0.35	No
523	Holder	Singleton	Urban Major Collector	2	30	E	15,600	6,160	2%	6,409	0.41	No
186	Singleton	Old Dixie ³	Urban Major Collector	2	30	E	15,600	6,650	2%	7,057	0.45	No
SR 46												
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	21,700	12,500	2%	13,005	0.60	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	21,700	10,540	2%	10,966	0.51	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	19,600	6,750	2%	7,023	0.36	No
SR 406 (Garden Street)												
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	36,600	16,130	2%	16,782	0.46	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	36,600	16,240	2%	16,896	0.46	No
595	Carpenter	I-95	Urban Major Collector	2	35	D	21,700	7,440	2%	7,741	0.36	No
Old Dixie												
240	Dairy	Parker ³	Urban Major Collector	2	35	E	15,600	890	2%	944	0.06	No
Parrish												
241	Singleton	US 1 ³	Urban Major Collector	2	25	E	15,600	690	2%	747	0.05	No
242	Holder	Singleton ³	Urban Major Collector	2	25	E	15,600	1,120	2%	1,189	0.08	No
London Town												
-	Arnold Palmer	Carpenter	Local	2	25	E	15,600	-	2%	1,550	0.10	No

Notes

1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Existing (2024) AADT developed by applying the calculated growth rates as agreed upon in the TIA Methodology.
3. A 2022 AADT was not provided in the SCTPO Traffic Count Document for this segment. Therefore, the most recent count was used and growth rate was applied for the appropriate number of years.

Table 2: Existing Roadway Segment Analysis (PM Peak Hour)

Roadway				Roadway Attributes				Peak Hour - Existing (2024)				
				Functional Classification		Number of Lanes	Speed Limit	Adopted LOS ¹	Peak Hour Two-Way MSV ¹	Latest Peak Hour Two-Way Volume ²	Growth Rate	Existing 2024 Peak Hour Two-Way Volume ³
Link ID	From	To										
Carpenter												
183	Dairy	SR-46	Urban Major Collector	2	30	E	1,410	466	2%	475	0.33	No
184	Garden	Dairy	Urban Major Collector	2	30	E	1,410	539	2%	550	0.38	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	1,410	364	2%	371	0.26	No
Dairy												
185	Carpenter	Holder	Urban Major Collector	2	30	E	1,410	523	2%	533	0.37	No
523	Holder	Singleton ³	Urban Major Collector	2	30	E	1,410	664	2%	691	0.47	No
186	Singleton	Old Dixie	Urban Major Collector	2	30	E	1,410	700	2%	714	0.5	No
SR 46												
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	1,950	1,097	2%	1119	0.56	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	1,950	1,018	2%	1038	0.52	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	1,760	636	2%	649	0.36	No
SR 406 (Garden Street)												
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	3,290	1,408	2%	1436	0.43	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	3,290	1,447	2%	1476	0.44	No
595	Carpenter	I-95 ³	Urban Major Collector	2	35	D	1,950	777	2%	808	0.4	No
Old Dixie												
240	Dairy	Parker	Urban Major Collector	2	35	E	1,410	88	2%	90	0.06	No
Parrish												
241	Singleton	US 1	Urban Major Collector	2	25	E	1,410	113	2%	115	0.08	No
242	Holder	Singleton ³	Urban Major Collector	2	25	E	1,410	74	2%	80	0.05	No
London Town												
-	Arnold Palmer	Carpenter	Local	2	25	E	1,410	139	2%	150	0.10	No

Notes

1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Existing (2024) volume developed by applying the appropriate seasonal factor and calculated growth rates as agreed upon in the TIA Methodology.
3. A 2023 volume was not provided in the SCTPO Traffic Count database for this segment. Therefore, the most recent count was used and growth rate was applied for the appropriate number of years.

2.3 EXISTING INTERSECTION CONDITIONS

An intersection operational analysis was performed for existing conditions during the AM and PM peak hours using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Intersection level of service (LOS) and maximum volume to capacity (v/c) ratios for the AM and PM peak hour existing conditions are provided in **Tables 3 and 4**. Synchro outputs are provided in **Appendix G**.

As shown in **Tables 3 and 4**, all study area intersections currently operate with acceptable overall LOS and with v/c ratios less than one (1.0) under existing (2024) AM and PM peak hour conditions with the exception of the northbound approach at SR 46 & I-95 NB Ramp, which operates with LOS F during both AM and PM peak hour conditions but has an acceptable v/c ratio during both analysis periods.

Table 3: Existing Intersection Conditions (AM Peak Hour)

Existing Condition - 2024						
Intersection		Control Type	Approach	AM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	A	0.11	EBL/R
			WB	-	-	-
			NB(L)	A	0.01	NBL
			SB (L)	-	-	-
			Overall	-	0.11	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	C	0.87	EBT/R
			WB	B	0.45	WBT
			NB	D	0.73	NBT/R
			SB	C	0.52	SBL
			Overall	C (25.7 s)	0.87	EBT/R
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.08	EBL/T/R
			WB	B	0.30	WBL/T
			NB	A	0.27	NBL/T/R
			SB	B	0.45	SBL/T/R
			Overall	-	0.45	SBL/T/R
4	SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB (L)	-	-	-
			WB(L)	A	0.28	WBL
			NB	-	-	-
			SB	C	0.17	SBL
			Overall	-	0.28	WBL
5	SR 46 & I-95 NB Ramp	Signalized	EB	A	0.24	EBT
			WB	B	0.25	WBT
			NB	F	0.93	NBL
			SB	-	-	-
			Overall	C (26.7 s)	0.93	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	A	0.04	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.00	NBL
			SB (L)	A	0.00	SBL/T/R
			Overall	-	0.04	EBL/T/R

Table 4: Existing Intersection Conditions (PM Peak Hour)

Existing Condition - 2024						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.08	EBL/R
			WB	-	-	-
			NB(L)	A	0.04	NBL
			SB (L)	-	-	-
			Overall	-	0.08	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	C	0.70	EBT/R
			WB	C	0.86	WBT
			NB	C	0.57	NBT/R
			SB	C	0.45	SBL
			Overall	C (23.8 s)	0.86	WBT
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.05	EBL/T/R
			WB	A	0.23	WBL/T
			NB	B	0.37	NBL/T/R
			SB	B	0.29	SBL/T/R
			Overall	-	0.37	NBL/T/R
4	SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB (L)	-	-	-
			WB(L)	A	0.13	WBL
			NB	-	-	-
			SB	C	0.25	SBR
			Overall	-	0.25	SBR
5	SR 46 & I-95 NB Ramp	Signalized	EB	B	0.21	EBT
			WB	C	0.24	WBT
			NB	F	0.95	NBL
			SB	-	-	-
			Overall	D (43.5 s)	0.95	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.03	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.00	NBL
			SB (L)	A	0.00	SBL
			Overall	-	0.03	EBL/T/R

3.0 POD 1 DEVELOPMENT TRAFFIC

Pod 1 of the Sherwood Gold Club PUD development is proposed to consist of 228 townhomes. Buildout of Pod 1 is anticipated in 2026. The latest industry standards were referenced to evaluate the amount of new external trips to be generated by the site at buildout. The adopted regional travel demand model was used to forecast the distribution of trips throughout the study area.

3.1 TRIP GENERATION

Trip generation for the proposed project was calculated per procedures published in the 11th Edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. The following Land Use Code (LUCs) was used for the proposed development: ITE LUC 215 – Single-Family Attached Housing

Relevant excerpts from the *Trip Generation Manual* are included in **Appendix H**.

Table 5 provides the Daily, AM peak hour, and PM peak hour trip generation summary for Pod 1. The proposed development is anticipated to generate 1,687 daily trips, 113 AM peak hour trips (28 inbound and 85 outbound), and 133 PM peak hour trips (78 inbound and 55 outbound).

3.2 TRIP DISTRIBUTION

Projected traffic demand of project trips on study roadways was derived with use of the most recent adopted regional travel demand model. Land use data for the project was entered into a new traffic analysis zone (TAZ) within the latest Central Florida Regional Planning Model set and situated within the existing roadway network to appropriately represent project access. The model was used to assign trips for all trip purposes between allocated origin and destination pairs using project build-out year model data. Trip distribution for the project was extracted from the completed model assignment and reviewed for logic. The resulting model plot showing the percent of daily project distribution is provided in **Appendix I**.

Daily model project distribution was referenced to manually assign project distribution at the study area intersections and driveways in general accordance with the model output. **Figure 2** shows the intersection movement project distribution within the study area for use in forecasting project trips.

3.3 TRIP ASSIGNMENT

The project trip distribution percentages were used to assign anticipated project trips to the study area roadways and intersections. **Figure 3** shows the anticipated project trip assignment at the study area intersections during the AM and PM peak hours.

Table 5: Pod 1 Trip Generation

Daily	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	Daily			
							Total	In ¹	Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 7.62 * X - 50.48$	1,687	50%	843	50% 844
	Total Generated Trips						1,687	843	844	
AM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	AM Peak Hour			
							Total	In ¹	Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 0.52 * X - 5.70$	113	25%	28	75% 85
	Total Generated Trips						113	28	85	
PM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	PM Peak Hour			
							Total	In ¹	Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 0.60 * X - 3.93$	133	59%	78	41% 55
	Total Generated Trips						133	78	55	

Note: ¹Vehicle trip rate and directional splits per ITE Trip Generation, 11th Edition

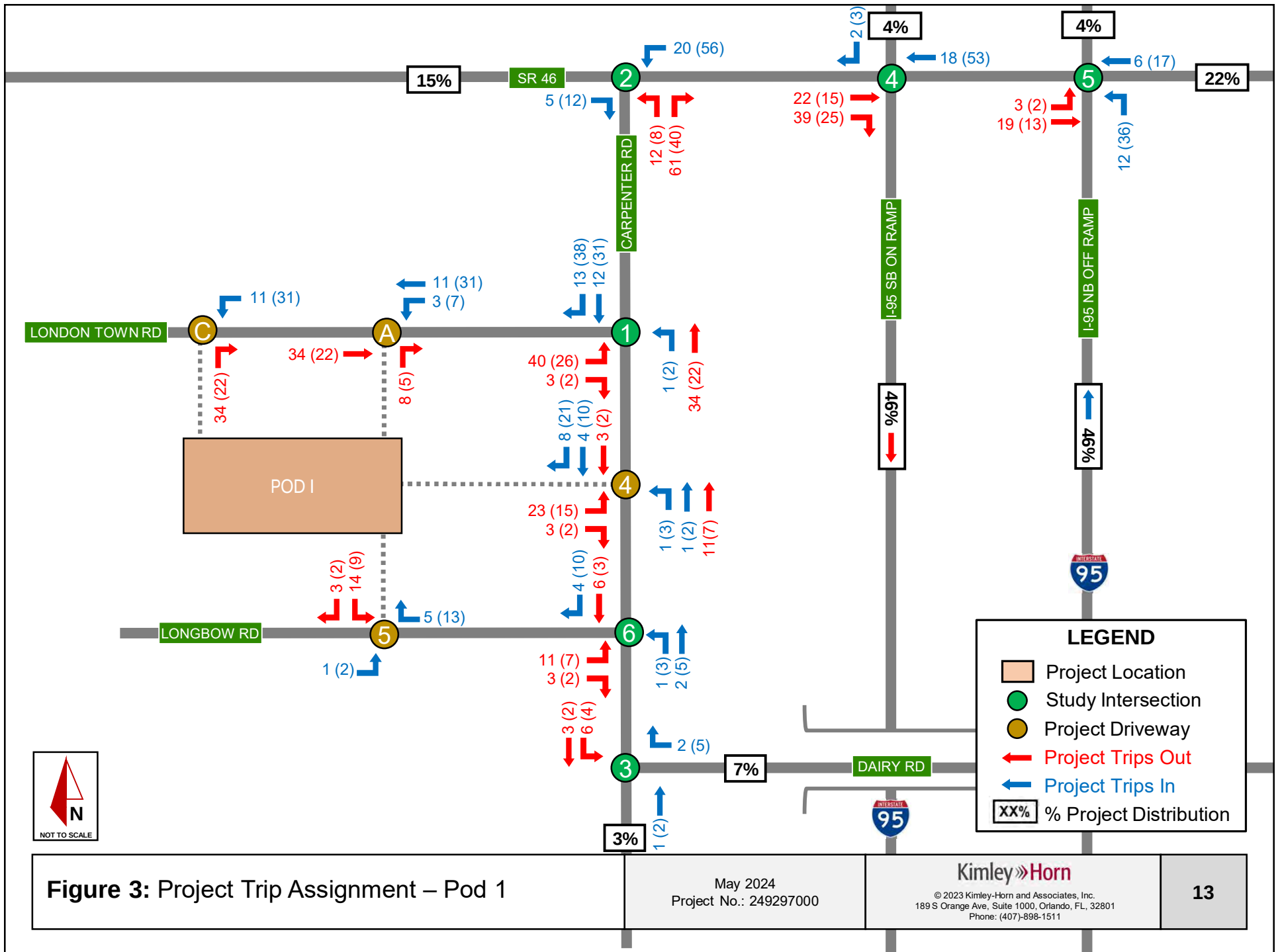


Figure 3: Project Trip Assignment – Pod 1

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4.0 POD 1 BACKGROUND AND BUILDOUT OPERATIONS (2026)

4.1 BACKGROUND AND BUILDOUT TRAFFIC

Traffic conditions were evaluated for year 2026 background conditions, without the impact of project trips on the roadway network. Per County Comments, the applied annual growth rate was determined by applying the minimum growth factor or calculating the annual growth rate, whichever is greater. The minimum growth factor was calculated using the latest Bureau of Economic and Business Research (BEBR) Projections of Florida population by county. The calculated annual growth rate for Brevard between 2023 and 2030 is 1.2%. Roadway segment growth rates were low. Therefore, to provide a conservative analysis, a 2% annual growth rate was applied.

Buildout volumes were developed by adding anticipated project trips to background volumes.

Adjusted turning movement volume worksheets for all intersections can be found in **Appendix E**.

Figures 4 and 5 illustrate turning movement buildout 2026 volumes at the study intersections for the AM and PM peak hour, respectively.

4.2 2026 ROADWAY SEGMENT ANALYSIS

A roadway segment analysis was performed within the study area to determine background and buildout Daily and PM peak hour conditions. The analysis was conducted by comparing the projected 2026 background and buildout AADT and PM peak hour two-way segment volumes to the segment's Maximum Service Volumes (MSV).

The background and buildout 2026 roadway segment data is included in **Tables 6 and 7** for Daily and PM peak hour conditions, respectively. As shown in the tables, the analysis identifies no capacity deficiencies under 2026 conditions.

Table 6: 2026 Roadway Segment Analysis (Daily)

Roadway			Roadway Attributes					Daily - Background (2026)					Daily - Pod 1 Buildout (2026)				
			Functional Classification ¹	Number of Lanes	Speed Limit	Adopted LOS ¹	Daily MSV ¹	Existing 2024 AADT	Growth Rate	2026 AADT ²	V/C Ratio	Background Deficiency?	Project Trips		Buildout 2026 AADT ⁴	V/C Ratio	Buildout Deficiency?
													% Assign ³	Project Trips			
Link ID	From	To															
Carpenter																	
183	Dairy	SR-46	Urban Major Collector	2	40	E	15,600	4,931	2%	5,131	0.33	No	87%	1,468	6,599	0.42	No
184	Garden	Dairy	Urban Major Collector	2	30	E	15,600	5,639	2%	5,867	0.38	No	3%	51	5,918	0.38	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	15,600	3,818	2%	3,973	0.25	No	1%	17	3,990	0.26	No
Dairy																	
185	Carpenter	Holder	Urban Major Collector	2	30	E	15,600	5,497	2%	5,719	0.37	No	7%	118	5,837	0.37	No
523	Holder	Singleton	Urban Major Collector	2	30	E	15,600	6,409	2%	6,668	0.43	No	6%	101	6,769	0.43	No
186	Singleton	Old Dixie	Urban Major Collector	2	30	E	15,600	7,057	2%	7,342	0.47	No	2%	34	7,376	0.47	No
SR 46																	
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	21,700	13,005	2%	13,530	0.62	No	22%	371	13,901	0.64	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	21,700	10,966	2%	11,409	0.53	No	72%	1,215	12,624	0.58	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	19,600	7,023	2%	7,306	0.37	No	14%	236	7,542	0.38	No
SR 406 (Garden Street)																	
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	36,600	16,782	2%	17,460	0.48	No	14%	236	17,696	0.48	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	36,600	16,896	2%	17,579	0.48	No	6%	101	17,680	0.48	No
595	Carpenter	I-95	Urban Major Collector	2	35	D	21,700	7,741	2%	8,053	0.37	No	0%	0	8,053	0.37	No
Old Dixie																	
240	Dairy	Parker	Urban Major Collector	2	35	E	15,600	944	2%	983	0.06	No	0%	0	983	0.06	No
Parrish																	
241	Singleton	US 1	Urban Major Collector	2	25	E	15,600	747	2%	777	0.05	No	0%	0	777	0.05	No
242	Holder	Singleton	Urban Major Collector	2	25	E	15,600	1,189	2%	1,237	0.08	No	0%	0	1,237	0.08	No
London Town																	
-	Arnold Palmer	Carpenter	Local	2	25	E	15,600	1,550	2%	1,613	0.10	No	50%	843	2,456	0.16	No

Notes

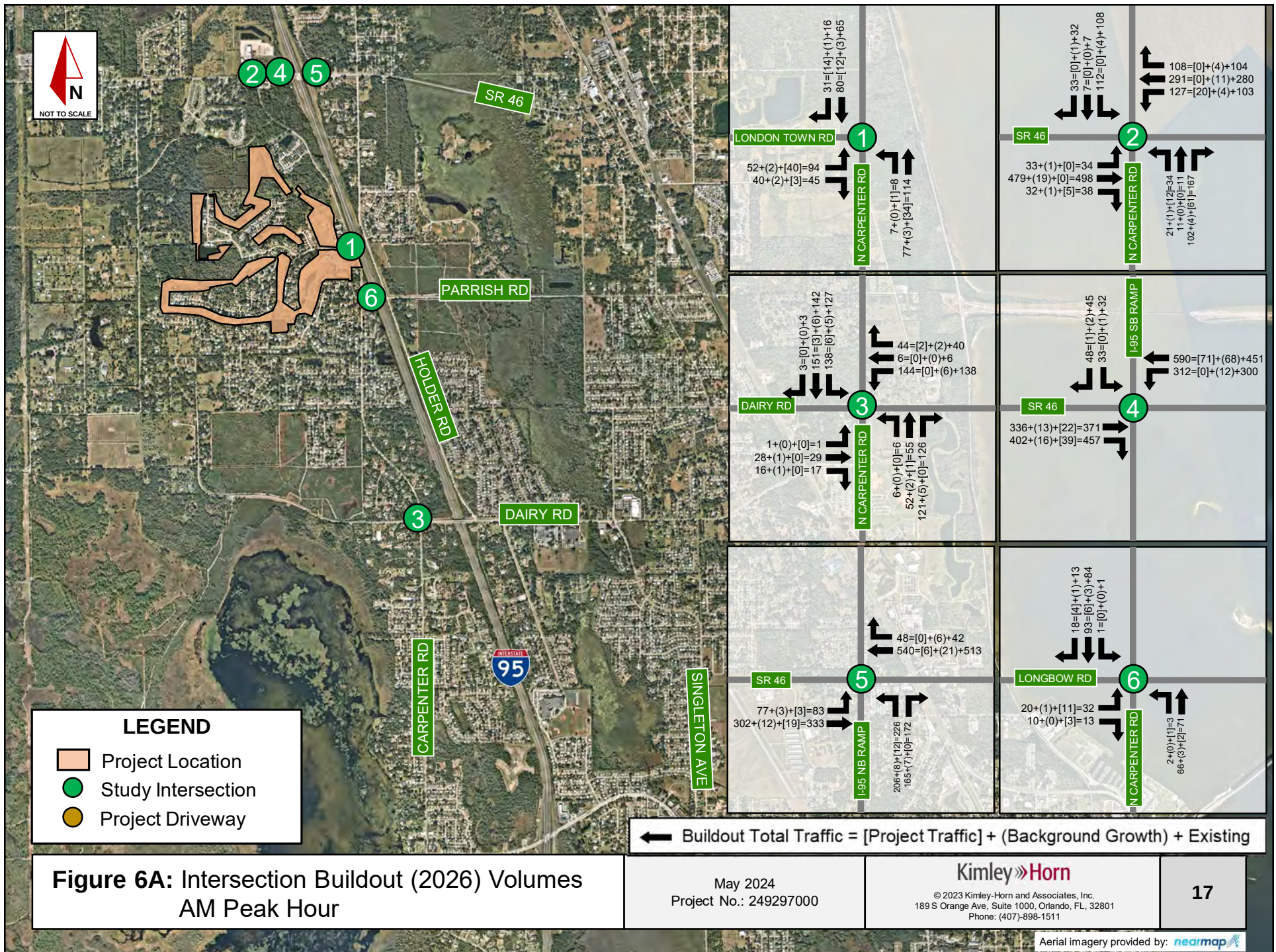
1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Background (2026) AADT developed by applying the calculated growth rates as agreed upon in the TIA Methodology.
3. Percent assigned as the highest percent across the segment.
4. Buildout (2026) AADT developed by adding project trips to background (2026) volumes.

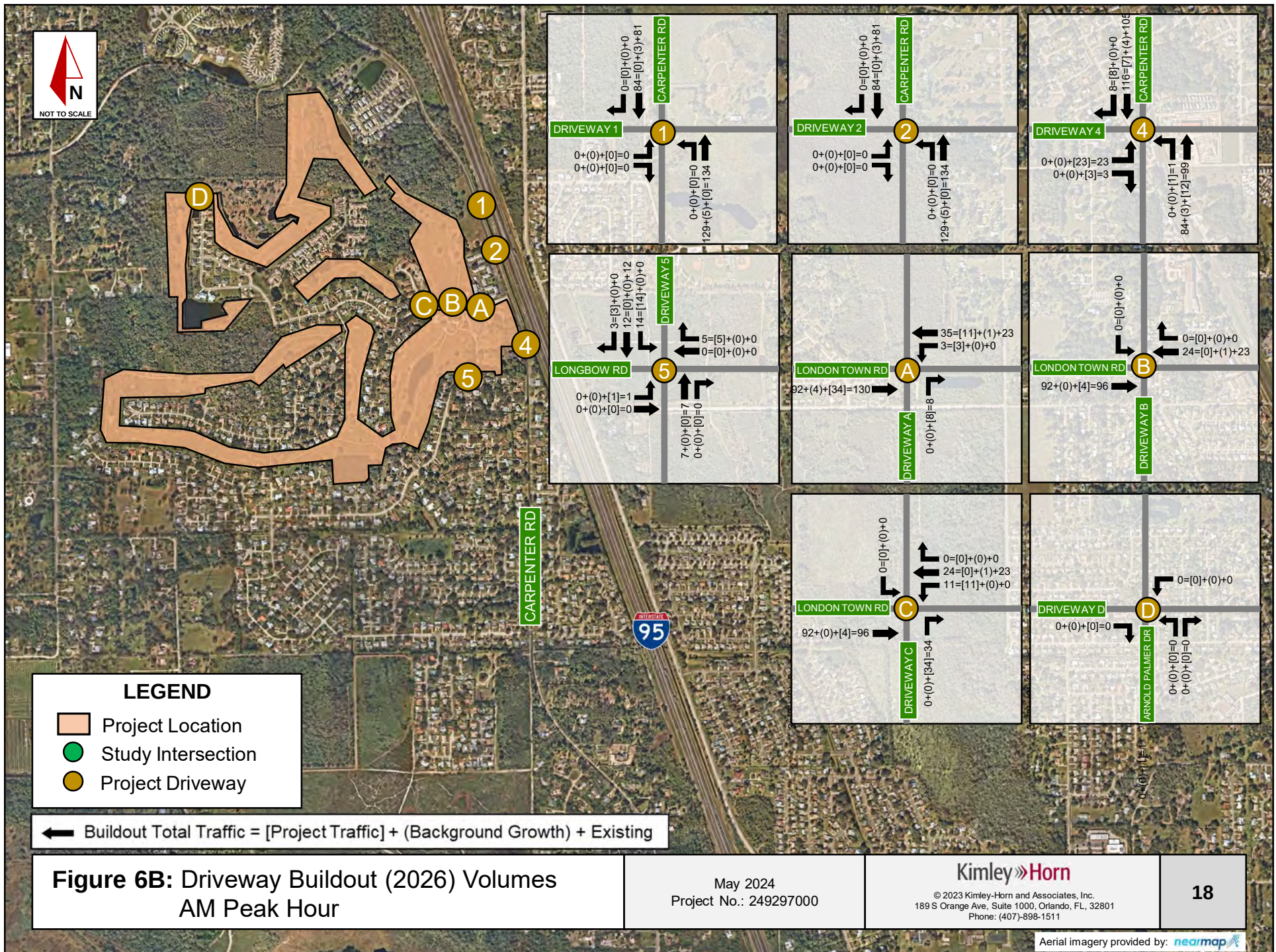
Table 7: 2026 Roadway Segment Analysis (PM Peak Hour)

Roadway			Roadway Attributes					Peak Hour - Background (2026)					Peak Hour - Pod 1 Buildout (2026)				
			Functional Classification	Number of Lanes	Speed Limit	Adopted LOS ¹	Peak Hour Two-Way MSV ¹	Existing 2024 Peak Hour Two-Way Volume	Growth Rate	Background 2026 Peak Hour Two-Way Volume ²	V/C Ratio	Background Deficiency?	Project Trips		Buildout 2026 Peak Hour Two-Way Volume ⁴	V/C Ratio	Buildout Deficiency?
													% Assign ³	Project Trips			
Link ID	From	To															
Carpenter																	
183	Dairy	SR-46	Urban Major Collector	2	30	E	1,410	475	2%	546	0.39	No	87%	116	662	0.47	No
184	Garden	Dairy	Urban Major Collector	2	30	E	1,410	550	2%	632	0.45	No	3%	4	636	0.45	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	1,410	371	2%	426	0.30	No	1%	1	427	0.30	No
Dairy																	
185	Carpenter	Holder	Urban Major Collector	2	30	E	1,410	533	2%	612	0.43	No	7%	9	621	0.44	No
523	Holder	Singleton	Urban Major Collector	2	30	E	1,410	691	2%	794	0.56	No	6%	8	802	0.57	No
186	Singleton	Old Dixie	Urban Major Collector	2	30	E	1,410	714	2%	820	0.58	No	2%	3	823	0.58	No
SR 46																	
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	1,950	1,119	2%	1,285	0.66	No	22%	29	1,314	0.67	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	1,950	1,038	2%	1,192	0.61	No	72%	96	1,288	0.66	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	1,210	649	2%	745	0.62	No	14%	19	764	0.63	No
SR 406 (Garden Street)																	
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	3,290	1,436	2%	1,650	0.50	No	14%	19	1,669	0.51	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	3,290	1,476	2%	1,695	0.52	No	6%	8	1,703	0.52	No
595	Carpenter	I-95	Urban Major Collector	2	35	D	1,950	808	2%	928	0.48	No	0%	0	928	0.48	No
Old Dixie																	
240	Dairy	Parker	Urban Major Collector	2	35	E	1,410	90	2%	103	0.07	No	0%	0	103	0.07	No
Parrish																	
241	Singleton	US 1	Urban Major Collector	2	25	E	1,410	115	2%	132	0.09	No	0%	0	132	0.09	No
242	Holder	Singleton	Urban Major Collector	2	25	E	1,410	80	2%	92	0.07	No	0%	0	92	0.07	No
London Town																	
-	Arnold Palmer	Carpenter	Local	2	25	E	1,410	150	2%	159	0.11	No	50%	66	225	0.16	No

Notes

1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Background (2026) volume developed by applying the calculated growth rates as agreed upon in the TIA Methodology.
3. Percent assigned as the highest percent across the segment.
4. Buildout (2026) volume developed by adding project trips to background (2026) volumes.





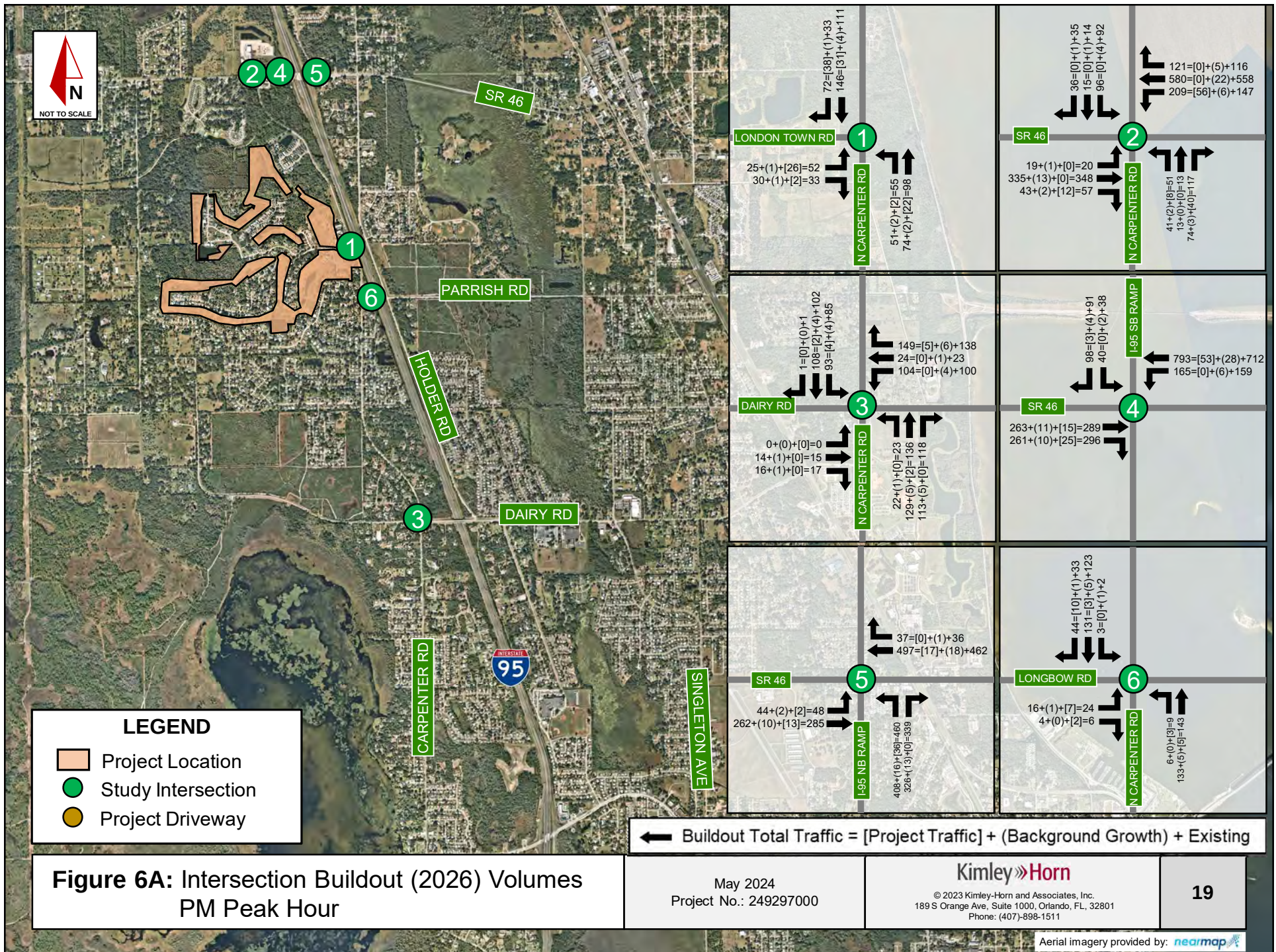
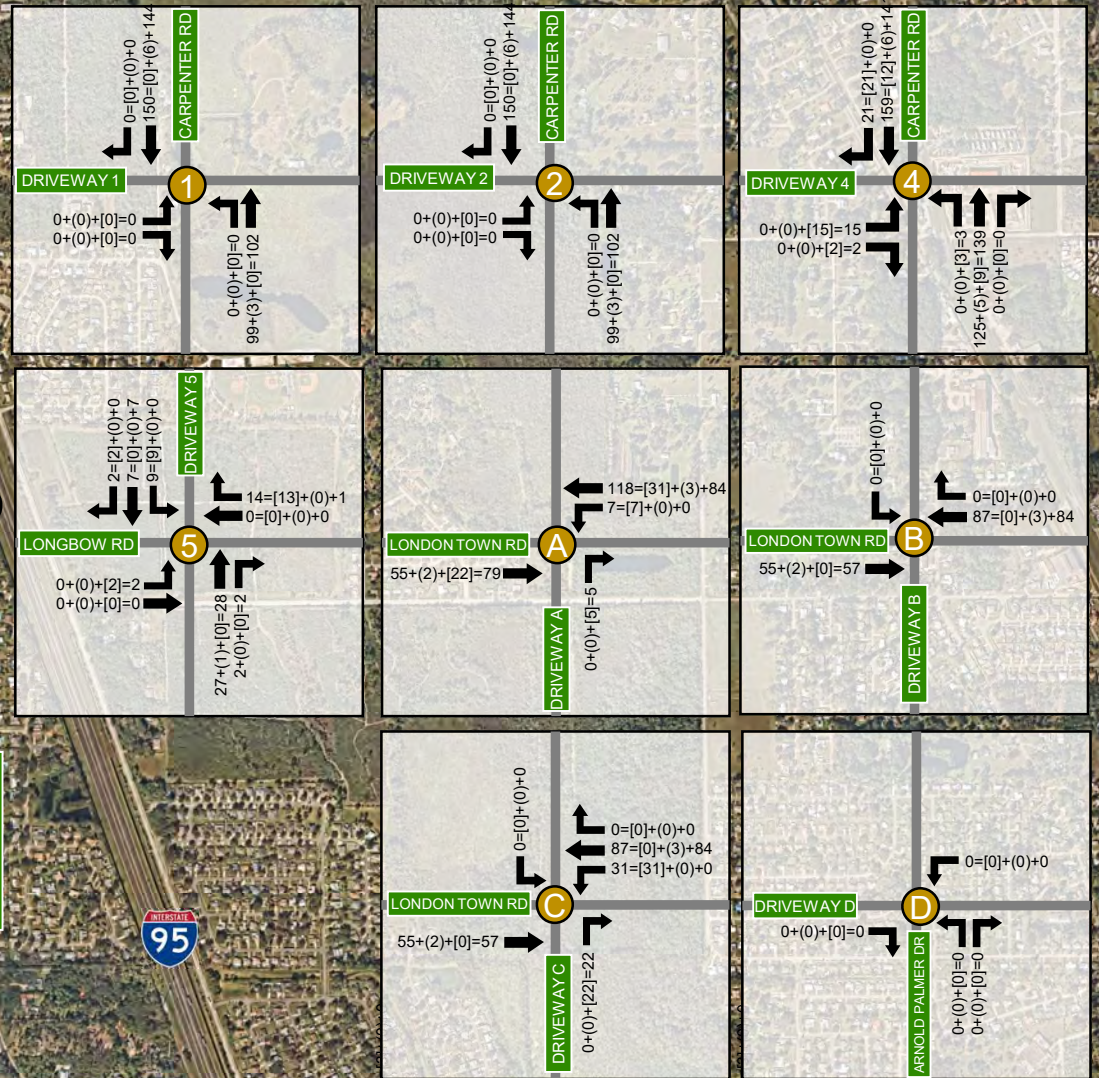


Figure 6A: Intersection Buildout (2026) Volumes PM Peak Hour

May 2024
Project No.: 249297000

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Phone: (407)-898-1511



LEGEND

- Project Location
- Study Intersection
- Project Driveway

← Buildout Total Traffic = [Project Traffic] + (Background Growth) + Existing

Figure 6B: Driveway Buildout (2026) Volumes
PM Peak Hour

May 2024
Project No.: 249297000

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4.3 BACKGROUND (2026) INTERSECTION ANALYSIS

An intersection operational analysis was performed for background conditions during the AM and PM peak hours using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Intersection level of service (LOS) and maximum volume to capacity (v/c) ratios for the AM and PM peak hour background conditions are provided in **Tables 8 and 9**. Synchro outputs are provided in **Appendix G**.

As shown in **Tables 8 and 9**, all study area intersections are expected to operate at an acceptable LOS overall and v/c ratio in the background (2026) AM and PM peak hour with the exception of the existing deficiencies at the northbound approach at SR 46 & I-95 NB Ramp during both the AM and PM Peak Hour. As the movement continues to operate with acceptable v/c ratios under background (2026) conditions, no improvements are recommended at this intersection.

4.4 BUILDOUT (2026) INTERSECTION ANALYSIS

An intersection operational analysis was performed for Year 2026 buildout conditions during the AM and PM peak hours using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Intersection level of service (LOS), delay, and maximum volume to capacity (v/c) ratios for the AM and PM peak hour buildout conditions are provided in **Tables 10 and 11**. Synchro outputs are provided in **Appendix H**.

As shown in the tables below, all study area intersections operate at an acceptable LOS and v/c ratio in the buildout AM and PM peak hour with the exception of the existing and background deficiency.

Table 8: Background (2026) Intersection Conditions (AM Peak Hour)

Background Condition - 2026						
Intersection		Control Type	Approach	AM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	A	0.12	EBL/R
			WB	-	-	-
			NB(L)	A	0.01	NBL
			SB(L)	-	-	-
			Overall	-	0.12	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	C	0.62	EBT/R
			WB	B	0.33	WBT
			NB	E	0.80	NBT/R
			SB	D	0.72	SBL
			Overall	C (26.1 s)	0.80	NBT/R
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.09	EBL/T/R
			WB	B	0.31	WBL/T
			NB	A	0.29	NBL/T/R
			SB	B	0.47	SBL/T/R
			Overall	-	0.47	SBL/T/R
4	SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB	-	-	-
			WB	A	0.29	WBL
			NB	-	-	-
			SB	C	0.18	SBL
			Overall	-	0.29	WBL
5	SR 46 & I-95 NB Ramp	Signalized	EB	A	0.25	EBL
			WB	B	0.26	WBT
			NB	F	0.93	NBL
			SB	-	-	-
			Overall	C (27.0 s)	0.93	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	A	0.04	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.00	NBL
			SB (L)	A	0.00	SBL/T/R
			Overall	-	0.04	EBL/T/R

Table 9: Background (2026) Intersection Conditions (PM Peak Hour)

Background Condition - 2026						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.08	EBL/R
			WB	-	-	-
			NB(L)	A	0.04	NBL
			SB(L)	-	-	-
			Overall	-	0.08	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	B	0.42	EBT/R
			WB	B	0.58	WBT
			NB	E	0.75	NBT/R
			SB	D	0.66	SBL
			Overall	C (22.8 s)	0.75	NBT/R
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.05	EBL/T/R
			WB	A	0.24	WBL/T
			NB	B	0.39	NBL/T/R
			SB	B	0.31	SBL/T/R
			Overall	-	0.39	NBL/T/R
4	SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB	-	-	-
			WB	A	0.13	WBL
			NB	-	-	-
			SB	C	0.24	SBR
			Overall	-	0.24	SBR
5	SR 46 & I-95 NB Ramp	Signalized	EB	B	0.23	EBT
			WB	C	0.25	WBT
			NB	F	0.95	NBL
			SB	-	-	-
			Overall	D (44.2 s)	0.95	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.11	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.01	NBL
			SB (L)	A	0.00	SBL
			Overall	-	0.11	EBL/T/R

Table 10: Buildout (2026) Intersection Conditions (AM Peak Hour)

Buildout Condition - 2026						
Intersection	Control Type	Approach	AM Peak Hour			Max V/C Movement
			Max Level of Service	Max V/C Ratio		
1 Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.19		EBL/R
		WB	-	-		-
		NB(L)	A	0.01		NBL
		SB(L)	-	-		-
		Overall	-	0.19		EBL/R
2 Carpenter Rd & SR 46	Signalized	EB	C	0.68		EBT/R
		WB	B	0.33		WBT
		NB	E	0.87		NBT/R
		SB	D	0.72		SBL
		Overall	C (31.6 s)	0.87		NBT/R
3 Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.09		EBL/T/R
		WB	B	0.32		WBL/T
		NB	A	0.29		NBL/T/R
		SB	B	0.49		SBL/T/R
		Overall	-	0.49		SBL/T/R
4 SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.30		WBL
		NB	-	-		-
		SB	C	0.18		SBL
		Overall	-	0.30		WBL
5 SR 46 & I-95 NB Ramp	Signalized	EB	A	0.27		EBT
		WB	B	0.27		WBT
		NB	F	0.93		NBL
		SB	-	-		-
		Overall	C (27.6s)	0.93		NBL
6 Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	A	0.06		EBL/T/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.00		NBL
		SB (L)	A	0.00		SBL/T/R
		Overall	-	0.06		EBL/T/R
Driveway #4 Ingress/Egress #4 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.04		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.04		EBL/R
Driveway #5 Longbow Rd & Ingress/Egress #4	Unsignalized (TWSC)	EB(L)	A	0.00		EBL/T/R
		WB(L)	A	0.00		WBL
		NB	-	-		-
		SB	A	0.03		SBL/T/R
		Overall	-	0.03		SBL/T/R
Driveway A London Tower Rd & Pod 1 Connection	Unsignalized (TWSC)	EB(L)	-	-		-
		WB(L)	A	0.00		WBL
		NB	A	0.01		NBL/R
		SB	-	-		-
		Overall	-	0.01		NBL/R
Driveway C London Tower Rd & Pod 1/Pod 4 Connection	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.01		WBL
		NB(L)	A	0.04		NBL/R
		SB(L)	-	-		-
		Overall	-	0.04		NBL/R

Table 11: Buildout (2026) Intersection Conditions (PM Peak Hour)

Buildout Condition - 2026						
Intersection	Control Type	Approach	PM Peak Hour			Max V/C Movement
			Max Level of Service	Max V/C Ratio		
1 Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.14		EBL/R
		WB	-	-		-
		NB(L)	A	0.05		NBL
		SB(L)	-	-		-
		Overall	-	0.14		EBL/R
2 Carpenter Rd & SR 46	Signalized	EB	B	0.46		EBT/R
		WB	B	0.61		WBT
		NB	E	0.81		NBT/R
		SB	D	0.66		SBL
		Overall	C (25.1 s)	0.81		NBT/R
3 Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.05		EBL/T/R
		WB	B	0.24		WBL/T
		NB	B	0.40		NBL/T/R
		SB	B	0.32		SBL/T/R
		Overall	-	0.40		NBL/T/R
4 SR 46 & I-95 SB Ramp	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.14		WBL
		NB	-	-		-
		SB	C	0.26		SBR
		Overall	-	0.26		SBR
5 SR 46 & I-95 NB Ramp	Signalized	EB	B	0.24		EBT
		WB	C	0.27		WBT
		NB	F	0.96		NBL
		SB	-	-		-
		Overall	D (46.2s)	0.96		NBL
6 Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.05		EBL/T/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.01		NBL
		SB (L)	A	0.00		SBL
		Overall	-	0.05		EBL/T/R
Driveway #4 Ingress/Egress #4 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.03		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		0
		SB(L)	-	-		-
		Overall	-	0.03		EBL/R
Driveway #5 Longbow Rd & Ingress/Egress #4	Unsignalized (TWSC)	EB	A	0.00		EBL/R
		WB	A	0.00		WBL
		NB(L)	-	-		-
		SB(L)	A	0.02		SBL/T/R
		Overall	-	0.02		SBL/T/R
Driveway A London Tower Rd & Pod 1 Connection	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.01		WBL
		NB(L)	A	0.01		NBL/R
		SB(L)	-	-		-
		Overall	-	0.01		NBL/R
Driveway C London Tower Rd & Pod 1/Pod 4 Connection	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.02		WBL
		NB(L)	A	0.02		NBL/R
		SB(L)	-	-		-
		Overall	-	0.02		NBL/R

5.0 PODS 3, 4 & 5 DEVELOPMENT TRAFFIC

Pods 3, 4, and 5 of the Sherwood Gold Club PUD development is proposed to consist of the following:

- 41 Single-family homes (Pod 3)
- 158 Townhomes (Pod 4)
- 178 Apartment Units (Pod 5)

Buildout of these pods is anticipated in 2030. The latest industry standards were referenced to evaluate the amount of new external trips to be generated by the site at buildout. The adopted regional travel demand model was used to forecast the distribution of trips throughout the study area.

5.1 TRIP GENERATION

Trip generation for the proposed project was calculated per procedures published in the 11th Edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. The following Land Use Codes (LUCs) were used for the proposed development.

- ITE LUC 210 – Single-Family Detached Housing
- ITE LUC 215 – Single-Family Attached Housing
- ITE LUC 220 – Multifamily Housing (Low-Rise)

Relevant excerpts from the *Trip Generation Manual* are included in **Appendix H**.

Table 12 provides the Daily, AM peak hour, and PM peak hour trip generation summary for the project. The proposed site is anticipated to generate 2,814 daily trips, 187 AM peak hour trips (46 inbound and 141 outbound), and 231 PM peak hour trips (142 inbound and 89 outbound).

5.2 TRIP DISTRIBUTION

Projected traffic demand of project trips on study roadways was derived with use of the most recent adopted regional travel demand model. Land use data for the project was entered into a new traffic analysis zone (TAZ) within the latest Central Florida Regional Planning Model set and situated within the existing roadway network to appropriately represent project access. The model was used to assign trips for all trip purposes between allocated origin and destination pairs using project build-out year model data. Trip distribution for the project was extracted from the completed model assignment and reviewed for logic. The resulting model plot showing the percent of daily project distribution is provided in **Appendix I**.

Daily model project distribution was referenced to manually assign project distribution at the study area intersections and driveways in general accordance with the model output. **Figure 6** shows the intersection movement project distribution within the study area for use in forecasting project trips.

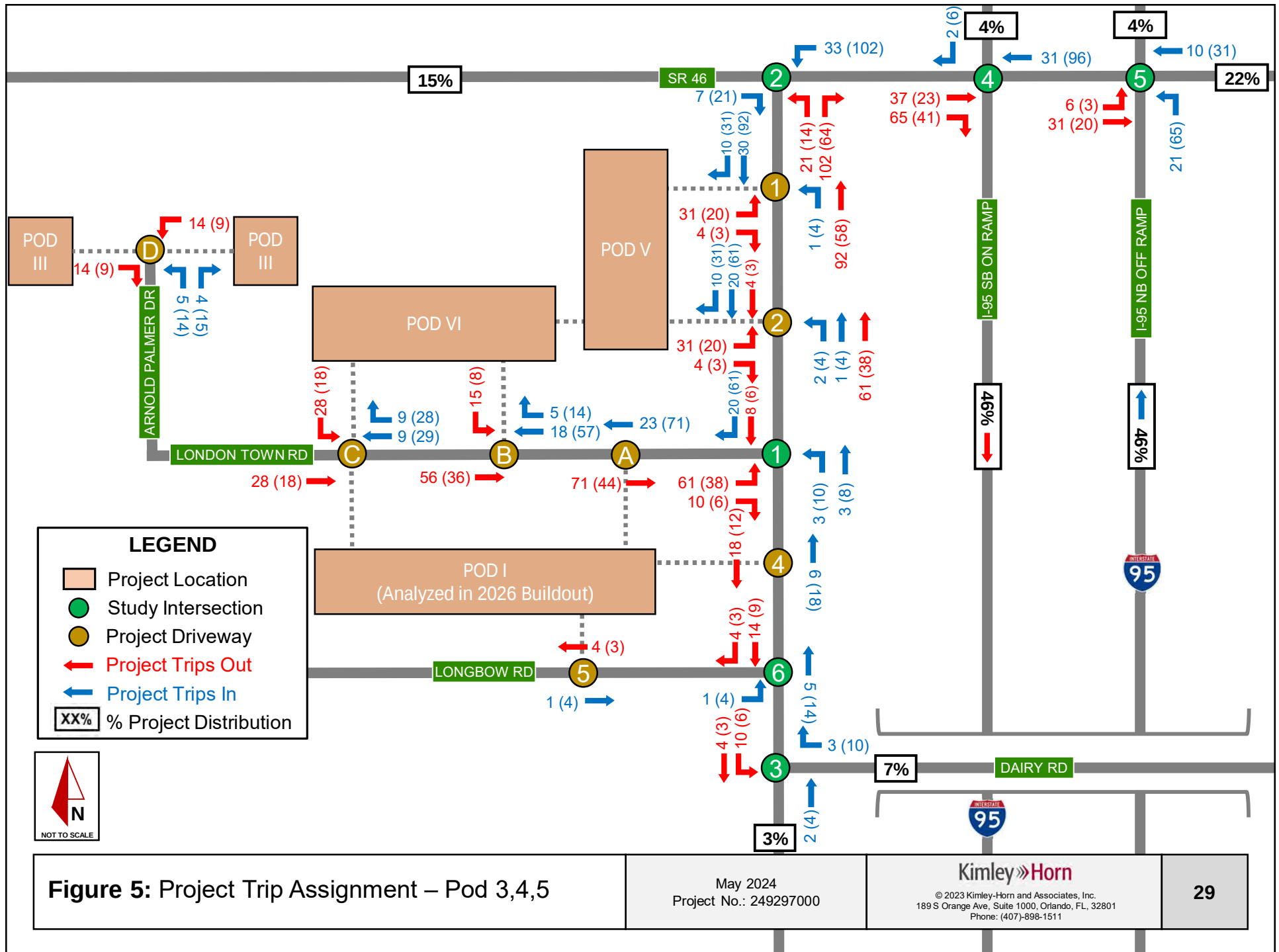
5.3 TRIP ASSIGNMENT

The project trip distribution percentages were used to assign anticipated project trips to the study area roadways and intersections. **Figure 7** shows the anticipated project trip assignment at the study area intersections during the AM and PM peak hours.

Table 12: Trip Generation

Daily	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	Daily				
							Total	In ¹		Out ¹	
	3	Single-Family Detached Housing	210	41	DU	$\text{Ln (T) = 0.92 * Ln (X) + 2.68}$	444	50%	222	50%	222
	4	Single-Family Attached Housing	215	158	DU	$\text{T = 7.62 * X - 50.48}$	1,154	50%	577	50%	577
	5	Multifamily Housing (Low-Rise)	220	178	DU	$\text{T = 6.41 * X + 75.31}$	1,216	50%	608	50%	608
Total Generated Trips							2,814	1,407		1,407	
AM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	AM Peak Hour				
							Total	In ¹		Out ¹	
	3	Single-Family Detached Housing	210	41	DU	$\text{Ln (T) = 0.91 * Ln (X) + 0.12}$	33	25%	8	75%	25
	4	Single-Family Attached Housing	215	158	DU	$\text{T = 0.52 * X - 5.70}$	76	25%	19	75%	57
	5	Multifamily Housing (Low-Rise)	220	178	DU	$\text{T = 0.31 * X + 22.85}$	78	24%	19	76%	59
Total Generated Trips							187	46		141	
PM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	PM Peak Hour				
							Total	In ¹		Out ¹	
	3	Single-Family Detached Housing	210	41	DU	$\text{Ln (T) = 0.94 * Ln (X) + 0.28}$	43	63%	27	37%	16
	4	Single-Family Attached Housing	215	158	DU	$\text{T = 0.60 * X - 3.93}$	91	59%	54	41%	37
	5	Multifamily Housing (Low-Rise)	220	178	DU	$\text{T = 0.43 * X + 20.55}$	97	63%	61	37%	36
Total Generated Trips							231	142		89	

Note: ¹Vehicle trip rate and directional splits per ITE Trip Generation, 11th Edition



6.0 POD 3, 4 & 5 FUTURE OPERATIONS (2030)

6.1 BACKGROUND AND BUILDOUT TRAFFIC

Traffic conditions were evaluated for year 2020 background conditions, without the impact of project trips from Pods 3, 4, or 5 on the roadway network. Background (2030) volumes on study area roadway segments and intersections were derived by applying a 2% annual growth rate over 4 year (2026 to 2030) to the buildout 2026 volumes.

Buildout 2030 volumes were developed by adding anticipated project trips to background 2030 volumes.

Adjusted turning movement volume worksheets for all intersections can be found in **Appendix E**.

Figures 8 and 9 illustrate turning movement buildout 2030 volumes at the study intersections for the AM and PM peak hour, respectively.

6.2 2030 ROADWAY SEGMENT ANALYSIS

A roadway segment analysis was performed within the study area to determine background and buildout Daily and PM peak hour conditions. The analysis was conducted by comparing the projected 2026 background and buildout AADT and PM peak hour two-way segment volumes to the segment's Maximum Service Volumes (MSV).

The background and buildout 2030 roadway segment data is included in **Tables 13 and 14** for Daily and PM peak hour conditions, respectively. As shown in the tables, the analysis identifies no capacity deficiencies under 2030 conditions.

Table 13: 2030 Roadway Segment Analysis (Daily)

Roadway			Roadway Attributes					Daily - Background (2030)					Daily - Ultimate Buildout (2030)				
								Buildout 2026 AADT	Growth Rate	2030 AADT ²	V/C Ratio	Background Deficiency?	Project Trips		Buildout 2030 AADT ⁴	V/C Ratio	Buildout Deficiency?
			Functional Classification	Number of Lanes	Speed Limit	Adopted LOS ¹	Daily MSV ¹						% Assign ³	Project Trips			
Link ID	From	To															
Carpenter																	
183	Dairy	SR-46	Urban Major Collector	2	40	E	15,600	6,599	2%	7,143	0.46	No	87%	2,448	9,591	0.61	No
184	Garden	Dairy	Urban Major Collector	2	30	E	15,600	5,918	2%	6,406	0.41	No	3%	84	6,490	0.42	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	15,600	3,990	2%	4,318	0.28	No	1%	28	4,346	0.28	No
Dairy																	
185	Carpenter	Holder	Urban Major Collector	2	30	E	15,600	5,837	2%	6,318	0.41	No	7%	197	6,515	0.42	No
523	Holder	Singleton	Urban Major Collector	2	30	E	15,600	6,769	2%	7,327	0.47	No	6%	169	7,496	0.48	No
186	Singleton	Old Dixie	Urban Major Collector	2	30	E	15,600	7,376	2%	7,984	0.51	No	2%	56	8,040	0.52	No
SR 46																	
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	21,700	13,901	2%	15,047	0.69	No	22%	619	15,666	0.72	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	21,700	12,624	2%	13,664	0.63	No	72%	2,026	15,690	0.72	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	19,600	7,542	2%	8,164	0.42	No	14%	394	8,558	0.44	No
SR 406 (Garden Street)																	
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	36,600	17,696	2%	19,154	0.52	No	14%	394	19,548	0.53	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	36,600	17,680	2%	19,137	0.52	No	6%	169	19,306	0.53	No
595	Carpenter	I-95	Urban Major Collector	2	35	D	21,700	8,053	2%	8,717	0.40	No	0%	0	8,717	0.4	No
Old Dixie																	
240	Dairy	Parker	Urban Major Collector	2	35	E	15,600	983	2%	1,064	0.07	No	0%	0	1,064	0.07	No
Parrish																	
241	Singleton	US 1	Urban Major Collector	2	25	E	15,600	777	2%	841	0.05	No	0%	0	841	0.05	No
242	Holder	Singleton	Urban Major Collector	2	25	E	15,600	1,237	2%	1,339	0.09	No	0%	0	1,339	0.09	No
London Town																	
-	Arnold Palmer	Carpenter	Local	2	25	E	15,600	2,456	2%	2,658	0.17	No	50%	1,407	4,065	0.26	No

Notes

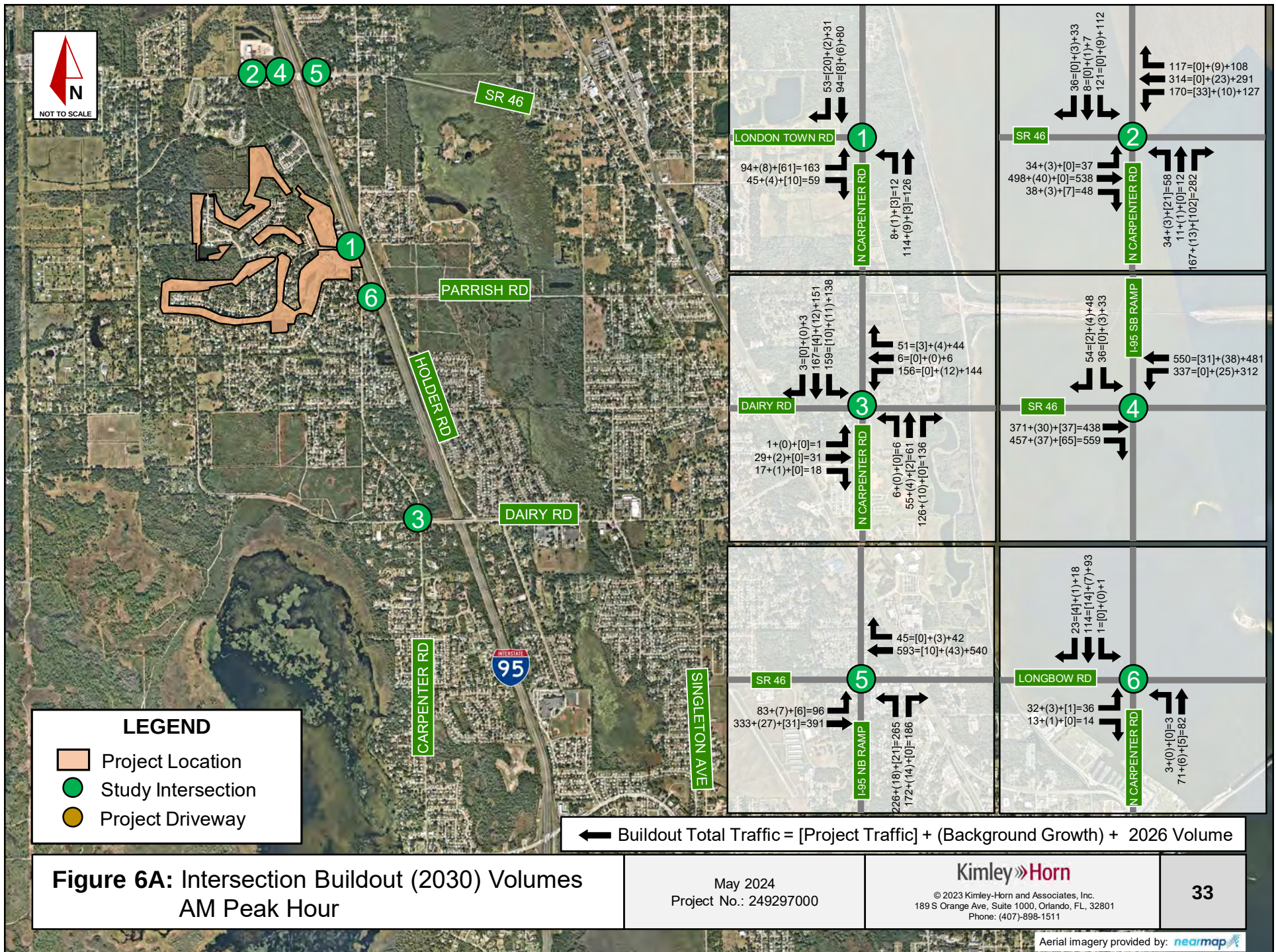
1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Background (2030) AADT developed by applying the calculated growth rates as agreed upon in the TIA Methodology.
3. Percent assigned as the highest percent across the segment.
4. Buildout (2030) AADT developed by adding project trips to background (2030) volumes.

Table 14: 2030 Roadway Segment Analysis (PM Peak Hour)

Roadway			Roadway Attributes					Peak Hour - Background (2030)					Peak Hour - Buildout (2030)				
			Functional Classification	Number of Lanes	Speed Limit	Adopted LOS ¹	Peak Hour Two-Way MSV ¹	Buildout 2026 Peak Hour Two-Way Volume	Growth Rate	Background 2030 Peak Hour Two-Way Volume ²	V/C Ratio	Background Deficiency?	Project Trips		Buildout 2030 Peak Hour Two-way Volume ⁴	V/C Ratio	Buildout Deficiency?
Link ID	From	To											% Assign ³	Project Trips			
Carpenter																	
183	Dairy	SR-46	Urban Major Collector	2	30	E	1,410	662	2%	717	0.51	No	87%	201	918	0.65	No
184	Garden	Dairy	Urban Major Collector	2	30	E	1,410	636	2%	688	0.49	No	3%	7	695	0.49	No
188	Fox Lake	Garden	Urban Major Collector	2	30	E	1,410	427	2%	462	0.33	No	1%	2	464	0.33	No
Dairy																	
185	Carpenter	Holder	Urban Major Collector	2	30	E	1,410	621	2%	672	0.48	No	7%	16	688	0.49	No
523	Holder	Singleton	Urban Major Collector	2	30	E	1,410	802	2%	868	0.62	No	6%	14	882	0.63	No
186	Singleton	Old Dixie	Urban Major Collector	2	30	E	1,410	823	2%	891	0.63	No	2%	5	896	0.64	No
SR 46																	
199	I-95	US 1	Urban Principal Arterial-Other	2	45	D	1,600	1,314	2%	1,422	0.89	No	22%	51	1,473	0.92	No
200	Fawn Lake	I-95	Urban Principal Arterial-Other	2	55	D	1,600	1,288	2%	1,394	0.87	No	72%	166	1,560	0.98	No
201	Volusia County	Fawn Lake	Rural Principal Arterial-Other	2	55	C	1,210	764	2%	827	0.68	No	14%	32	859	0.71	No
SR 406 (Garden Street)																	
202	I-95	Singleton	Urban Principal Arterial-Other	4	40	D	3,290	1,669	2%	1,807	0.55	No	14%	32	1,839	0.56	No
203	Singleton	Park	Urban Principal Arterial-Other	4	40	D	3,290	1,703	2%	1,843	0.56	No	6%	14	1,857	0.56	No
595	Carpenter	I-95	Urban Major Collector	2	35	D	1,950	928	2%	1,004	0.51	No	0%	0	1,004	0.51	No
Old Dixie																	
240	Dairy	Parker	Urban Major Collector	2	35	E	1,410	103	2%	111	0.08	No	0%	0	111	0.08	No
Parrish																	
241	Singleton	US 1	Urban Major Collector	2	25	E	1,410	132	2%	143	0.10	No	0%	0	143	0.10	No
242	Holder	Singleton	Urban Major Collector	2	25	E	1,410	92	2%	100	0.07	No	0%	0	100	0.07	No
London Town																	
-	Arnold Palmer	Carpenter	Local	2	25	E	1,410	225	2%	244	0.17	No	50%	115	359	0.25	No

Notes

1. Data obtained from Space Coast TPO 2023 Traffic Counts Document.
2. Background (2030) volume developed by applying the calculated growth rates as agreed upon in the TIA Methodology.
3. Percent assigned as the highest percent across the segment.
4. Buildout (2030) volume developed by adding project trips to background (2030) volumes.



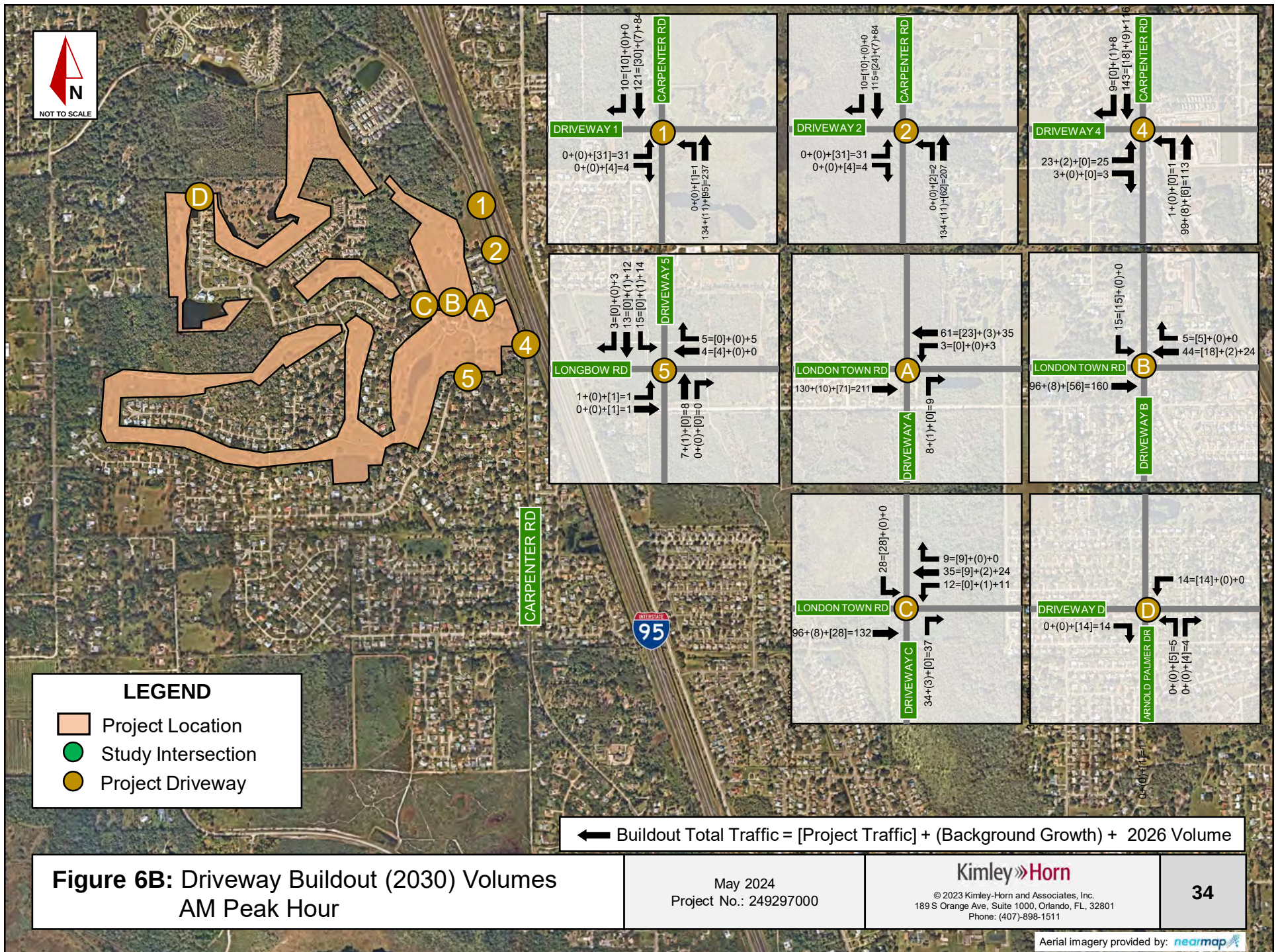
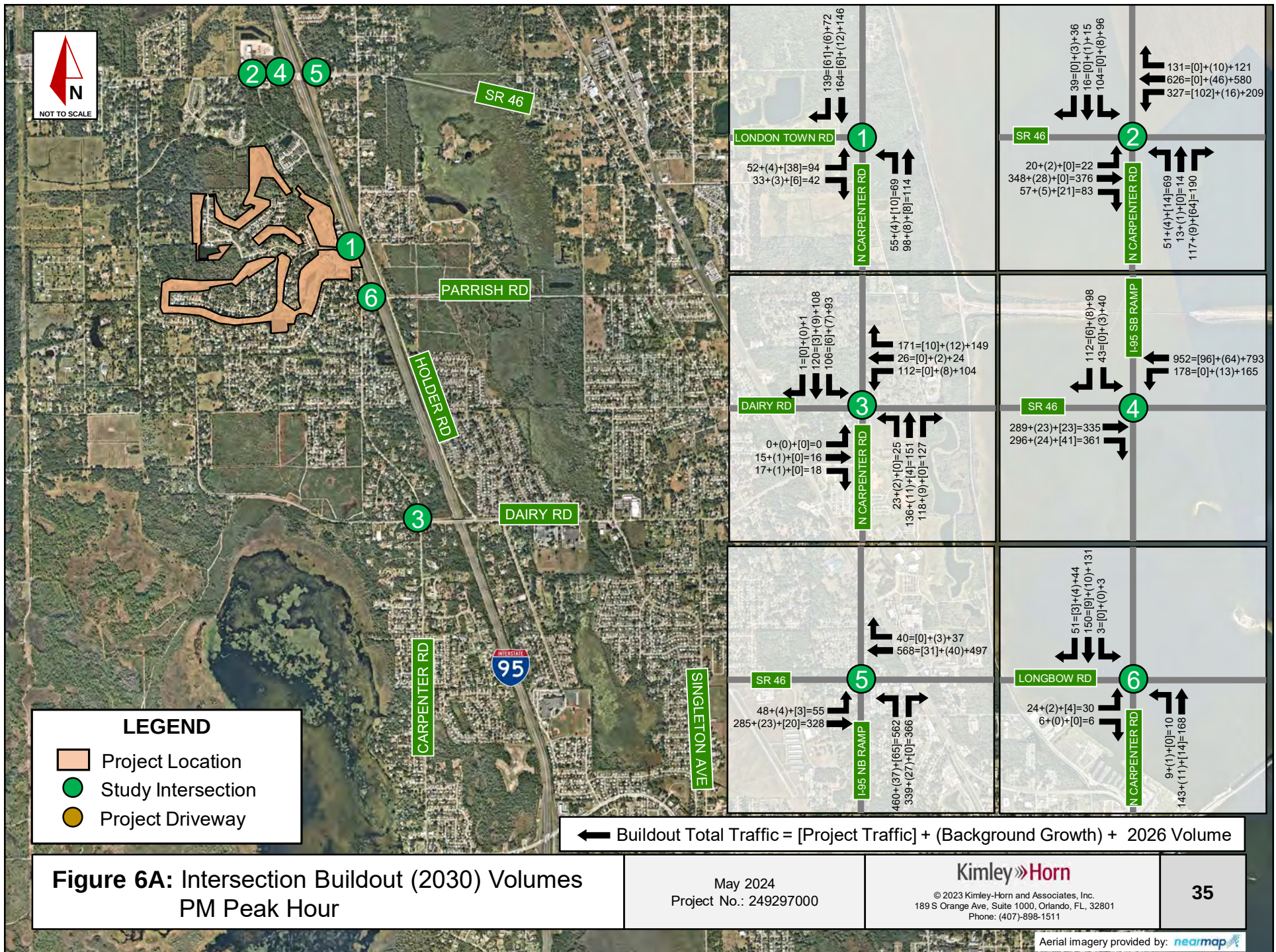


Figure 6B: Driveway Buildout (2030) Volumes AM Peak Hour

May 2024
Project No.: 249297000

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Phone: (407)-898-1511

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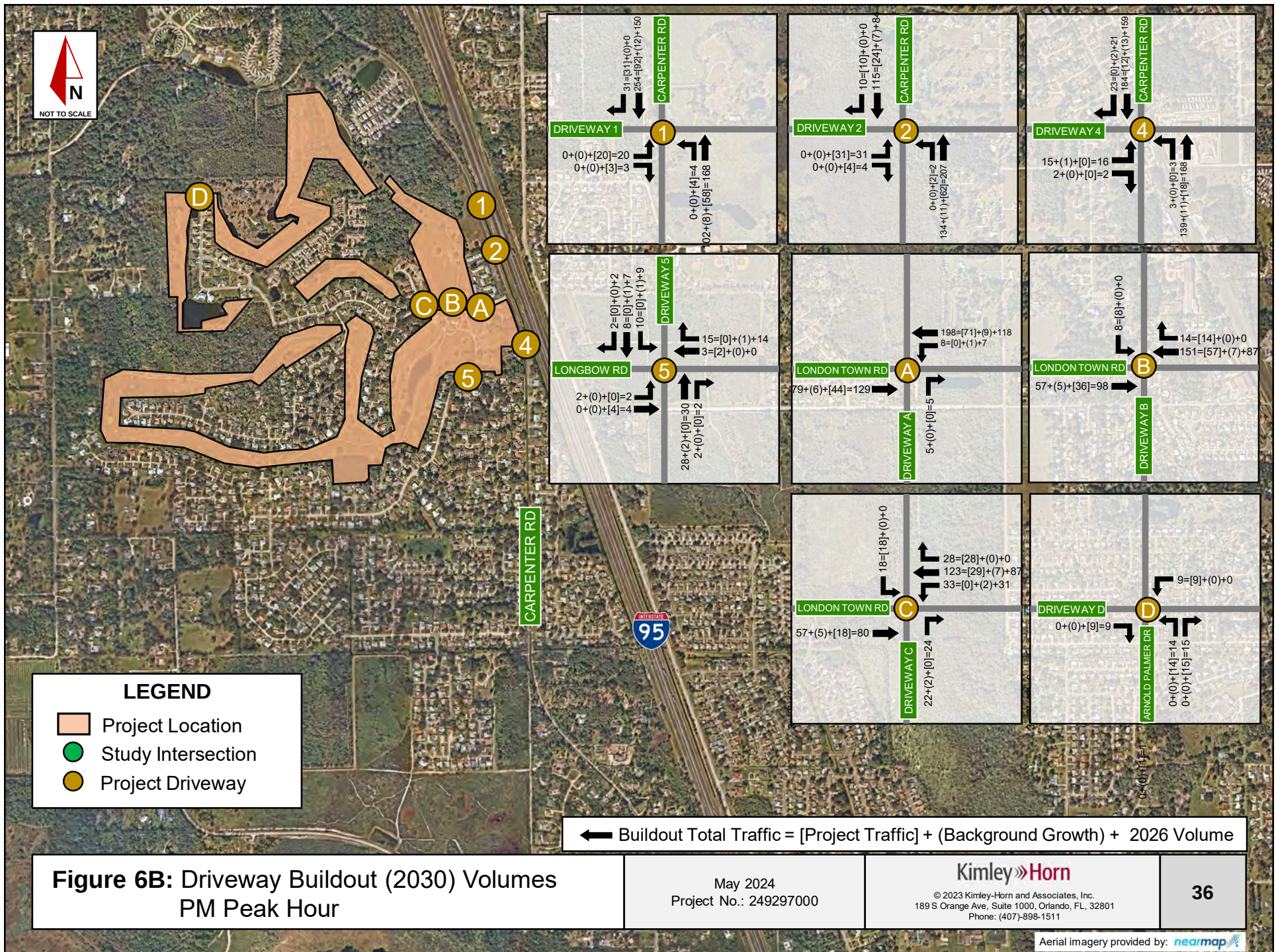


Figure 6B: Driveway Buildout (2030) Volumes
PM Peak Hour

May 2024
Project No.: 249297000

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6.3 BACKGROUND (2030) INTERSECTION ANALYSIS

An intersection operational analysis was performed for background conditions during the AM and PM peak hours using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Intersection level of service (LOS) and maximum volume to capacity (v/c) ratios for the AM and PM peak hour background conditions are provided in **Tables 15 and 16**. Synchro outputs are provided in **Appendix G**.

As shown in **Tables 15 and 16**, all study area intersections are expected to operate at an acceptable LOS overall and v/c ratio in the background (2030) AM and PM peak hour with the exception of the existing and 2026 deficiencies at the northbound approach at SR 46 & I-95 NB Ramp during both the AM and PM Peak Hour. As the movement continues to operate with acceptable v/c ratios under background (2030) conditions, no improvements are recommended at this intersection.

6.4 BUILDOUT (2030) INTERSECTION ANALYSIS

An intersection operational analysis was performed for Year 2026 buildout conditions during the AM and PM peak hours using procedures outlined in the *Highway Capacity Manual, 6th Edition* with Synchro (v11) software. Intersection level of service (LOS), delay, and maximum volume to capacity (v/c) ratios for the AM and PM peak hour buildout conditions are provided in **Tables 17 and 18**. Synchro outputs are provided in **Appendix H**.

As shown in the tables below, all study area intersections operate at an acceptable LOS and v/c ratio in the buildout AM and PM peak hour with the exception of the existing and background deficiency and the following buildout deficiency:

- The shared northbound through/right-turn movement at the Carpenter Road & SR 46 intersection operates at LOS F with a v/c of over one (1.0) during the AM Peak Hour.

6.5 IMPROVED BUILDOUT INTERSECTION ANALYSIS

To mitigate this buildout deficiency at the intersection of SR 46 & N Carpenter Road, signal timings adjustments during the AM peak hour are recommended at this intersection. **Table 19** provides the improved intersection's LOS and maximum volume to capacity (v/c) ratios for the AM peak hour. With the recommended improvements, all intersections are anticipated to operate within capacity under buildout AM and PM peak hour conditions. Synchro outputs for improved buildout conditions are provided in **Appendix H**.

Without the signal timing improvements, the northbound through/right movement capacity is 274 vehicles. Under background 2030 conditions, a total of 192 vehicles (12 straight + 180 right) are anticipated to complete the through/right movement. Therefore, the remaining capacity for project trips (without signal timing adjustments) is 82 vehicles. 102 trips are assigned to the right movement and 0 project trips are assigned to the through movement. Therefore, the signal timings adjustments are needed when buildout of Pods 3, 4, and 5 is 80% (= 82/102) complete.

Table 15: Background (2030) Intersection Conditions (AM Peak Hour)

Background Condition - 2030						
Intersection		Control Type	Approach	AM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.21	EBL/R
			WB	-	-	-
			NB(L)	A	0.01	NBL
			SB(L)	-	-	-
			Overall	-	0.21	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	C	0.76	EBR
			WB	B	0.40	WBL
			NB	E	0.88	NBT/R
			SB	D	0.73	SBL
			Overall	C (33.9 s)	0.88	NBT/R
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.10	EBL/T/R
			WB	B	0.35	WBL/T
			NB	B	0.33	NBL/T/R
			SB	B	0.54	SBL/T/R
			Overall	-	0.54	SBL/T/R
4	SR 46 & I-95 SB Ramp	Signalized	EB	-	-	-
			WB	A	0.33	WBL
			NB	-	-	-
			SB	C	0.23	SBL
			Overall	-	0.33	WBL
5	SR 46 & I-95 NB Ramp	Signalized	EB	A	0.29	EBT
			WB	B	0.29	WBT
			NB	F	0.94	NBL
			SB	-	-	-
			Overall	C (28.3 s)	0.94	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	A	0.07	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.00	NBL
			SB (L)	A	0.00	SBL/T/R
			Overall	-	0.07	EBL/T/R

Table 16: Background (2030) Intersection Conditions (PM Peak Hour)

Background Condition - 2030						
Intersection		Control Type	Approach	PM Peak Hour		
				Max Level of Service	Max V/C Ratio	Max V/C Movement
1	Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.16	EBL/R
			WB	-	-	-
			NB(L)	A	0.05	NBL
			SB(L)	-	-	-
			Overall	-	0.16	EBL/R
2	Carpenter Rd & SR 46	Signalized	EB	C	0.50	EBT/R
			WB	B	0.67	WBT
			NB	E	0.82	NBT/R
			SB	D	0.71	SBL
			Overall	C (26.7 s)	0.82	NBT/R
3	Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.06	EBL/T/R
			WB	B	0.26	WBL/T
			NB	B	0.44	NBL/T/R
			SB	B	0.35	SBL/T/R
			Overall	-	0.44	NBL/T/R
4	SR 46 & I-95 SB Ramp	Signalized	EB	-	-	-
			WB	A	0.15	WBT
			NB	-	-	-
			SB	C	0.30	SBR
			Overall	-	0.30	SBR
5	SR 46 & I-95 NB Ramp	Signalized	EB	B	0.27	EBT
			WB	C	0.31	WBT
			NB	F	0.96	NBL
			SB	-	-	-
			Overall	D (47.8 s)	0.96	NBL
6	Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.05	EBL/T/R
			WB	A	0.00	WBL/T/R
			NB(L)	A	0.01	NBL
			SB (L)	A	0.00	SBL/T/R
			Overall	-	0.05	EBL/T/R

Table 17: Buildout (2030) Intersection Conditions (AM Peak Hour)

Buildout Condition - 2030						
Intersection	Control Type	Approach	AM Peak Hour			Max V/C Movement
			Max Level of Service	Max V/C Ratio		
1 Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.32		EBL/R
		WB	-	-		-
		NB(L)	A	0.01		NBL
		SB(L)	-	-		-
		Overall	-	0.32		EBL/R
2 Carpenter Rd & SR 46	Signalized	EB	C	0.81		EBT/L
		WB	C	0.53		WBT
		NB	F	1.17		NBT/R
		SB	D	0.73		SBL
		Overall	D (53.1 s)	1.17		NBT/R
3 Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.10		EBL/T/R
		WB	B	0.35		WBL/T
		NB	B	0.33		NBL/T/R
		SB	C	0.57		SBL/T/R
		Overall	-	0.57		SBL/T/R
4 SR 46 & I-95 SB Ramp	Signalized	EB	-	-		-
		WB	B	0.35		WBL
		NB	-	-		-
		SB	C	0.25		SBL
		Overall	-	0.35		WBL
5 SR 46 & I-95 NB Ramp	Signalized	EB	A	0.32		EBT
		WB	B	0.31		WBT
		NB	F	0.94		NBL
		SB	-	-		-
		Overall	C (29.5s)	0.94		NBL
6 Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.07		EBL/T/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.00		NBL/T/R
		SB (L)	A	0.00		SBL/T/R
		Overall	-	0.07		EBL/T/R
Driveway #1 Ingress/Egress #1 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.06		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.06		EBL/R
Driveway #2 Ingress/Egress #2 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.06		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL/T
		SB(L)	-	-		-
		Overall	-	0.06		EBL/R
Driveway #4 Ingress/Egress #4 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.04		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.04		EBL/R
Driveway #5 Longbow Rd & Ingress/Egress #4	Unsignalized (TWSC)	EB	A	0.00		EBL/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.00		NBL
		SB(L)	A	0.04		SBL/T/R
		Overall	-	0.04		SBL/T/R
Driveway A London Tower Rd & Pod 1 Connection	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.00		WBL/T
		NB(L)	A	0.01		NBL/R
		SB(L)	-	-		-
		Overall	-	0.01		NBL/R
Driveway B London Tower Rd & Pod 4 Connection	Unsignalized (TWSC)	EB	A	0.00		EBL/T
		WB	-	-		-
		NB(L)	-	-		-
		SB(L)	A	0.02		SBL/R
		Overall	-	0.02		SBL/R
Driveway C London Tower Rd & Pod 1/Pod 4 Connection	Unsignalized (TWSC)	EB	A	0.00		EBL/T/R
		WB	A	0.01		WBL/T/R
		NB(L)	A	0.04		NBL/T/R
		SB(L)	B	0.04		SBL/T/R
		Overall	-	0.04		NBL/T/R
Driveway D Pod 3 Connection & Arnold Palmer Dr	Unsignalized (TWSC)	EB	A	0.12		EBT/R
		WB	A	0.02		WBL/T
		NB(L)	-	-		-
		SB(L)	-	-		-
		Overall	-	0.12		EBT/R

Table 18: Buildout (2030) Intersection Conditions (PM Peak Hour)

Buildout Condition - 2030						
Intersection	Control Type	Approach	PM Peak Hour			Max V/C Movement
			Max Level of Service	Max V/C Ratio		
1 Carpenter Rd & London Town Rd	Unsignalized (TWSC)	EB	B	0.27		EBL/R
		WB	-	-		-
		NB(L)	A	0.06		NBL
		SB(L)	-	-		-
		Overall	-	0.27		EBL/R
2 Carpenter Rd & SR 46	Signalized	EB	C	0.58		EBT/R
		WB	C	0.76		WBL
		NB	E	0.88		NBT/R
		SB	D	0.71		SBL
		Overall	C (33.9 s)	0.88		NBT/R
3 Carpenter Rd & Dairy Rd	Unsignalized (AWSC)	EB	A	0.06		EBL/T/R
		WB	B	0.27		WBL/T
		NB	B	0.45		NBL/T/R
		SB	B	0.36		SBL/T/R
		Overall	-	0.45		NBL/T/R
4 SR 46 & I-95 SB Ramp	Signalized	EB	-	-		-
		WB	A	0.15		WBL
		NB	-	-		-
		SB	C	0.37		SBR
		Overall	-	0.37		SBR
5 SR 46 & I-95 NB Ramp	Signalized	EB	C	0.31		EBT
		WB	C	0.35		WBT
		NB	F	0.97		NBL
		SB	-	-		-
		Overall	D (51.4 s)	0.97		NBL
6 Carpenter Rd & Longbow Rd	Unsignalized (TWSC)	EB	B	0.06		EBL/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.01		NBL
		SB (L)	A	0.00		SBL/T/R
		Overall	-	0.06		EBL/R
Driveway #1 Ingress/Egress #1 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.05		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.05		EBL/R
Driveway #2 Ingress/Egress #2 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.04		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.04		EBL/R
Driveway #4 Ingress/Egress #4 & N Carpenter Rd	Unsignalized (TWSC)	EB	B	0.03		EBL/R
		WB	-	-		-
		NB(L)	A	0.00		NBL
		SB(L)	-	-		-
		Overall	-	0.03		EBL/R
Driveway #5 Longbow Rd & Ingress/Egress #4	Unsignalized (TWSC)	EB	A	0.00		EBL/T/R
		WB	A	0.00		WBL/T/R
		NB(L)	A	0.04		NBL/T/R
		SB(L)	A	0.02		SBL/T/R
		Overall	-	0.04		NBL/T/R
Driveway A London Tower Rd & Pod 1 Connection	Unsignalized (TWSC)	EB	-	-		-
		WB	A	0.01		WBL/T
		NB(L)	A	0.01		NBL/R
		SB(L)	-	-		-
		Overall	-	0.01		WBL/T
Driveway B London Tower Rd & Pod 4 Connection	Unsignalized (TWSC)	EB	A	0.00		EBL/T
		WB	-	-		-
		NB(L)	-	-		-
		SB(L)	B	0.01		SBL/R
		Overall	-	0.01		SBL/R
Driveway C London Tower Rd & Pod 1/Pod 4 Connection	Unsignalized (TWSC)	EB	A	0.00		EBL/T/R
		WB	A	0.02		WBL/T/R
		NB(L)	A	0.03		NBL
		SB(L)	B	0.03		SBL/T/R
		Overall	-	0.03		SBL/T/R
Driveway D Pod 3 Connection & Arnold Palmer Dr	Unsignalized (TWSC)	EB	A	0.01		EBT/R
		WB	A	0.01		WBL/T
		NB(L)	-	-		-
		SB(L)	-	-		-
		Overall	-	0.01		WBL/T

Table 19: Buildout with Improvement (2030) Intersection Conditions (AM Peak Hour)

Buildout with Improvements Condition - 2030							
Intersection		Control Type	Improvement	Approach	AM Peak Hour		
					Max Level of Service	Max V/C Ratio	Max V/C Movement
2	Carpenter Rd & SR 46	Signalized	Signal timing adjustments	EB	D	0.91	EBT/R
				WB	C	0.64	WBL
				NB	E	0.93	NBT/R
				SB	D	0.74	SBL
				Overall	D (45.2 s)	0.93	NBT/R

7.0 DRIVEWAY TURN LANE ANALYSIS

The need for exclusive ingress left-turn and right-turn lanes at the proposed study intersections on N Carpenter Road were evaluated using the National Cooperative Highway Research Program (NCHRP) Report 457 thresholds.

- Study Intersection #1: N Carpenter Rd & London Town Rd
- Driveway #1: N Carpenter Rd & Ingress/Egress #1
- Driveway #2: N Carpenter Rd & Ingress/Egress #2
- Driveway #4: N Carpenter Rd & Ingress/Egress #4

The need for exclusive right-turn lanes at the four (4) full access intersections on N Carpenter Road was determined by comparing the right turning volumes with the approach volumes. Based on the project volumes shown in **Figures 8 and 9** and thresholds specified by the NCHRP Report 457, a right turn is not warranted by any of the intersections along N Carpenter Road.

The need for exclusive left-turn lanes at the four (4) full access intersections on N Carpenter Road was determined by comparing the percent left turning volume with the advancing and opposing volumes. Based on the project volumes shown in **Figures 8 and 9** and thresholds specified by the NCHRP Report 457, a left turn is not warranted by any of the intersections along N Carpenter Road.

NCHRP outputs are provided in **Appendix J**.

8.0 CONCLUSION

This traffic impact analysis was performed to analyze and document the transportation impacts associated with the buildout of the proposed Sherwood Golf Club PUD development located in the southwest quadrant of Interstate 95 and State Road 46 in Brevard County. The development will consist of the following:

- 228 Townhomes (Pod 1)
- 41 Single-family homes (Pod 3)
- 158 Townhomes (Pod 4)
- 178 Apartment Units (Pod 5)

Pod 1 is proposed for buildout in 2026, with the remaining Pods proposed for buildout in 2030. Access to the site will be provided via intersections on London Fog Road, Arnold Palmer Drive, Long Bow Drive, and Carpenter Road.

The proposed development is anticipated to generate a total of 4,501 daily trips, 300 AM peak hour trips (74 inbound and 226 outbound), and 364 PM peak hour trips (220 inbound and 144 outbound) based on data from the ITE *Trip Generation Manual*. Project trips were distributed onto the surrounding roadway network using the adopted regional travel demand model and manual assignment at the study area intersections.

A roadway segment capacity analysis was performed for the study area roadway segments for existing, background, and buildout conditions. All study area roadway segments are anticipated to operate within their maximum service volume under existing, background, and buildout conditions. No roadway segment capacity deficiencies were identified.

An operational analysis for existing and background conditions was performed at the study area intersections. Under existing (2024) and background (2026 and 2030) AM and PM peak hour conditions, all intersections are expected to operate at an acceptable LOS with acceptable v/c ratios with the exception of the northbound approach of SR 46 & I-95 NB Ramp, which operates at LOS F but with acceptable v/c ratios. Therefore, improvements are not recommended at this intersection.

Under buildout (2026) AM and PM peak hour conditions, all study area intersections operate at an acceptable LOS and v/c ratio. No deficiencies were identified as a result of the proposed Pod 1 development under buildout (2026) conditions.

Under buildout (2030) AM and PM peak hour conditions, all study area intersections operate at an acceptable LOS and v/c ratio, with the exception of the new deficiency at the intersection of N Carpenter Road & SR 46. To mitigate this deficiency, signal timing adjustments are recommended at this intersection during the AM peak hour. With the proposed improvement, no additional new deficiencies were identified as a result of the proposed development. The signal timings adjustments are needed when buildout of Pods 3, 4, and 5 is 80% (= 82/102) complete.

The need for exclusive ingress right-turn lanes and left-turn lanes at the full access project driveways on N Carpenter Road was evaluated based on the National Cooperative Highway Research Program (NCHRP) Report 457 thresholds. No turn lanes are warranted at any project driveways.

APPENDIX A

Methodology Statement

Miller, Erika (Shellenberger)

From: Figueroa-Chanza, Veronica <Veronica.Figueroa-Chanza@brevardfl.gov>
Sent: Wednesday, May 15, 2024 12:00 PM
To: Miller, Erika (Shellenberger)
Cc: Gumm, Corrina; Taylor, James; Johnson, William; Swanson, Devin A; Gilliam, Trina; Hill, Brian K
Subject: RE: Sherwood PUD 23SP00016 [Traffic Impact Analysis Methodology]
Attachments: Sherwood PUD-TIA Methodology BCTO Comments(2024.05.15).pdf

Categories: External

Erika,

Brevard County has completed the review of the Sherwood PUD Traffic Impact Analysis (TIA) Methodology and provided comments in the attached letter.

Please let me know if you have any questions.

Regards,
Verónica

Verónica M. Figueroa-Chanza, PE
Transportation Engineer
Traffic Operations | Brevard County Public Works
☎ 321-455-1440 | veronica.figueroa-chanza@brevardfl.gov

From: Miller, Erika (Shellenberger) <Erika.Miller@kimley-horn.com>
Sent: Wednesday, May 8, 2024 4:50 PM
To: Figueroa-Chanza, Veronica <Veronica.Figueroa-Chanza@brevardfl.gov>
Cc: Gumm, Corrina <corrina.gumm@brevardfl.gov>; Taylor, James <James.Taylor@kimley-horn.com>
Subject: RE: Sherwood PUD 23SP00016

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Veronica,

Based on your recommendation to have the County review the TIA Methodology again, see below the updated TIA Methodology for the Sherwood PUD development. The development program has been significantly reduced (from 796 units to 605 units) and the site plan has been modified to address County comments and local feedback. In addition, County traffic comments (dated 10.19.23) were incorporated into this methodology and will be resolved in the forthcoming TIA.

Land Use and Access

The proposed Sherwood PUD development (latest site plan attached) is anticipated to consist of the following:

- Pod 1 – 228 Townhomes
- Pod 2 – Open Space
- Pod 3 – 41 Single-Family Homes

- Pod 4 – 158 Townhomes
- Pod 5 – 178 Apartments
- Total = 605 Residential Units
- In the previously submitted TIA (dated September 2023), 796 residential units were proposed.

Access to each Pod is proposed in the following locations (latest site plan attached):

- Pod 1
 - o Direct Access to Carpenter Road (#4 on site plan)
 - o Two (2) Direct Access Points to London Town Road
 - o Direct Access to Tamworth Street (#5 on site plan)
- Pod 2
 - o None
- Pod 3
 - o Direct Access to Arnold Palmer Drive
- Pod 4
 - o Two (2) Direct Access Points to London Town Road
 - o Cross Access to Carpenter Road (#2 on site plan)
- Pod 5
 - o Two (2) Direct Access Points to Carpenter Road (#1 and #2 on site plan)

Trip Generation

The table below provides the daily, AM peak hour, and PM peak hour trip generation summary for the project. The proposed development is anticipated to generate 4,501 daily trips, 300 AM peak hour trips (74 in, 226 out), and 364 PM peak hour trips (220 in, 144 out). This is a significant reduction compared to the trip generation for the previously completed analysis.

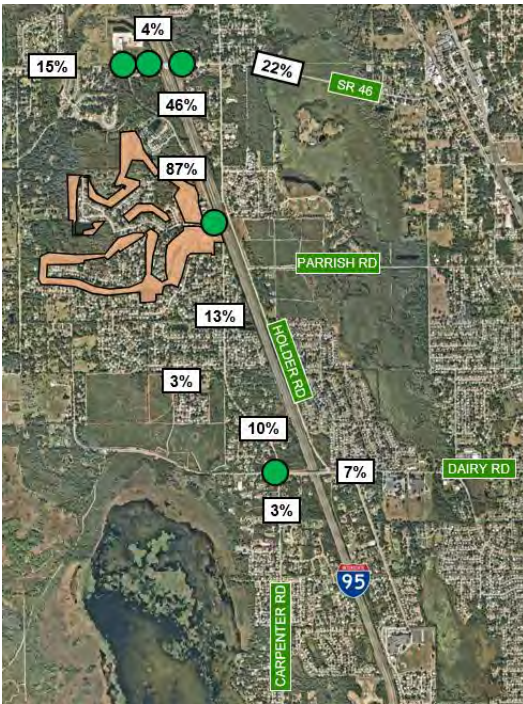
Completed analysis:

Daily	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	Daily				
							Total	In ¹		Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 7.62 * X - 50.48$	1,687	50%	843	50%	844
	3	Single-Family Detached Housing	210	41	DU	$\ln(T) = 0.92 * \ln(X) + 2.68$	444	50%	222	50%	222
	4	Single-Family Attached Housing	215	158	DU	$T = 7.62 * X - 50.48$	1154	50%	577	50%	577
	5	Multifamily Housing (Low-Rise)	220	178	DU	$T = 6.41 * X + 75.31$	1216	50%	608	50%	608
	Total Generated Trips						4,501	2,250		2,251	
AM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	AM Peak Hour				
							Total	In ¹		Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 0.52 * X - 5.70$	113	25%	28	75%	85
	3	Single-Family Detached Housing	210	41	DU	$\ln(T) = 0.91 * \ln(X) + 0.12$	33	25%	8	75%	25
	4	Single-Family Attached Housing	215	158	DU	$T = 0.52 * X - 5.70$	76	25%	19	75%	57
	5	Multifamily Housing (Low-Rise)	220	178	DU	$T = 0.31 * X + 22.85$	78	24%	19	76%	59
	Total Generated Trips						300	74		226	
PM Peak Hour	POD	Land Use	ITE LUC ¹	Size	Units	Trip Generation Equation	PM Peak Hour				
							Total	In ¹		Out ¹	
	1	Single-Family Attached Housing	215	228	DU	$T = 0.60 * X - 3.93$	133	50%	78	41%	55
	3	Single-Family Detached Housing	210	41	DU	$\ln(T) = 0.94 * \ln(X) + 0.28$	43	63%	27	37%	16
	4	Single-Family Attached Housing	215	158	DU	$T = 0.60 * X - 3.93$	91	50%	54	41%	37
	5	Multifamily Housing (Low-Rise)	220	178	DU	$T = 0.43 * X + 20.55$	97	63%	61	37%	36
	Total Generated Trips						364	220		144	

Note: ¹Vehicle trip rate and directional split per ITE, Trip Generation, 7th Edition

Trip Distribution (no change from the previously approved TIA Methodology)

Projected traffic demand of project trips on study roadways and intersections will be derived with use of the previously used adopted regional travel demand model. The distribution internal to the site will be modified to reflect the new land use and access, but the general distribution will not be modified, as shown below. The trip distribution figure included in the TIA will include all driveway connections.



Study Area (no change from the previous TIA, w/additional intersections noted below to address TIA comments)
 To provide a conservative and consistent analysis, the study area for this analysis will remain the same as in the previously completed TIA. Under buildout conditions, all driveway connections to County right-of-way will be analyzed. The study area segments and intersections are outlined below:

Study Area Roadway Segments

- 183 N Carpenter Rd from Dairy to SR-46
- 184 N Carpenter Rd from Garden to Dairy
- 188 N Carpenter Rd from Fox Lake to Garden
- 185 Dairy Rd from Carpenter to Holder
- 523 Dairy Rd from Holder to Singleton
- 186 Dairy Rd from Singleton to Old Dixie
- 199 SR 46 from I-95 to US 1
- 200 SR 46 from Fawn Lake to I-95
- 201 SR 46 from Volusia County to Fawn Lake
- 202 SR 406 (Garden Street) from I-95 to Singleton
- 203 SR 406 (Garden Street) from Singleton to Park
- 595 SR 406 (Garden Street) from Carpenter to I-95
- 240 Old Dixie from Dairy to Parker
- 241 Parrish from Singleton to US 1
- 242 Parrish from Holder to Singleton

Study Area Intersections

- N Carpenter Rd & London Town Rd (Ingress/Egress #3 on site plan)
- N Carpenter Rd & SR 46
- N Carpenter Rd & Dairy Rd
- SR 46 & I-95 NB Ramp
- SR 46 & I-95 SB Ramp
- N Carpenter Rd & Ingress/Egress #1
- N Carpenter Rd & Ingress/Egress #2
- N Carpenter Rd & Ingress/Egress #4
- Tamworth & Longbow (Ingress/Egress #5) – ADDED SINCE PREVIOUS TIA

- N Carpenter Rd & Longbow Dr – ADDED SINCE PREVIOUS TIA
- London Tower Rd & Pod 1/Pod 4 Connection
- Arnold Palmer Dr & Pod 3 Connection – ADDED SINCE PREVIOUS TIA

Analysis Periods (no change from the previous TIA, except buildout year of Pod 1 updated to 2026 and phase analysis updated to staff preference to address TIA comments)

Similar to the previously completed TIA, the segment analysis will be completed for daily and PM peak hour conditions. The intersection analysis will be completed for AM and PM peak hour conditions. Existing conditions will be analyzed for 2024, the year the traffic counts will be collected. A background and buildout (2026) condition will be analyzed for Pod 1, as Pod 1 is anticipated for buildout in 2026. The specifics and timing of buildout of the other pods is unknown at this time, but buildout of the total development is anticipated in 2030. So, an ultimate background and buildout (2030) scenario will be analyzed. The Pod 1 trips will be considered as vested trips in the background in the 2030 analysis. As determined in the previously completed methodology and analysis, a 2% annual growth rate will be used to determine future year volumes.

All analysis and findings will be documented in a report to be provided to Brevard County for review. Any operational deficiencies will be identified. If necessary, mitigating measures for any operational deficiencies identified due to project traffic impact will be recommended in the TIA. A volume threshold or percentage of total buildout will be specified if any improvements are warranted.

Please let us know if you have any comments or need to discuss further. Otherwise, we will proceed with the TIA as documented above. Thank you!

Erika (Shellenberger) Miller, P.E.

Kimley-Horn | 200 South Orange Ave, Suite 600, Orlando, FL 32801

Direct: 689 206 9002

From: Miller, Erika (Shellenberger)

Sent: Tuesday, April 23, 2024 2:56 PM

To: Figueroa-Chanza, Veronica <Veronica.Figueroa-Chanza@brevardfl.gov>

Cc: Gumm, Corrina <corrina.gumm@brevardfl.gov>; Taylor, James <James.Taylor@kimley-horn.com>

Subject: RE: Sherwood PUD 23SP00016

Veronica,

Understood. When we revise the Sherwood analysis, we will use counts collected no more than one year prior to the analysis. In addition, we will coordinate with the County prior to proceeding with the analysis.

Thank you for coordinating with us on this!

Erika (Shellenberger) Miller, E.I.

Kimley-Horn | 200 South Orange Ave, Suite 600, Orlando, FL 32801

Direct: 689 206 9002

From: Figueroa-Chanza, Veronica <Veronica.Figueroa-Chanza@brevardfl.gov>

Sent: Tuesday, April 23, 2024 8:50 AM

To: Miller, Erika (Shellenberger) <Erika.Miller@kimley-horn.com>

Cc: Gumm, Corrina <corrina.gumm@brevardfl.gov>

Subject: Sherwood PUD 23SP00016

Good morning Erika,

I'm returning your call regarding Sherwood. Please use counts collected no more than one year prior to the analysis.

I understand that the site plan has changed. The County strongly encourages a revised methodology letter to facilitate concurrence between the Engineer and the Review Engineer on trip generation, trip distribution, analysis extent, analysis periods, and other items applicable to the development prior to proceeding with the analysis.

Regards,
Verónica

Verónica M. Figueroa-Chanza, PE

Transportation Engineer

Traffic Operations | Brevard County Public Works

☎ 321-455-1440 | veronica.figueroa-chanza@brevardfl.gov

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BOARD OF COUNTY COMMISSIONERS

**Public Works Department
Traffic Operations Program**

2725 Judge Fran Jamieson Way
Building A, Room 211

May 15, 2024

James M. Taylor, PE
Kimley-Horn, Inc.
189 S Orange Ave, Suite 1000
Orlando, FL 32901
Via Email: james.taylor@kimley-horn.com

Re: 23SP00016 Sherwood Golf Club PUD – Traffic Impact Analysis Methodology

Dear Mr. Taylor:

Brevard County Traffic Engineering is in receipt of the updated Sherwood Golf Club PUD Park Traffic Impact Analysis (TIA) methodology received on May 8, 2024. In response to this submittal, County review comments are provided below:

Land Use and Access

- 1) Coordinate with Fire and confirm that staff has agreed to the number and location of proposed project driveways.
- 2) Coordinate with William Johnson, PE regarding the number and location of proposed project driveways along County right-of-way. Connection spacing shall meet Florida Statutes.

Trip Generation and Distribution

- 3) Provide a phased trip generation.
- 4) Provide a diagram that shows the project trip distribution as a percentage of total daily project traffic for each movement at all proposed driveways with the methodology once the number and location of the access points have been finalized.

Study Area

- 5) Analyze London Town Rd.
- 6) County agrees that all driveway connections to County right-of-way must be analyzed under buildout conditions. Existing driveways (e.g., London Town Rd & Pod 1 Connection to the west appears to be existing) must be analyzed under existing conditions. Any driveways planned for the background year must be analyzed under background and buildout conditions.
- 7) Additional segments and intersections may be required to be analyzed based on comments #1, #2, and #4.

Analysis Periods

- 8) Per Brevard County Guidelines on Minimum Requirements for Traffic Impact Analyses, “studies for multi-phased developments, which fall under section III.C.2.b, will provide analyses for the

completion year of each major phase of development assuming full build-out and occupancy. Each analysis will be provided as a separate section of the report.”

Growth Rates

- 9) As this is a new analysis, background traffic shall be developed using Annual Growth Rates by either applying a minimum growth factor or calculating the annual growth rate of the roadway, or adjacent roadway, using TPO historical count data, whichever is greater. The minimum growth factor shall be calculated using the latest Bureau of Economic and Business Research Projections of Florida Population by County and based on the proposed build-out year using the “Medium” series of projections.

Should you have any questions, please contact me at 321-633-2077.

Best regards,

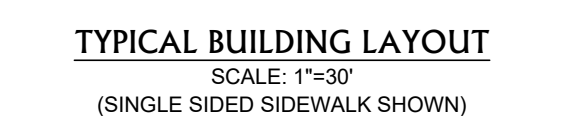
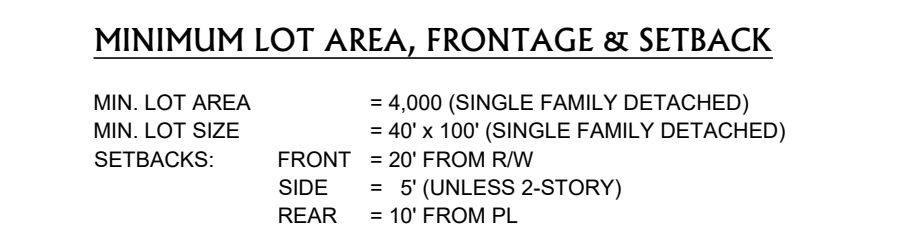
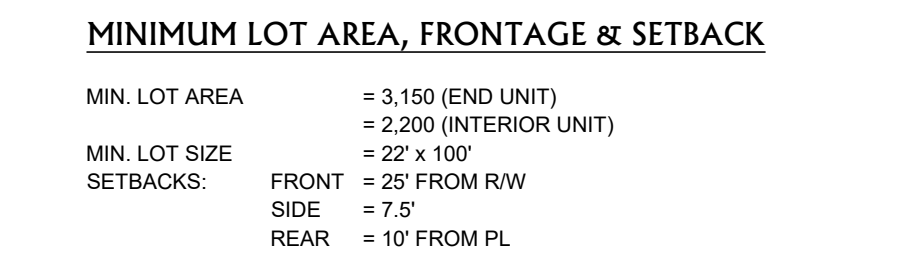
Verónica M. Figueroa-Chanza
Verónica M. Figueroa-Chanza, PE
Transportation Engineer

Cc: Corrina Gumm, PE, Traffic Operations Manager
Devin Swanson, Engineer II
William Johnson, PE, Engineer III
Trina Gilliam, MSURP, Senior Planner
Brian K. Hill, Assistant Fire Marshal



APPENDIX B

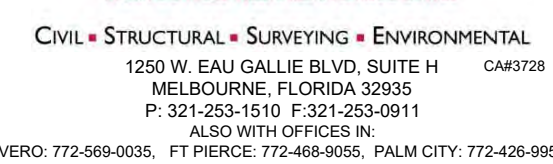
Concept Site Plan



SCALE 1" = 200'

SITE DIVISION EXHIBIT

May 10, 2024



ALL INFRASTRUCTURE AND OPEN SPACE AMENITIES MUST BE PROVIDED CONCURRENTLY WITH THE DEVELOPMENT OF EACH PHASE (POD) OF DEVELOPMENT. PHASES MAY BE OUT OF SEQUENTIAL ORDER SUCH THAT THE OPEN SPACE, ACCESS, AND OTHER APPLICABLE CRITERIA ARE MET FOR EACH PHASE (POD).

APPENDIX C

Turning Movement Counts



(303) 216-2439
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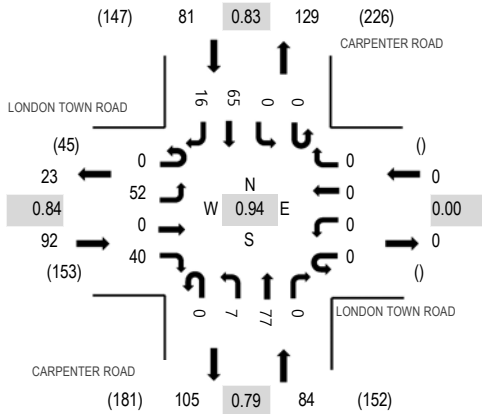
Location: 1 CARPENTER ROAD & LONDON TOWN ROAD AM

Date: Wednesday, May 8, 2024

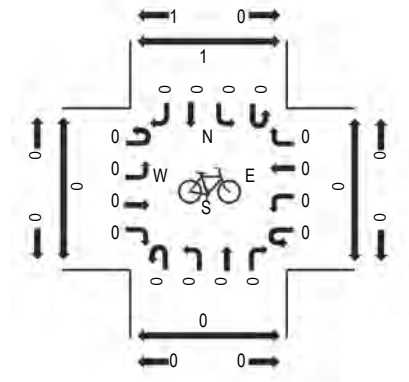
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

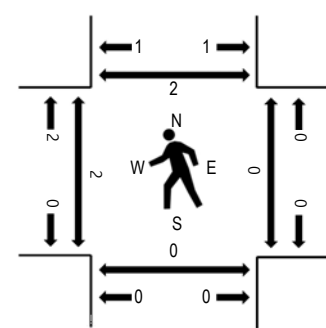
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LONDON TOWN ROAD Eastbound				LONDON TOWN ROAD Westbound				CARPENTER ROAD Northbound				CARPENTER ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	14	0	6	0	0	0	0	0	0	22	0	0	0	8	3	53	248	0	0	0	0
7:15 AM	0	17	0	11	0	0	0	0	0	2	23	0	0	0	12	1	66	257	1	0	0	1
7:30 AM	0	16	0	13	0	0	0	0	0	1	10	0	0	0	16	5	61	236	0	0	0	0
7:45 AM	0	13	0	7	0	0	0	0	0	2	25	0	0	0	16	5	68	225	1	0	0	1
8:00 AM	0	6	0	9	0	0	0	0	0	2	19	0	0	0	21	5	62	204	0	0	0	0
8:15 AM	0	9	0	6	0	0	0	0	0	0	12	0	0	0	14	4	45		1	0	0	0
8:30 AM	0	7	0	4	0	0	0	0	0	4	20	0	0	0	12	3	50		0	0	0	0
8:45 AM	0	6	0	9	0	0	0	0	0	3	7	0	0	0	17	5	47		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Lights	0	49	0	38	0	0	0	0	0	7	76	0	0	0	64	14	248
Mediums	0	2	0	2	0	0	0	0	0	0	1	0	0	0	0	1	6
Total	0	52	0	40	0	0	0	0	0	7	77	0	0	0	65	16	257

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		5.4%				0.0%				1.2%				3.7%			3.5%
Heavy Vehicle %	0.0%	5.8%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	1.5%	12.5%	3.5%
Peak Hour Factor		0.84				0.00				0.79				0.83			0.94
Peak Hour Factor	0.00	0.88	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.56	0.80	0.00	0.00	0.00	0.80	0.95	0.94



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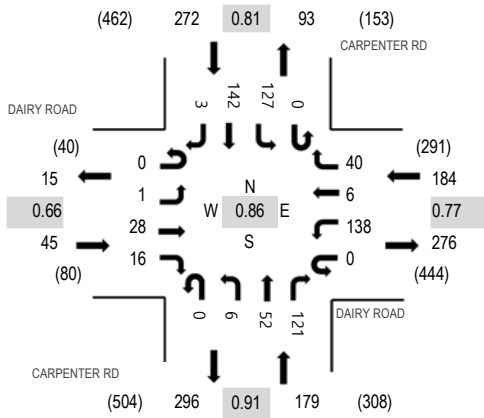
Location: 3 CARPENTER RD & DAIRY ROAD AM

Date: Wednesday, May 8, 2024

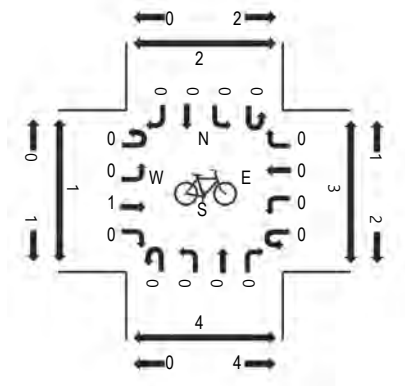
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Peak 15-Minutes: 07:45 AM - 08:00 AM

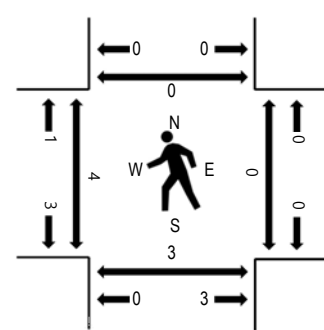
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DAIRY ROAD Eastbound				DAIRY ROAD Westbound				CARPENTER RD Northbound				CARPENTER RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	1	4	0	16	3	4	0	0	6	15	0	15	33	0	98	633	0	0	2	0
7:15 AM	0	0	6	8	0	21	3	3	0	2	8	32	0	28	32	0	143	665	0	0	0	0
7:30 AM	0	0	8	6	0	49	4	7	0	1	8	40	0	26	46	0	195	680	4	0	2	0
7:45 AM	0	0	4	5	0	40	1	12	0	1	17	31	0	35	51	0	197	600	0	0	1	0
8:00 AM	0	1	3	1	0	15	0	12	0	2	18	18	0	33	25	2	130	508	0	0	0	0
8:15 AM	0	0	13	4	0	34	1	9	0	2	9	32	0	33	20	1	158		0	0	0	0
8:30 AM	0	0	3	2	0	19	5	8	0	4	13	19	0	12	29	1	115		0	0	0	0
8:45 AM	0	0	3	7	0	15	4	6	0	3	11	16	0	18	22	0	105		0	0	2	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Lights	0	1	28	16	0	135	5	39	0	6	52	120	0	124	141	3	670
Mediums	0	0	0	0	0	3	1	1	0	0	0	1	0	3	0	0	9
Total	0	1	28	16	0	138	6	40	0	6	52	121	0	127	142	3	680

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				2.7%				0.6%				1.5%				1.5%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%	16.7%	2.5%	0.0%	0.0%	0.0%	0.8%	0.0%	2.4%	0.7%	0.0%	1.5%
Peak Hour Factor	0.66				0.77				0.91				0.81				0.86
Peak Hour Factor	0.00	0.25	0.54	0.72	0.00	0.70	0.69	0.85	0.00	0.69	0.79	0.76	0.00	0.91	0.79	0.50	0.86



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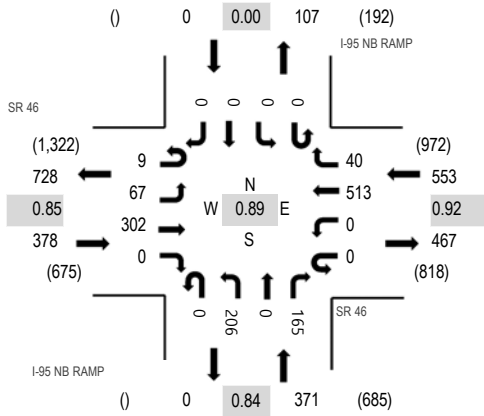
Location: 4 I-95 NB RAMP & SR 46 AM

Date: Wednesday, May 8, 2024

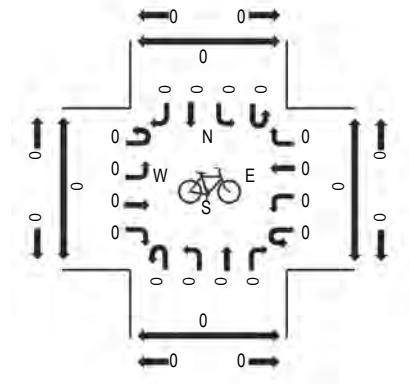
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

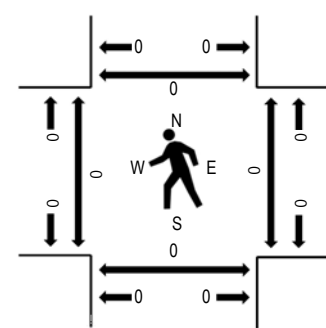
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 46 Eastbound				SR 46 Westbound				I-95 NB RAMP Northbound				I-95 NB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	2	16	66	0	0	0	129	8	0	45	0	46	0	0	0	0	312	1,302	0	0	0	0
7:15 AM	4	23	84	0	0	0	125	13	0	41	0	32	0	0	0	0	322	1,268	0	0	0	0
7:30 AM	1	16	62	0	0	0	116	11	0	62	0	35	0	0	0	0	303	1,198	0	0	0	0
7:45 AM	2	12	90	0	0	0	143	8	0	58	0	52	0	0	0	0	365	1,141	0	0	0	0
8:00 AM	5	19	55	0	0	0	115	8	0	48	0	28	0	0	0	0	278	1,030	0	0	0	0
8:15 AM	1	9	66	0	0	0	96	5	0	48	0	27	0	0	0	0	252		0	0	0	0
8:30 AM	1	11	49	0	0	0	93	8	0	51	1	32	0	0	0	0	246		0	0	0	0
8:45 AM	1	18	62	0	0	0	88	6	0	47	0	32	0	0	0	0	254		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	11	3	0	0	0	6	4	0	18	0	4	0	0	0	0	46
Lights	9	54	291	0	0	0	482	36	0	175	0	150	0	0	0	0	1,197
Mediums	0	2	8	0	0	0	25	0	0	13	0	11	0	0	0	0	59
Total	9	67	302	0	0	0	513	40	0	206	0	165	0	0	0	0	1,302

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		6.3%				6.3%				12.4%				0.0%			8.1%
Heavy Vehicle %	0.0%	19.4%	3.6%	0.0%	0.0%	0.0%	6.0%	10.0%	0.0%	15.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	8.1%
Peak Hour Factor		0.85				0.92				0.84				0.00			0.89
Peak Hour Factor	0.60	0.76	0.84	0.00	0.00	0.00	0.90	0.77	0.00	0.87	0.25	0.79	0.00	0.00	0.00	0.00	0.89



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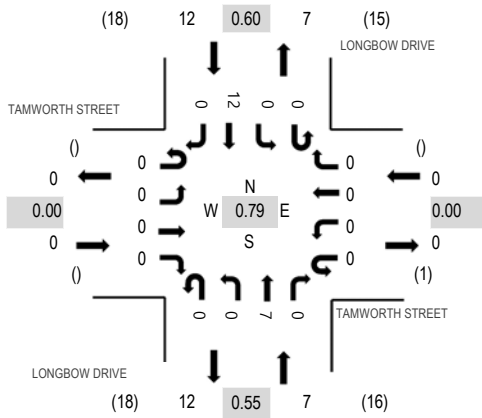
Location: 6 LONGBOW DRIVE & TAMWORTH STREET AM

Date: Wednesday, May 8, 2024

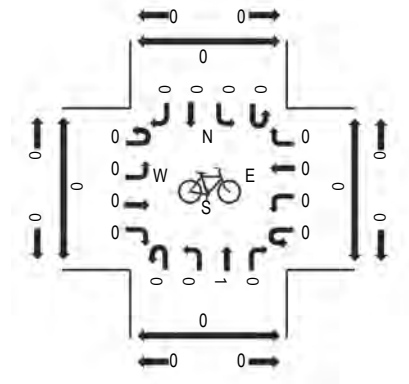
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

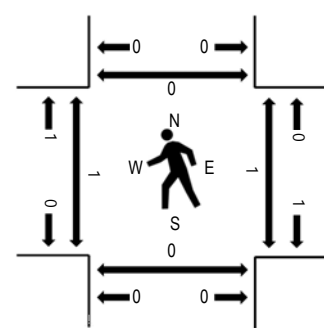
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	TAMWORTH STREET				TAMWORTH STREET				LONGBOW DRIVE				LONGBOW DRIVE				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	15	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	17	1	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	6	19	0	1	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	15	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	19	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4		1	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	2	0	7		1	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	0	0	0	0	0	0	0	0	6	0	0	0	12	0	18
Mediums	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	7	0	0	0	12	0	19

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.60	0.00	0.00	0.79
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.25	0.00	0.00	0.60	0.00	0.79



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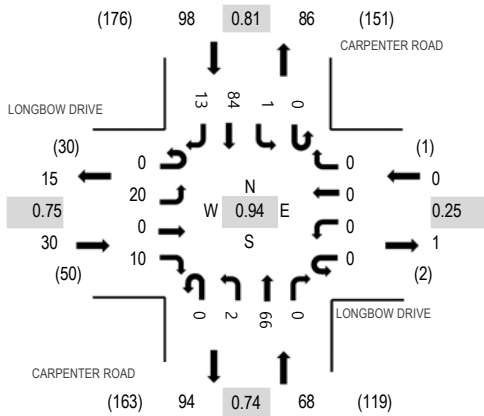
Location: 7 CARPENTER ROAD & LONGBOW DRIVE AM

Date: Wednesday, May 8, 2024

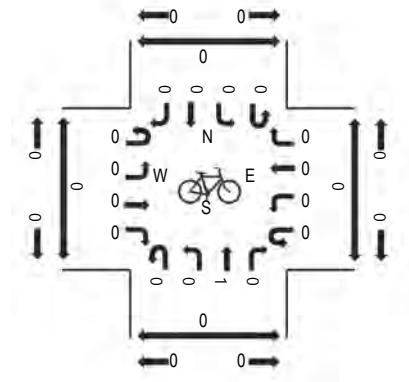
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

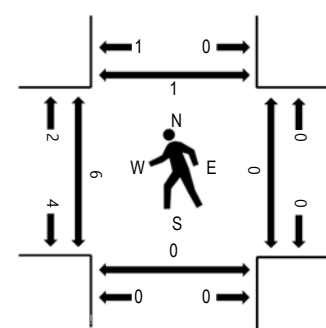
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LONGBOW DRIVE Eastbound				LONGBOW DRIVE Westbound				CARPENTER ROAD Northbound				CARPENTER ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	6	0	1	0	0	0	0	0	0	15	0	0	0	14	1	37	182	0	0	0	0
7:15 AM	0	5	0	0	0	0	0	0	0	0	21	0	0	1	16	3	46	196	0	0	0	1
7:30 AM	0	3	0	5	0	0	0	0	0	0	8	0	0	0	29	2	47	187	4	0	0	0
7:45 AM	0	6	0	1	0	0	0	0	0	2	21	0	0	0	20	2	52	179	2	0	0	0
8:00 AM	0	6	0	4	0	0	0	0	0	0	16	0	0	0	19	6	51	164	0	0	0	0
8:15 AM	0	1	0	3	0	0	0	0	0	1	9	0	0	0	18	5	37		0	0	0	0
8:30 AM	0	6	0	0	0	0	0	1	0	0	17	0	0	0	13	2	39		1	0	0	0
8:45 AM	0	2	0	1	0	0	0	0	0	1	8	0	0	1	19	5	37		1	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Lights	0	19	0	10	0	0	0	0	0	2	66	0	0	1	83	11	192
Mediums	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
Total	0	20	0	10	0	0	0	0	0	2	66	0	0	1	84	13	196

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		3.3%				0.0%				0.0%				3.1%			2.0%
Heavy Vehicle %	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	15.4%	2.0%
Peak Hour Factor		0.75				0.25				0.74				0.81			0.94
Peak Hour Factor	0.00	0.83	0.00	0.65	0.00	0.00	0.00	0.25	0.00	0.38	0.79	0.00	0.00	0.25	0.74	0.75	0.94



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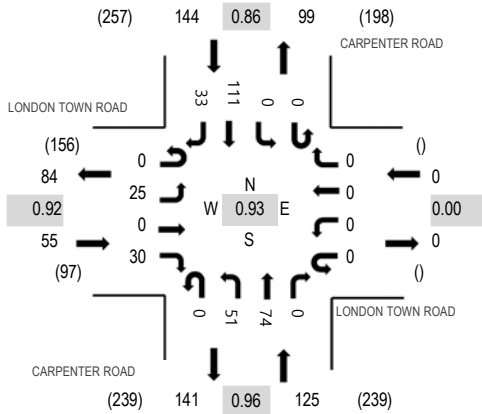
Location: 1 CARPENTER ROAD & LONDON TOWN ROAD PM

Date: Wednesday, May 8, 2024

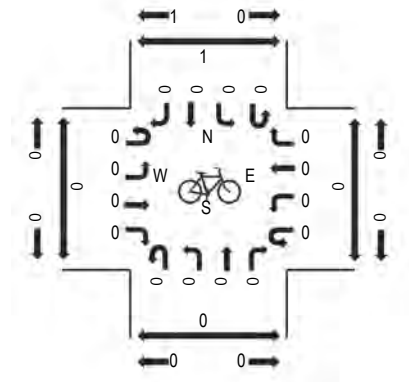
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

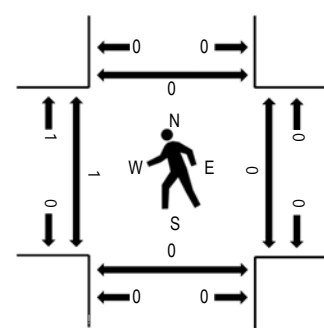
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LONDON TOWN ROAD				LONDON TOWN ROAD				CARPENTER ROAD				CARPENTER ROAD				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	6	0	6	0	0	0	0	0	8	20	0	0	0	21	7	68	279	0	0	0	0
4:15 PM	0	4	0	5	0	0	0	0	0	6	16	0	0	0	12	8	51	284	0	0	0	0
4:30 PM	0	5	0	7	0	0	0	0	0	11	19	0	0	0	22	12	76	320	0	0	0	0
4:45 PM	0	5	0	8	0	0	0	0	0	16	18	0	0	0	29	8	84	324	0	0	0	0
5:00 PM	0	8	0	6	0	0	0	0	0	17	16	0	0	0	22	4	73	314	0	0	0	0
5:15 PM	0	9	0	6	0	0	0	0	0	8	25	0	0	0	29	10	87		1	0	0	0
5:30 PM	0	3	0	10	0	0	0	0	0	10	15	0	0	0	31	11	80		0	0	0	0
5:45 PM	0	5	0	4	0	0	0	0	0	10	24	0	0	0	21	10	74		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	25	0	28	0	0	0	0	0	49	72	0	0	0	109	32	315
Mediums	0	0	0	2	0	0	0	0	0	2	2	0	0	0	2	1	9
Total	0	25	0	30	0	0	0	0	0	51	74	0	0	0	111	33	324

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	3.6%				0.0%				3.2%				2.1%				2.8%
Heavy Vehicle %	0.0%	0.0%	0.0%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	2.7%	0.0%	0.0%	0.0%	1.8%	3.0%	2.8%
Peak Hour Factor	0.92				0.00				0.96				0.86				0.93
Peak Hour Factor	0.00	0.75	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.76	0.80	0.00	0.00	0.00	0.90	0.73	0.93



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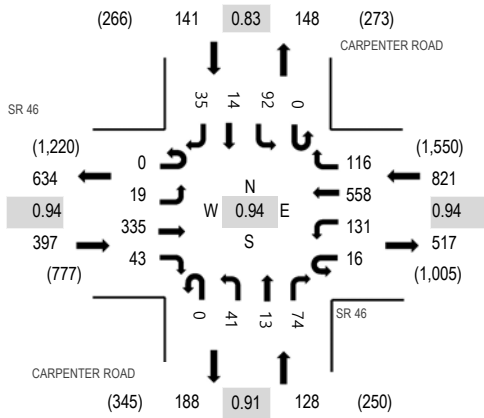
Location: 2 CARPENTER ROAD & SR 46 PM

Date: Wednesday, May 8, 2024

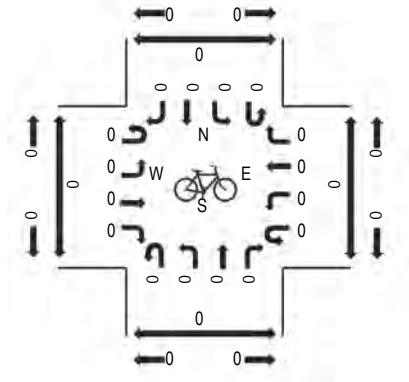
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

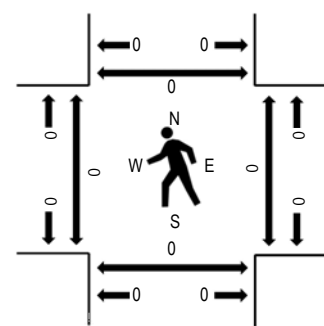
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 46 Eastbound				SR 46 Westbound				CARPENTER ROAD Northbound				CARPENTER ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	4	74	11	4	20	125	29	0	12	4	19	0	17	4	12	335	1,412	1	0	0	1
4:15 PM	0	6	74	9	4	25	137	24	0	12	2	16	0	20	0	5	334	1,443	0	0	0	0
4:30 PM	0	6	83	20	4	35	153	26	0	9	2	18	0	27	3	9	395	1,487	0	0	0	0
4:45 PM	0	3	75	7	5	32	131	34	0	10	3	17	0	20	4	7	348	1,431	0	0	0	0
5:00 PM	0	5	94	9	4	24	127	31	0	11	4	19	0	27	3	8	366	1,431	0	0	0	0
5:15 PM	0	5	83	7	3	40	147	25	0	11	4	20	0	18	4	11	378		0	0	0	0
5:30 PM	0	3	87	10	4	36	108	23	0	8	3	13	0	27	5	12	339		0	0	0	0
5:45 PM	0	4	86	12	3	24	140	23	0	9	0	24	0	16	1	6	348		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	1	6	36	0	0	0	1	0	31	1	0	77
Lights	0	17	319	43	15	129	534	79	0	39	13	71	0	59	11	35	1,364
Mediums	0	2	15	0	1	1	18	1	0	2	0	2	0	2	2	0	46
Total	0	19	335	43	16	131	558	116	0	41	13	74	0	92	14	35	1,487

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		4.5%				7.8%				3.9%				25.5%			8.3%
Heavy Vehicle %	0.0%	10.5%	4.8%	0.0%	6.3%	1.5%	4.3%	31.9%	0.0%	4.9%	0.0%	4.1%	0.0%	35.9%	21.4%	0.0%	8.3%
Peak Hour Factor		0.94				0.94				0.91				0.83			0.94
Peak Hour Factor	0.00	0.83	0.93	0.59	0.85	0.83	0.91	0.85	0.00	0.90	0.88	0.79	0.00	0.87	0.80	0.79	0.94



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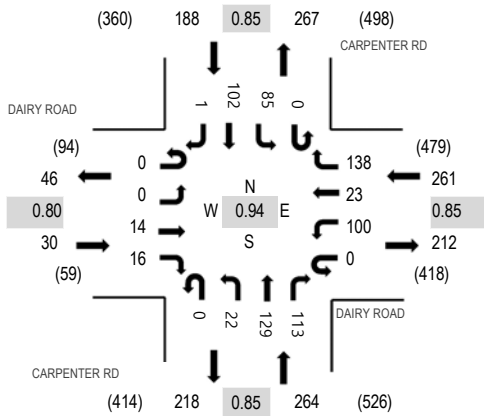
Location: 3 CARPENTER RD & DAIRY ROAD PM

Date: Wednesday, May 8, 2024

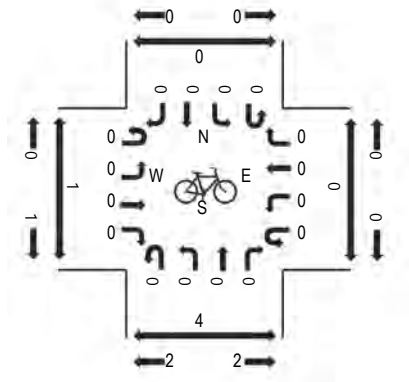
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

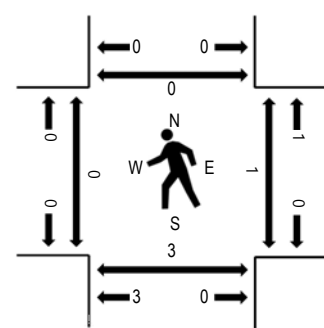
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DAIRY ROAD Eastbound				DAIRY ROAD Westbound				CARPENTER RD Northbound				CARPENTER RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	5	6	0	25	2	25	0	2	33	25	0	18	23	0	164	714	0	0	0	0
4:15 PM	0	0	4	5	0	25	10	33	1	8	26	28	0	17	17	1	175	728	0	0	1	0
4:30 PM	0	0	3	7	0	21	5	30	0	6	40	31	0	24	31	0	198	743	0	1	1	0
4:45 PM	0	0	4	1	0	29	8	43	0	2	26	20	0	19	25	0	177	719	0	0	1	0
5:00 PM	0	0	3	4	0	27	5	36	0	4	25	28	0	25	21	0	178	710	0	0	1	0
5:15 PM	0	0	4	4	0	23	5	29	0	10	38	34	0	17	25	1	190		0	0	0	0
5:30 PM	0	3	2	0	0	21	5	24	0	7	27	30	0	24	31	0	174		0	0	0	0
5:45 PM	0	0	2	2	0	22	5	21	0	8	39	28	0	23	18	0	168		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	14	16	0	98	23	138	0	22	127	109	0	85	99	1	732
Mediums	0	0	0	0	0	2	0	0	0	0	2	4	0	0	3	0	11
Total	0	0	14	16	0	100	23	138	0	22	129	113	0	85	102	1	743

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				0.8%				2.3%				1.6%				1.5%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	1.6%	3.5%	0.0%	0.0%	2.9%	0.0%	1.5%
Peak Hour Factor	0.80				0.85				0.85				0.85				0.94
Peak Hour Factor	0.00	0.25	0.80	0.68	0.00	0.88	0.70	0.83	0.25	0.73	0.81	0.88	0.00	0.89	0.82	0.25	0.94



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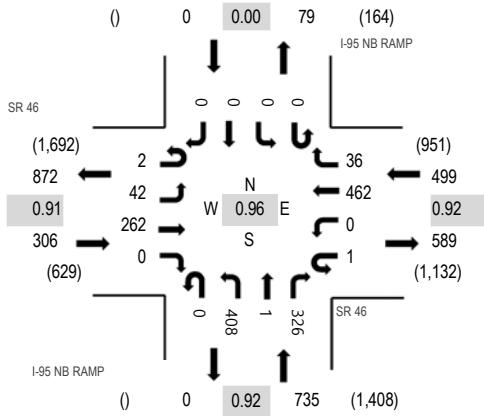
Location: 4 I-95 NB RAMP & SR 46 PM

Date: Wednesday, May 8, 2024

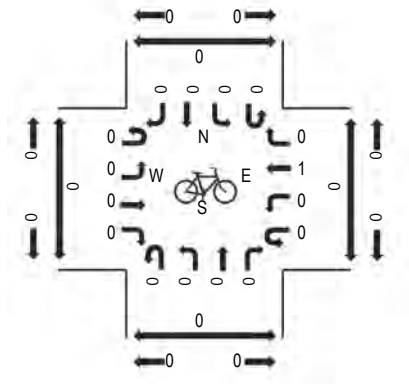
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

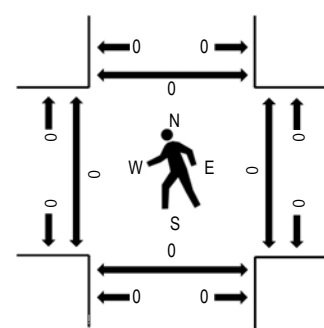
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 46 Eastbound				SR 46 Westbound				I-95 NB RAMP Northbound				I-95 NB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	14	66	0	0	0	111	9	0	95	0	61	0	0	0	0	357	1,496	0	0	0	0
4:15 PM	0	15	59	0	0	0	119	6	0	91	0	74	0	0	0	0	364	1,509	0	0	0	0
4:30 PM	0	12	65	0	0	0	131	9	0	105	0	78	0	0	0	0	400	1,540	0	0	0	0
4:45 PM	0	10	61	0	0	0	119	9	0	95	0	81	0	0	0	0	375	1,508	0	0	0	0
5:00 PM	1	8	69	0	0	0	104	12	0	97	0	79	0	0	0	0	370	1,492	0	0	0	0
5:15 PM	1	12	67	0	1	0	108	6	0	111	1	88	0	0	0	0	395		0	0	0	0
5:30 PM	0	15	63	0	0	0	101	2	0	94	0	93	0	0	0	0	368		0	0	0	0
5:45 PM	1	18	71	0	0	0	98	6	0	109	0	56	0	0	0	0	359		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	12	1	0	0	0	1	2	0	24	0	2	0	0	0	0	42
Lights	2	29	250	0	1	0	455	32	0	376	1	308	0	0	0	0	1,454
Mediums	0	1	11	0	0	0	6	2	0	8	0	16	0	0	0	0	44
Total	2	42	262	0	1	0	462	36	0	408	1	326	0	0	0	0	1,540

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		8.2%				2.2%				6.8%				0.0%			5.6%
Heavy Vehicle %	0.0%	31.0%	4.6%	0.0%	0.0%	0.0%	1.5%	11.1%	0.0%	7.8%	0.0%	5.5%	0.0%	0.0%	0.0%	0.0%	5.6%
Peak Hour Factor		0.91				0.92				0.92				0.00			0.96
Peak Hour Factor	0.75	0.74	0.95	0.00	0.25	0.00	0.92	0.75	0.00	0.93	0.25	0.92	0.00	0.00	0.00	0.00	0.96



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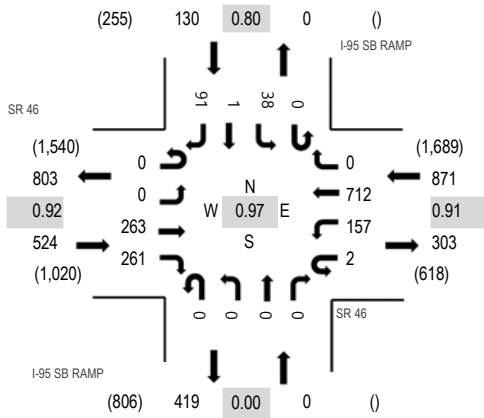
Location: 5 I-95 SB RAMP & SR 46 PM

Date: Wednesday, May 8, 2024

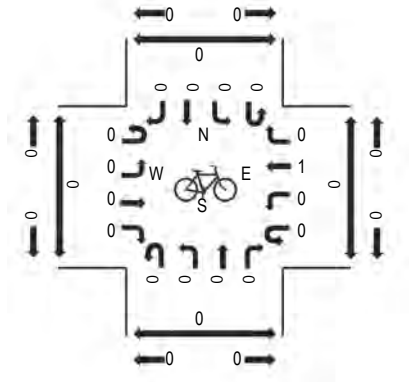
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

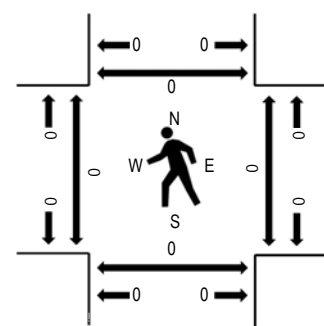
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 46 Eastbound				SR 46 Westbound				I-95 SB RAMP Northbound				I-95 SB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	69	50	0	46	160	0	0	0	0	0	0	12	0	18	355	1,491	0	0	0	0
4:15 PM	0	0	64	54	0	38	172	0	0	0	0	0	0	8	0	27	363	1,507	0	0	0	0
4:30 PM	0	0	62	69	1	41	196	0	0	0	0	0	0	14	0	11	394	1,525	0	0	0	0
4:45 PM	0	0	59	62	1	45	170	0	0	0	0	0	0	10	1	31	379	1,480	0	0	0	0
5:00 PM	0	0	74	70	0	41	153	0	0	0	0	0	0	6	0	27	371	1,473	0	0	0	0
5:15 PM	0	0	68	60	0	30	193	0	0	0	0	0	0	8	0	22	381		0	0	0	0
5:30 PM	0	0	72	54	0	46	147	0	0	0	0	0	0	5	0	25	349		0	0	0	0
5:45 PM	0	0	77	56	0	43	166	0	0	0	0	0	0	8	0	22	372		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	12	21	0	1	26	0	0	0	0	0	0	1	1	16	78
Lights	0	0	241	230	2	154	673	0	0	0	0	0	0	36	0	73	1,409
Mediums	0	0	10	10	0	2	13	0	0	0	0	0	0	1	0	2	38
Total	0	0	263	261	2	157	712	0	0	0	0	0	0	38	1	91	1,525

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		10.1%				4.8%				0.0%				16.2%			7.6%
Heavy Vehicle %	0.0%	0.0%	8.4%	11.9%	0.0%	1.9%	5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	100.0%	19.8%	7.6%
Peak Hour Factor		0.92				0.91				0.00				0.80			0.97
Peak Hour Factor	0.00	0.00	0.94	0.93	0.50	0.92	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.25	0.85	0.97



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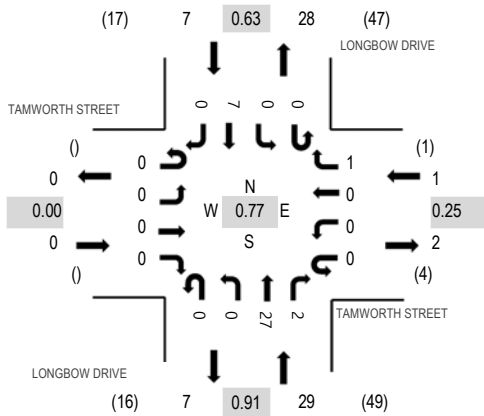
Location: 6 LONGBOW DRIVE & TAMWORTH STREET PM

Date: Wednesday, May 8, 2024

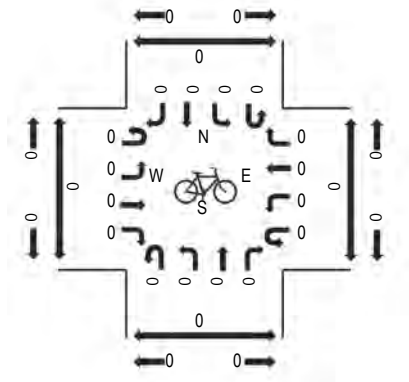
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

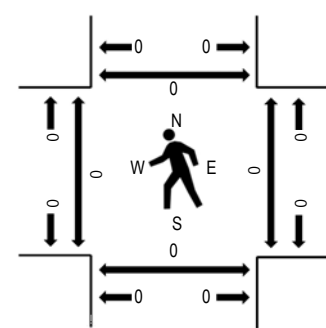
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	TAMWORTH STREET				TAMWORTH STREET				LONGBOW DRIVE				LONGBOW DRIVE				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
4:00 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	4	0	11	30	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	1	1	0	7	26	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	27	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	4	1	0	0	2	0	7	34	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	37	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	7	1	0	0	4	0	12		0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	5	1	0	0	3	0	10		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	0	0	0	0	0	1	0	0	26	2	0	0	7	0	36
Mediums	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	27	2	0	0	7	0	37

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				0.0%				3.4%				0.0%				2.7%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%
Peak Hour Factor	0.00				0.25				0.91				0.63				0.77
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.84	0.50	0.00	0.25	0.56	0.00	0.77



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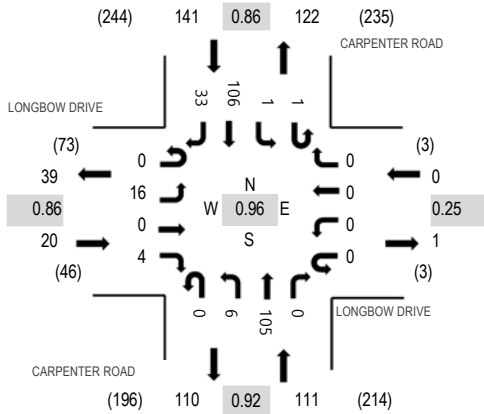
Location: 7 CARPENTER ROAD & LONGBOW DRIVE PM

Date: Wednesday, May 8, 2024

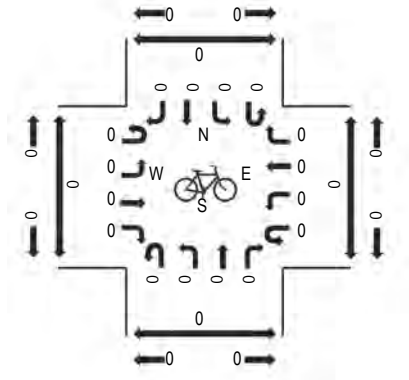
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

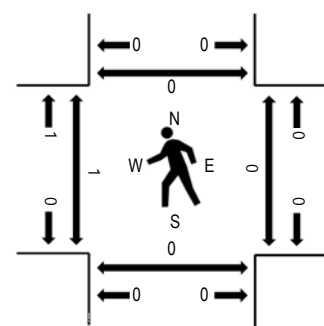
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	LONGBOW DRIVE Eastbound				LONGBOW DRIVE Westbound				CARPENTER ROAD Northbound				CARPENTER ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	2	0	4	0	0	0	0	0	2	23	0	0	0	19	9	59	241	0	0	0	0
4:15 PM	0	3	0	3	0	0	0	0	0	2	21	0	0	0	16	3	48	245	0	0	0	0
4:30 PM	0	3	0	2	0	1	0	0	0	3	25	0	0	1	25	4	64	268	1	0	0	0
4:45 PM	0	6	0	1	0	0	0	0	0	0	27	0	1	0	28	7	70	272	0	0	0	0
5:00 PM	0	2	0	1	0	0	0	0	0	3	28	0	0	0	22	7	63	266	1	0	0	0
5:15 PM	0	4	0	0	0	0	0	0	0	2	30	0	0	0	25	10	71		0	0	0	0
5:30 PM	0	4	0	2	0	0	0	0	0	1	20	0	0	1	31	9	68		0	0	0	0
5:45 PM	0	8	0	1	0	0	0	2	0	1	26	0	0	1	15	10	64		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	16	0	4	0	0	0	0	0	6	101	0	1	1	103	32	264
Mediums	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	1	8
Total	0	16	0	4	0	0	0	0	0	6	105	0	1	1	106	33	272

Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				0.0%				3.6%				2.8%				2.9%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	2.8%	3.0%	2.9%
Peak Hour Factor	0.86				0.25				0.92				0.86				0.96
Peak Hour Factor	0.00	0.56	0.00	0.63	0.00	0.25	0.00	0.25	0.00	0.67	0.92	0.00	0.25	0.50	0.85	0.90	0.96

APPENDIX D

FDOT's Florida Traffic Online (FTO) Data

2023 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 7000 BREVARD COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.94 PSCF
1	01/01/2023 - 01/07/2023	1.03	1.10
2	01/08/2023 - 01/14/2023	1.01	1.07
3	01/15/2023 - 01/21/2023	0.98	1.04
4	01/22/2023 - 01/28/2023	0.97	1.03
5	01/29/2023 - 02/04/2023	0.96	1.02
* 6	02/05/2023 - 02/11/2023	0.94	1.00
* 7	02/12/2023 - 02/18/2023	0.93	0.99
* 8	02/19/2023 - 02/25/2023	0.93	0.99
* 9	02/26/2023 - 03/04/2023	0.92	0.98
*10	03/05/2023 - 03/11/2023	0.92	0.98
*11	03/12/2023 - 03/18/2023	0.91	0.97
*12	03/19/2023 - 03/25/2023	0.92	0.98
*13	03/26/2023 - 04/01/2023	0.93	0.99
*14	04/02/2023 - 04/08/2023	0.94	1.00
*15	04/09/2023 - 04/15/2023	0.95	1.01
*16	04/16/2023 - 04/22/2023	0.95	1.01
*17	04/23/2023 - 04/29/2023	0.96	1.02
*18	04/30/2023 - 05/06/2023	0.96	1.02
19	05/07/2023 - 05/13/2023	0.96	1.02
20	05/14/2023 - 05/20/2023	0.96	1.02
21	05/21/2023 - 05/27/2023	0.98	1.04
22	05/28/2023 - 06/03/2023	1.00	1.06
23	06/04/2023 - 06/10/2023	1.02	1.09
24	06/11/2023 - 06/17/2023	1.04	1.11
25	06/18/2023 - 06/24/2023	1.04	1.11
26	06/25/2023 - 07/01/2023	1.04	1.11
27	07/02/2023 - 07/08/2023	1.05	1.12
28	07/09/2023 - 07/15/2023	1.05	1.12
29	07/16/2023 - 07/22/2023	1.05	1.12
30	07/23/2023 - 07/29/2023	1.05	1.12
31	07/30/2023 - 08/05/2023	1.05	1.12
32	08/06/2023 - 08/12/2023	1.06	1.13
33	08/13/2023 - 08/19/2023	1.06	1.13
34	08/20/2023 - 08/26/2023	1.06	1.13
35	08/27/2023 - 09/02/2023	1.06	1.13
36	09/03/2023 - 09/09/2023	1.06	1.13
37	09/10/2023 - 09/16/2023	1.06	1.13
38	09/17/2023 - 09/23/2023	1.06	1.13
39	09/24/2023 - 09/30/2023	1.05	1.12
40	10/01/2023 - 10/07/2023	1.05	1.12
41	10/08/2023 - 10/14/2023	1.04	1.11
42	10/15/2023 - 10/21/2023	1.04	1.11
43	10/22/2023 - 10/28/2023	1.04	1.11
44	10/29/2023 - 11/04/2023	1.04	1.11
45	11/05/2023 - 11/11/2023	1.04	1.11
46	11/12/2023 - 11/18/2023	1.04	1.11
47	11/19/2023 - 11/25/2023	1.03	1.10
48	11/26/2023 - 12/02/2023	1.03	1.10
49	12/03/2023 - 12/09/2023	1.03	1.10
50	12/10/2023 - 12/16/2023	1.03	1.10
51	12/17/2023 - 12/23/2023	1.01	1.07
52	12/24/2023 - 12/30/2023	1.00	1.06
53	12/31/2023 - 12/31/2023	0.98	1.04

* PEAK SEASON

09-MAR-2024 18:41:41

830UPD

5_7000_PKSEASON.TXT

APPENDIX E

Turning Movement Volume Worksheets

Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	1	Existing Year:	2024
Major Street:	N Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	London Town Rd	Buildout Year:	2030
	E/W	Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.940

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour 7:15 AM - 8:15 AM	N Carpenter Rd								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	7	77	0	0	0	65	16	0	52	0	40	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	1%	0%	0%	0%	2%	13%	0%	6%	0%	5%	0%	0%	0%	0%
Existing (2024)	0	7	77	0	0	0	65	16	0	52	0	40	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	7	80	0	0	0	68	17	0	54	0	42	0	0	0	0
Project Assignment																
Ingress		3%				40%		47%								
Egress			40%							47%		3%				
Project Trips	0	1	34	0	0	0	12	14	0	40	0	3	0	0	0	0
Pod 1 Buildout (2026)	0	8	114	0	0	0	80	31	0	94	0	45	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	9	123	0	0	0	86	33	0	102	0	49	0	0	0	0
Project Assignment																
Ingress		7%	6%					43%								
Egress							6%			43%		7%				
Project Trips	0	3	3	0	0	0	8	20	0	61	0	10	0	0	0	0
Ultimate Buildout (2030)	0	12	126	0	0	0	94	53	0	163	0	59	0	0	0	0

PHF: 0.930

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour 4:45 PM - 5:45 PM	N Carpenter Rd								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	51	74	0	0	0	111	33	0	25	0	30	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	4%	3%	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	51	74	0	0	0	111	33	0	25	0	30	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	53	76	0	0	0	115	34	0	26	0	31	0	0	0	0
Project Assignment																
Ingress		3%				40%		47%								
Egress			40%							47%		3%				
Project Trips	0	2	22	0	0	0	31	38	0	26	0	2	0	0	0	0
Pod 1 Buildout (2026)	0	55	98	0	0	0	146	72	0	52	0	33	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	59	106	0	0	0	158	78	0	56	0	36	0	0	0	0
Project Assignment																
Ingress		7%	6%					43%								
Egress							6%			43%		7%				
Project Trips	0	10	8	0	0	0	6	61	0	38	0	6	0	0	0	0
Ultimate Buildout (2030)	0	69	114	0	0	0	164	139	0	94	0	42	0	0	0	0

Intersection Development Worksheet



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Intersection #:	2	Existing Year:	2024
Major Street:	SR 46	Interim Buildout Year:	2026
Minor Street:	N Carpenter Rd	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour 7:15 AM - 8:15 AM	N Carpenter Rd								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	21	11	102	0	108	7	32	0	33	479	32	37	66	280	104
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	4%	0%	33%	0%	22%	0%	15%	6%	9%	0%	11%	9%	31%
Existing (2024)	0	21	11	102	0	108	7	32	0	33	479	32	37	66	280	104
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	22	11	106	0	112	7	33	0	34	498	33	38	69	291	108
Project Assignment																
Ingress									15%				72%			
Egress	15%				72%											
Project Trips	0	12	0	61	0	0	0	0	0	0	0	5	0	20	0	0
Pod 1 Buildout (2026)	0	34	11	167	0	112	7	33	0	34	498	38	38	89	291	108
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	37	12	180	0	121	8	36	0	37	538	41	41	96	314	117
Project Assignment																
Ingress									15%				72%			
Egress	15%				72%											
Project Trips	0	21	0	102	0	0	0	0	0	0	0	7	0	33	0	0
Ultimate Buildout (2030)	0	58	12	282	0	121	8	36	0	37	538	48	41	129	314	117

PHF: 0.940

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour 4:30 PM - 5:30 PM	N Carpenter Rd								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	41	13	74	0	92	14	35	0	19	335	43	16	131	558	116
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	5%	0%	4%	0%	36%	21%	0%	0%	0%	0%	0%	6%	2%	4%	32%
Existing (2024)	0	41	13	74	0	92	14	35	0	19	335	43	16	131	558	116
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	43	13	77	0	96	15	36	0	20	348	45	17	136	580	121
Project Assignment																
Ingress									15%				72%			
Egress	15%				72%											
Project Trips	0	8	0	40	0	0	0	0	0	0	0	12	0	56	0	0
Pod 1 Buildout (2026)	0	51	13	117	0	96	15	36	0	20	348	57	17	192	580	121
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	55	14	126	0	104	16	39	0	22	376	62	18	207	626	131
Project Assignment																
Ingress									15%				72%			
Egress	15%				72%											
Project Trips	0	14	0	64	0	0	0	0	0	0	0	21	0	102	0	0
Ultimate Buildout (2030)	0	69	14	190	0	104	16	39	0	22	376	83	18	309	626	131

Intersection Development Worksheet



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Intersection #:	3	Existing Year:	2024
Major Street:	N Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	Dairy Rd	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.860

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour 7:30 AM - 8:30 AM	N Carpenter Rd								Dairy Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	6	52	121	0	127	142	3	0	1	28	16	0	138	6	40
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	2%	17%	3%
Existing (2024)	0	6	52	121	0	127	142	3	0	1	28	16	0	138	6	40
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	6	54	126	0	132	148	3	0	1	29	17	0	144	6	42
Project Assignment																
Ingress			3%				7%	3%							7%	
Egress																
Project Trips	0	0	1	0	0	6	3	0	0	0	0	0	0	0	0	2
Pod 1 Buildout (2026)	0	6	55	126	0	138	151	3	0	1	29	17	0	144	6	44
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	6	59	136	0	149	163	3	0	1	31	18	0	156	6	48
Project Assignment																
Ingress			3%				7%	3%							7%	
Egress																
Project Trips	0	0	2	0	0	10	4	0	0	0	0	0	0	0	0	3
Ultimate Buildout (2030)	0	6	61	136	0	159	167	3	0	1	31	18	0	156	6	51

PHF: 0.940

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour 4:30 PM - 5:30 PM	N Carpenter Rd								Dairy Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	22	129	113	0	85	102	1	0	0	14	16	0	100	23	138
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	2%	4%	0%	0%	3%	0%	0%	0%	0%	0%	0%	2%	0%	0%
Existing (2024)	0	22	129	113	0	85	102	1	0	0	14	16	0	100	23	138
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	23	134	118	0	89	106	1	0	0	15	17	0	104	24	144
Project Assignment																
Ingress			3%				7%	3%							7%	
Egress																
Project Trips	0	0	2	0	0	4	2	0	0	0	0	0	0	0	0	5
Pod 1 Buildout (2026)	0	23	136	118	0	93	108	1	0	0	15	17	0	104	24	149
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	25	147	127	0	100	117	1	0	0	16	18	0	112	26	161
Project Assignment																
Ingress			3%				7%	3%							7%	
Egress																
Project Trips	0	0	4	0	0	6	3	0	0	0	0	0	0	0	0	10
Ultimate Buildout (2030)	0	25	151	127	0	106	120	1	0	0	16	18	0	112	26	171

Intersection Development Worksheet



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Intersection #:	4	Existing Year:	2024
Major Street:	I-95 SB Ramp	Interim Buildout Year:	2026
Minor Street:	SR 46	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	I-95 SB Ramp								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	32	0	45	0	0	336	402	2	298	445	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	6%	0%	36%	0%	0%	7%	11%	0%	5%	10%	0%
Existing (2024)	0	0	0	0	0	32	0	45	0	0	336	402	2	298	445	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	33	0	47	0	0	349	418	2	310	463	0
Project Assignment																
Ingress								4%								68%
Egress											26%	46%				
Project Trips	0	0	0	0	0	0	0	1	0	0	22	39	0	0	18	0
Pod 1 Buildout (2026)	0	0	0	0	0	33	0	48	0	0	371	457	2	310	481	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	0	0	36	0	52	0	0	401	494	2	335	519	0
Project Assignment																
Ingress								4%								68%
Egress											26%	46%				
Project Trips	0	0	0	0	0	0	0	2	0	0	37	65	0	0	31	0
Ultimate Buildout (2030)	0	0	0	0	0	36	0	54	0	0	438	559	2	335	550	0

PHF: 0.970

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	I-95 SB Ramp								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	38	1	91	0	0	263	261	2	157	712	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	5%	100%	20%	0%	0%	0%	0%	0%	2%	5%	0%
Existing (2024)	0	0	0	0	0	38	1	91	0	0	263	261	2	157	712	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	40	1	95	0	0	274	271	2	163	740	0
Project Assignment																
Ingress								4%								68%
Egress											26%	46%				
Project Trips	0	0	0	0	0	0	0	3	0	0	15	25	0	0	53	0
Pod 1 Buildout (2026)	0	0	0	0	0	40	1	98	0	0	289	296	2	163	793	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	0	0	43	1	106	0	0	312	320	2	176	856	0
Project Assignment																
Ingress								4%								68%
Egress											26%	46%				
Project Trips	0	0	0	0	0	0	0	6	0	0	23	41	0	0	96	0
Ultimate Buildout (2030)	0	0	0	0	0	43	1	112	0	0	335	361	2	176	952	0

Intersection Development Worksheet



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Intersection #:	5		Existing Year:	2024	
	Major Street:	I-95 NB Ramp	N/S	Interim Buildout Year:	2026
	Minor Street:	SR 46	E/W	Buildout Year:	2030
				Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.890

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour 7:00 AM - 8:00 AM	I-95 NB Ramp								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	206	0	165	0	0	0	0	9	68	302	0	0	0	513	40
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	15%	0%	9%	0%	0%	0%	0%	0%	19%	4%	0%	0%	0%	6%	10%
Existing (2024)	0	206	0	165	0	0	0	0	9	68	302	0	0	0	513	40
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	214	0	172	0	0	0	0	9	71	314	0	0	0	534	42
Project Assignment																
Ingress	46%												22%			
Egress									4%							
Project Trips	0	12	0	0	0	0	0	0	0	3	19	0	0	0	6	0
Pod 1 Buildout (2026)	0	226	0	172	0	0	0	0	9	74	333	0	0	0	540	42
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	244	0	186	0	0	0	0	10	80	360	0	0	0	583	45
Project Assignment																
Ingress	46%												22%			
Egress									4%							
Project Trips	0	21	0	0	0	0	0	0	0	6	31	0	0	0	10	0
Ultimate Buildout (2030)	0	265	0	186	0	0	0	0	10	86	391	0	0	0	593	45

PHF: 0.960

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour 4:30 PM - 5:30 PM	I-95 NB Ramp								SR 46							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	408	1	326	0	0	0	0	2	42	262	0	1	0	462	36
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	8%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	11%
Existing (2024)	0	408	1	326	0	0	0	0	2	42	262	0	1	0	462	36
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	424	1	339	0	0	0	0	2	44	272	0	1	0	480	37
Project Assignment																
Ingress	46%												22%			
Egress									4%							
Project Trips	0	36	0	0	0	0	0	0	0	2	13	0	0	0	17	0
Pod 1 Buildout (2026)	0	460	1	339	0	0	0	0	2	46	285	0	1	0	497	37
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	497	1	366	0	0	0	0	2	50	308	0	1	0	537	40
Project Assignment																
Ingress	46%												22%			
Egress									4%							
Project Trips	0	65	0	0	0	0	0	0	0	3	20	0	0	0	31	0
Ultimate Buildout (2030)	0	562	1	366	0	0	0	0	2	53	328	0	1	0	568	40

Intersection Development Worksheet



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Intersection #:	6	Existing Year:	2024
Major Street:	N Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	Longbow Rd	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.940

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour 7:15 AM - 8:15 AM	N Carpenter Rd								Longbow Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	2	66	0	0	1	84	13	0	20	0	10	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	1%	15%	0%	5%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	2	66	0	0	1	84	13	0	20	0	10	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	2	69	0	0	1	87	14	0	21	0	10	0	0	0	0
Project Assignment																
Ingress		4%	6%					13%								
Egress							6%			13%		4%				
Project Trips	0	1	2	0	0	0	6	4	0	11	0	3	0	0	0	0
Pod 1 Buildout (2026)	0	3	71	0	0	1	93	18	0	32	0	13	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	3	77	0	0	1	100	19	0	35	0	14	0	0	0	0
Project Assignment																
Ingress			10%							3%						
Egress							10%	3%								
Project Trips	0	0	5	0	0	0	14	4	0	1	0	0	0	0	0	0
Ultimate Buildout (2030)	0	3	82	0	0	1	114	23	0	36	0	14	0	0	0	0

PHF: 0.960

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour 4:45 PM - 5:45 PM	N Carpenter Rd								Longbow Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	6	133	0	1	1	123	33	0	16	0	4	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	4%	0%	0%	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	6	133	0	1	1	123	33	0	16	0	4	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	6	138	0	1	2	128	34	0	17	0	4	0	0	0	0
Project Assignment																
Ingress		4%	6%					13%								
Egress							6%			13%		4%				
Project Trips	0	3	5	0	0	0	3	10	0	7	0	2	0	0	0	0
Pod 1 Buildout (2026)	0	9	143	0	1	2	131	44	0	24	0	6	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	10	154	0	1	2	141	48	0	26	0	6	0	0	0	0
Project Assignment																
Ingress			10%							3%						
Egress							10%	3%								
Project Trips	0	0	14	0	0	0	9	3	0	4	0	0	0	0	0	0
Ultimate Buildout (2030)	0	10	168	0	1	2	150	51	0	30	0	6	0	0	0	0

Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	7	Existing Year:	2024
Major Street:	Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	Project Driveway 1	Buildout Year:	2030
	E/W	Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Carpenter Rd								Project Driveway 1							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	129	0	0	0	81	0	0	0	0	0	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	129	0	0	0	81	0	0	0	0	0	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	134	0	0	0	84	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	134	0	0	0	84	0	0	0	0	0	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	145	0	0	0	91	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress		3%				65%	22%									
Egress			65%							22%		3%				
Project Trips	0	1	92	0	0	0	30	10	0	31	0	4	0	0	0	0
Ultimate Buildout (2030)	0	1	237	0	0	0	121	10	0	31	0	4	0	0	0	0

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Carpenter Rd								Project Driveway 1							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	99	0	0	0	144	0	0	0	0	0	0	0	0	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	99	0	0	0	144	0	0	0	0	0	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	102	0	0	0	150	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	102	0	0	0	150	0	0	0	0	0	0	0	0	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	110	0	0	0	162	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress		3%				65%	22%									
Egress			65%							22%		3%				
Project Trips	0	4	58	0	0	0	92	31	0	20	0	3	0	0	0	0
Ultimate Buildout (2030)	0	4	168	0	0	0	254	31	0	20	0	3	0	0	0	0

Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	7	Existing Year:	2024
Major Street:	Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	Project Driveway 2	Buildout Year:	2030
	E/W	Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Carpenter Rd								Project Driveway 2							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	129	0	0	0	81	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	129	0	0	0	81	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	134	0	0	0	84	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	134	0	0	0	84	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	145	0	0	0	91	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	3%				43%				22%							
Egress	43%				3%				22%				3%			
Project Trips	0	2	62	0	0	0	24	10	0	31	0	4	0	0	0	0
Ultimate Buildout (2030)	0	2	207	0	0	0	115	10	0	31	0	4	0	0	0	0

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Carpenter Rd								Project Driveway 2							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	99	0	0	0	144	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	99	0	0	0	144	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	102	0	0	0	150	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	102	0	0	0	150	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	110	0	0	0	162	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	3%				43%				22%							
Egress	43%				3%				22%				3%			
Project Trips	0	4	43	0	0	0	64	31	0	20	0	2	0	0	0	0
Ultimate Buildout (2030)	0	4	153	0	0	0	226	31	0	20	0	2	0	0	0	0

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Intersection Development Worksheet



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Intersection #:	8	Existing Year:	2024
Major Street:	Carpenter Rd	Interim Buildout Year:	2026
Minor Street:	Project Driveway 4	Buildout Year:	2030
	E/W	Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Carpenter Rd								Project Driveway 4							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	84	0	0	0	105	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	84	0	0	0	105	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	87	0	0	0	109	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	3%				13%				27%							
Egress	13%				3%				3%							
Project Trips	0	1	12	0	0	0	7	8	0	23	0	3	0	0	0	0
Pod 1 Buildout (2026)	0	1	99	0	0	0	116	8	0	23	0	3	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	1	107	0	0	0	125	9	0	25	0	3	0	0	0	0
Project Assignment																
Ingress	13%				13%											
Egress					13%											
Project Trips	0	0	6	0	0	0	18	0	0	0	0	0	0	0	0	0
Ultimate Buildout (2030)	0	1	113	0	0	0	143	9	0	25	0	3	0	0	0	0

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Carpenter Rd								Project Driveway 4							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	125	0	0	0	141	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	125	0	0	0	141	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	130	0	0	0	147	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	3%				13%				27%							
Egress	13%				3%				3%							
Project Trips	0	3	9	0	0	0	12	21	0	15	0	2	0	0	0	0
Pod 1 Buildout (2026)	0	3	139	0	0	0	159	21	0	15	0	2	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	3	150	0	0	0	172	23	0	16	0	2	0	0	0	0
Project Assignment																
Ingress	13%				13%											
Egress					13%											
Project Trips	0	0	18	0	0	0	12	0	0	0	0	0	0	0	0	0
Ultimate Buildout (2030)	0	3	168	0	0	0	184	23	0	16	0	2	0	0	0	0

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Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	9	Existing Year:	2024
Major Street:	Longbow Rd	Interim Buildout Year:	2026
Minor Street:	Project Driveway 5	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.790

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Project Driveway 5								Longbow Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	7	0	0	0	12	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	7	0	0	0	12	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	7	0	0	0	12	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	14	0	3	0	1	0	0	0	0	0	5
Pod 1 Buildout (2026)	0	0	7	0	0	14	12	3	0	1	0	0	0	0	0	5
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	8	0	0	15	13	3	0	1	0	0	0	0	0	5
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0
Ultimate Buildout (2030)	0	0	8	0	0	15	13	3	0	1	1	0	0	0	4	5

PHF: 0.770

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Project Driveway 5								Longbow Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	27	2	0	0	7	0	0	0	0	0	0	0	0	1
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	27	2	0	0	7	0	0	0	0	0	0	0	0	1
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	28	2	0	0	7	0	0	0	0	0	0	0	0	1
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	9	0	2	0	2	0	0	0	0	0	13
Pod 1 Buildout (2026)	0	0	28	2	0	9	7	2	0	2	0	0	0	0	0	14
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	30	2	0	10	8	2	0	2	0	0	0	0	0	15
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0
Ultimate Buildout (2030)	0	0	30	2	0	10	8	2	0	2	4	0	0	0	3	15

Intersection Development Worksheet



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Intersection #:	10	Existing Year:	2024
Major Street:	London Town Rd E/W	Interim Buildout Year:	2026
Minor Street:	Project Driveway A N/S	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Project Driveway A								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	0	0	0	0	0	96	0	0	0	24	0
Project Assignment																
Ingress															10%	40%
Egress				10%							40%					
Project Trips	0	0	0	8	0	0	0	0	0	0	34	0	0	3	11	0
Pod 1 Buildout (2026)	0	0	0	8	0	0	0	0	0	0	130	0	0	3	35	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	9	0	0	0	0	0	0	140	0	0	3	38	0
Project Assignment																
Ingress															50%	
Egress											50%					
Project Trips	0	0	0	0	0	0	0	0	0	0	71	0	0	0	23	0
Ultimate Buildout (2030)	0	0	0	9	0	0	0	0	0	0	211	0	0	3	61	0

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Project Driveway A								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	0	0	0	0	0	57	0	0	0	87	0
Project Assignment																
Ingress															10%	40%
Egress				10%							40%					
Project Trips	0	0	0	5	0	0	0	0	0	0	22	0	0	7	31	0
Pod 1 Buildout (2026)	0	0	0	5	0	0	0	0	0	0	79	0	0	7	118	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	5	0	0	0	0	0	0	85	0	0	8	127	0
Project Assignment																
Ingress															50%	
Egress											50%					
Project Trips	0	0	0	0	0	0	0	0	0	0	44	0	0	0	71	0
Ultimate Buildout (2030)	0	0	0	5	0	0	0	0	0	0	129	0	0	8	198	0

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Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	10	Existing Year:	2024
Major Street:	London Town Rd E/W	Interim Buildout Year:	2026
Minor Street:	Project Driveway B N/S	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Project Driveway B								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	0	0	0	0	0	96	0	0	0	24	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	0	0	0	0	0	0	0	0	96	0	0	0	24	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	0	0	0	0	0	0	0	104	0	0	0	26	0
Project Assignment																
Ingress															40%	10%
Egress																
Project Trips	0	0	0	0	0	15	0	0	0	0	56	0	0	0	18	5
Ultimate Buildout (2030)	0	0	0	0	0	15	0	0	0	0	160	0	0	0	44	5

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Project Driveway B								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Seasonal Factor			1.00				1.00				1.00				1.00	
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.04				1.04				1.04				1.04	
Background (2026)	0	0	0	0	0	0	0	0	0	0	57	0	0	0	87	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	0	0	0	0	0	0	0	0	57	0	0	0	87	0
Growth Rates			2.00%				2.00%				2.00%				2.00%	
Growth Factor			1.08				1.08				1.08				1.08	
Background (2030)	0	0	0	0	0	0	0	0	0	0	62	0	0	0	94	0
Project Assignment																
Ingress															40%	10%
Egress																
Project Trips	0	0	0	0	0	8	0	0	0	0	36	0	0	0	57	14
Ultimate Buildout (2030)	0	0	0	0	0	8	0	0	0	0	98	0	0	0	151	14

k:\ori_tptol249297000_sherwood golf club pud\03_excel\traffic calcs sherwood golf club pud v4.xlsxjnt.#10b (gold b)

Intersection Development Worksheet



Expect More. Experience Better.

Intersection #:	10	Existing Year:	2024
Major Street:	London Town Rd E/W	Interim Buildout Year:	2026
Minor Street:	Project Driveway C N/S	Buildout Year:	2030
		Seasonal Factor:	1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips:	IN = 28	OUT = 85
Remaining AM Peak Hour Trips:	IN = 46	OUT = 141

Weekday AM Peak Hour	Project Driveway C								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	92	0	0	0	23	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	0	0	0	0	0	0	0	0	96	0	0	0	24	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	34	0	0	0	0	0	0	0	0	0	11	0	0
Pod 1 Buildout (2026)	0	0	0	34	0	0	0	0	0	0	96	0	0	11	24	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	0	37	0	0	0	0	0	0	104	0	0	12	26	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	28	0	0	0	0	28	0	0	0	9	9
Ultimate Buildout (2030)	0	0	0	37	0	28	0	0	0	0	132	0	0	12	35	9

PHF: 0.920

Pod 1 PM Peak Hour Trips:	IN = 78	OUT = 55
Remaining PM Peak Hour Trips:	IN = 142	OUT = 89

Weekday PM Peak Hour	Project Driveway C								London Town Rd							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	55	0	0	0	84	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	0	0	0	0	0	0	0	0	57	0	0	0	87	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	22	0	0	0	0	0	0	0	0	0	31	0	0
Pod 1 Buildout (2026)	0	0	0	22	0	0	0	0	0	0	57	0	0	31	87	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	0	24	0	0	0	0	0	0	62	0	0	33	94	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	18	0	0	0	0	18	0	0	0	29	28
Ultimate Buildout (2030)	0	0	0	24	0	18	0	0	0	0	80	0	0	33	123	28

Intersection Development Worksheet



Expect More. Experience Better.

Intersection #: 11
Major Street: Arnold Palmer Dr N/S
Minor Street: Project Driveway D E/W
Existing Year: 2024
Interim Buildout Year: 2026
Buildout Year: 2030
Seasonal Factor: 1.00

TMC Year: 2024

PHF: 0.920

Pod 1 AM Peak Hour Trips: IN = 28 OUT = 85
Remaining AM Peak Hour Trips: IN = 46 OUT = 141

Weekday AM Peak Hour	Arnold Palmer Dr								Project Driveway D							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	10%															
Egress									10%				10%			
Project Trips	0	5	0	4	0	0	0	0	0	0	0	14	0	14	0	0
Ultimate Buildout (2030)	0	5	0	4	0	0	0	0	0	0	0	14	0	14	0	0

PHF: 0.920

Pod 1 PM Peak Hour Trips: IN = 78 OUT = 55
Remaining PM Peak Hour Trips: IN = 142 OUT = 89

Weekday PM Peak Hour	Arnold Palmer Dr								Project Driveway D							
	Northbound				Southbound				Eastbound				Westbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
TMC (2024)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seasonal Factor	1.00				1.00				1.00				1.00			
Heavy Vehicle (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Existing (2024)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.04				1.04				1.04				1.04			
Background (2026)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress																
Egress																
Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pod 1 Buildout (2026)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Rates	2.00%				2.00%				2.00%				2.00%			
Growth Factor	1.08				1.08				1.08				1.08			
Background (2030)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Assignment																
Ingress	10%															
Egress									10%				10%			
Project Trips	0	14	0	15	0	0	0	0	0	0	0	9	0	9	0	0
Ultimate Buildout (2030)	0	14	0	15	0	0	0	0	0	0	0	9	0	9	0	0

APPENDIX F

Existing Signal Timings

Station : 500 - SR 46 & Carpenter Rd (Permanent File)

Phase [1.1.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Ped Clearance	0	25	0	17	0	23	0	23	0	0	0	0	0	0	0	0
Min Green	7	15	7	7	7	15	7	7	5	5	5	5	5	5	5	5
Passage	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1
Max1	15	45	25	25	15	45	25	25	25	25	25	25	25	25	25	25
Max2	0	0	0	0	0	0	0	0	50	50	50	50	50	50	50	50
Yellow	4.8	4.8	4.4	3.4	4.8	4.8	3.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	2.4	2	2	3.2	2	2.4	4	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Exit																
Rest In Walk																

Phase Option [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Entry																
Non Act1																
Non Act2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Cond Service																
Add Init Calc																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

Entry	Call Phases				From	To	From	To	From	To	From	To	Assigned Ph
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

Station : 500 - SR 46 & Carpenter Rd (Permanent File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Backup Time	Red Revert	Console Timeout	Tone Disable	Feature Profile	Phase Mode	Diamond Mode	SDLC Retry Time	TS2 Det Faults	Cycle Fault Action	Max Cycle Time	Max Seek Track Time	Max Seek Dwell Time	Enable Run	Local Flash Start	Start Red Time	Disable Init Ped	Yellow 3 Second Disable	Omit Yellow Enable	Free Ring Sequence
	OFF		3	10	OFF		STD8	4PH		ON	ALARM				ON	OFF		OFF	OFF	OFF	1

Comm, General Comm Parameters [6.1]

Station ID	Master Station ID	Fallback time	Allow Pencil	Port	System-Up	Sys-Down	PC/Print	Aux 232
500			OFF					

Port Parameters [6.2]

[illegible]

Overlap General Parameters [1.5.1]

Conflict Lock	Lock Inhibit	Program Card	Use Parent	Canadian Fast Flash
OFF	OFF	OFF	OFF	OFF

Overlap Program Parameters [1.5.2.1]

Overlap	Included Phases						Modifier Phases						Type	Green	Yellow	Red
Overlap 1													NORMAL		3.5	1.5
Overlap 2	1						2						R-T/OTH		3.5	1.5
Overlap 3													NORMAL		3.5	1.5
Overlap 4													NORMAL		3.5	1.5
Overlap 5													NORMAL		3.5	1.5
Overlap 6	5						6						R-T/OTH		3.5	1.5
Overlap 7													NORMAL		3.5	1.5
Overlap 8													NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

[illegible]

Detector, Vehicle Parameters 1-16 [5.1]

[illegible]

Detector, Vehicle Parameters 17-32 [5.1]

[illegible]

Detector Alternate Program 1, Vehicle Parameters [5.5.1]

Channels/SDLC, Assign to Phases [1.3.1]

[illegible]

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Channel/SDLC, Permissive [1.3.7]

SDLC Device		Term/Fac		Detector								MMU								Diag
BIU#		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8			
Present		ON	ON							ON									ON	
Peer to Peer																				

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

Preemption Times[3.1]/Phases[3.2]/Options[3.3]

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Flash	ON	ON	ON	ON	ON	ON
Override Higher	ON	ON	ON	ON	ON	ON
Flash Dwell	ON	ON	ON	ON	ON	ON
Link						
Delay						
Min Duration						
Min Green						
Min Walk						
Ped Clear						
Track Green						
Min Dwell						
Max Presence						
Track R1						
Track R2						
Track R3						
Track R4						
Dwell P1						
Dwell P2						
Dwell P3						
Dwell P4						
Dwell P5						
Dwell P6						
Dwell P7						
Dwell P8						
Dwell P9						
Dwell P10						
Dwell P11						
Dwell P12						
Dwell Ped1						
Dwell Ped2						
Dwell Ped3						
Dwell Ped4						
Dwell Ped5						
Dwell Ped6						
Dwell Ped7						
Dwell Ped8						
Exit R1						
Exit R2						
Exit R3						
Exit R4						

Auto Flash Parameter

Alarms, Parameters [1.6.7]

Alarms, Phases/Overlaps [1.4.2]

[illegible]

Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

[illegible]

Coordination, Splits [2.7.1]

[illegible]

12/16/2022 10:08:09 AM

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

TB Coor, Advanced Scheduler [4.3]

TB Coor, Day Plan [4.4][illegible]

Brevard County Timing Sheet

Timing Sheet 12/16/2022 10:08:09 AM

12/16/2022 10:08:09 AM

Station : 500 - SR 46 & Carpenter Rd (Permanent File)

[illegible][illegible][illegible][illegible][illegible][illegible]

TB Coor, Action Table [4.5]

[illegible]

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

Phase [1.1.1]

[illegible]

Phase Option [1.1.2]

[illegible]

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

[illegible]

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

[illegible]

Alternate Phase Program 1, Interval Times [1.1.6.1]

[illegible]

Alternate Phase Program 2, Interval Times [1.1.6.1]

[illegible]

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Red Revert	Local Flash Start	Allow ~3 sec Yel	Allow Skip Yel	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Startup Calls	Diamond Mode	Stop Time Over Preempt	Free Ring Sequence	Clearance Decide	Min Ped Clear Time	Ring Algo
------------------	-------------------	---------------	----------------------	---------------------	-------------------	----------------	---------------	-------------------	---------------	------------------	-----------------	---------------------------	-----------------------	---------------------	-----------------------	-----------

OFF	OFF	OFF	OFF	ON	STD8	OFF	3PH	OFF	1	OFF	OFF
-----	-----	-----	-----	----	------	-----	-----	-----	---	-----	-----

Comm, General Comm Parameters [6.1]

Station ID	Master Station ID	Fallback time	Allow Pencil	Port	System-Up	Sys-Down	PC/Print	Aux 232
334								

Port Parameters [6.2]

[illegible]

Overlap General Parameters [1.5.1]

Conflict Lock	Lock Inhibit	Program Card	Use Parent	Canadian Fast Flash
OFF	OFF	ON	ALWAYS	

Overlap Program Parameters [1.5.2.1]

Overlap Program Parameters [Phase]														
Overlap	Included Phases					Modifier Phases					Type	Green	Yellow	Red
Overlap 1											NORMAL		3.5	1.5
Overlap 2											NORMAL		3.5	1.5
Overlap 3											NORMAL		3.5	1.5
Overlap 4											NORMAL		3.5	1.5
Overlap 5											NORMAL		3.5	1.5
Overlap 6											NORMAL		3.5	1.5
Overlap 7											NORMAL		3.5	1.5
Overlap 8											NORMAL		3.5	1.5

Overlap Conflict Parameters+ [1.5.2.2]

[illegible]

Detector, Vehicle Parameters 1-16 [5.1]

[illegible]

Detector, Vehicle Parameters 17-32 [5.1]

[illegible]

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

Detector Alternate Program 1, Vehicle Parameters [5.5.1]

[illegible]

Channels/SDLC, Assign to Phases [1.3.1]

[illegible]

Channel/SDLC, Parameters [1.3.3]

TOD Dim Enable	Extra Maps Enable	D Connector Enable	Single BIU Map	IO Mode	Preempt or Ext Output
OFF	DEFAULT				

Channel/SDLC, MMU Map [1.3.5]

MMU-to-Controller Channel Map

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Channel/SDLC, Permissive [1.3.4]

[illegible]

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Channel/SDLC, Permissive [1.3.7]

SDLC Device		Term/Fac		Detector								MMU								Diag
BIU#		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8			
Dev Present		ON	ON							ON									ON	
Peer to Peer																				

Ring Sequence [1.2.4]

Ring	P1	P2	P3	P4	P5	P6	P7	P8
Ring 1	1	2	3	4				
Ring 2	5	6	7	8				
Ring 3								
Ring 4								

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

Alarms, Enable Events [1.6.1]

Event#	Event Enable
1	ON
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON
9	
10	ON
11	
12	ON
13	ON
14	ON
15	ON
16	ON
17	ON
18	ON
19	ON
20	ON
21	ON
22	ON
23	ON
24	
25	
26	ON
27	ON
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29	ON
30	ON
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35	ON
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37	ON
38	ON
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48	ON
49	ON
50	ON
51	ON
52	ON
53	ON
54	ON
55	ON
56	ON
57	ON
58	ON
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60	ON
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62	
63	
64	

Alarms, Enable Alarms [1.6.4]

Alarm#	Alarm Enable
1	ON
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON
9	
10	ON
11	
12	ON
13	ON
14	ON
15	ON
16	ON
17	ON
18	ON
19	ON
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23	ON
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26	ON
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29	ON
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48	ON
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53	ON
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60	ON
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63	
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Preemption Times[3.1]/Phases[3.2]/Options[3.3]

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash	ON	ON	ON	ON	ON	ON
Override Higher Preempt	ON	ON	ON	ON	ON	ON
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green						
Min Walk						
Ped Clear						
Track Green						
Min Dwell						
Max Presence						
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1						
Dwell Cyc Veh 2						
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1						
Exit 2						
Exit 3						
Exit 4						

Alarms, Parameters [1.4.1]

Auto Flash Parameter

Yellow	Red	Mode	Source
45	30		

Alarms, Parameters [1.6.7]

Preempt Event Enabled	Pattern Event Enabled
OFF	ON

Alarms, Phases/Overlaps [1.4.2]

[illegible]

Preemption Times+[3.4]/Overlaps+[3.5]/Options+[3.6]

Preempt	1	2	3	4	5	6
Enable						
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track						
Volt Mon Flash						
Coord in Preempt	ON					
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell						
Pattern						
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1						
Track Over 2						
Track Over 3						
Track Over 4						
Track Over 5						
Track Over 6						
Track Over 7						
Track Over 8						
Track Over 9						
Track Over 10						
Track Over 11						
Track Over 12						
DwellCyc Over 1						
DwellCyc Over 2						
DwellCyc Over 3						
DwellCyc Over 4						
DwellCyc Over 5						
DwellCyc Over 6						
DwellCyc Over 7						
DwellCyc Over 8						
DwellCyc Over 9						
DwellCyc Over 10						
DwellCyc Over 11						
DwellCyc Over 12						
Ped Clear						
Yellow						
Red						
Return Max						

Modes

Operational	Correct	Maximum	Force-Off
	SHRT/LNG	MAX INH	FLOAT

Modes+

Mode	Leave Before	Leave After	Recycle	Stop In Walk	External	Auto Reset	Latch Sec Off	Coord Easy Float	Yield Value	Coord NTCIP Yield Sign	Closed Loop Active
RESERVED	TIMED	TIMED	P3478 INH	ON	OFF	ON	OFF	OFF	0	+	OFF

[illegible][illegible]

Coordination, Splits [2.7.1]

[illegible]

[illegible]

TB Coor, Advanced Scheduler [4.3]

TB Coor, Day Plan [4.4][illegible]

Brevard County Timing Sheet

Timing Sheet 12/16/2022 10:08:32 AM

12/16/2022 10:08:32 AM

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

[illegible][illegible][illegible][illegible][illegible][illegible]

Station : 334 - SR 46 & I-95 NB Ramp (Standard File)

TB Coor, Action Table [4.5]

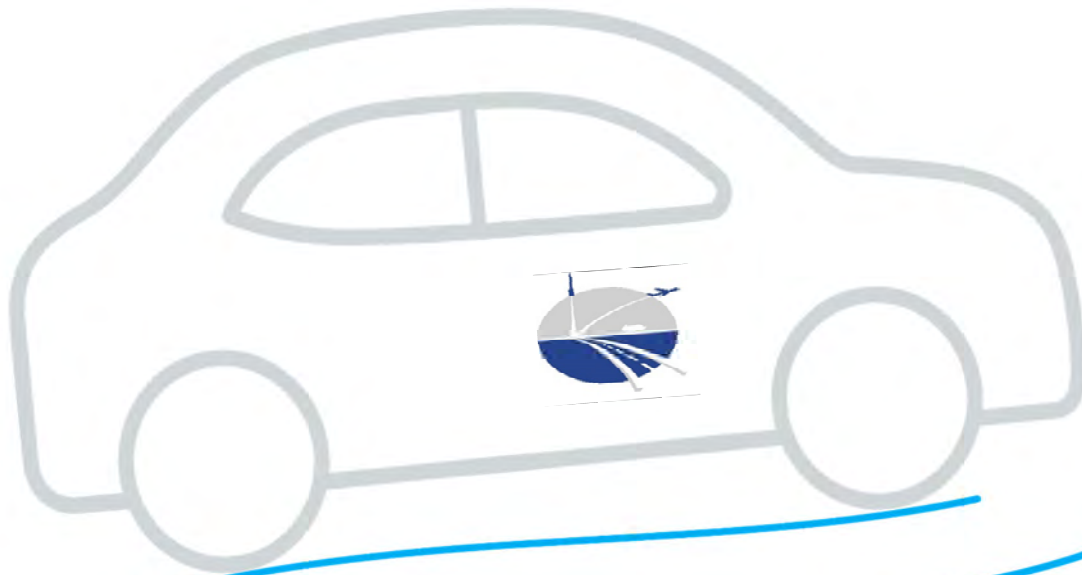
Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
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10	10				0	0						
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15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
20	20				0	0						
21	21				0	0						
22	22				0	0						
23	23				0	0						
24	24				0	0						
25	25				0	0						
26	1				0	0						
27	2				0	0						
28	3				0	0						
29	4				0	0						
30	5				0	0						
31	6				0	0						
32	7				0	0						
33	8				0	0						
34	9				0	0						
35	10				0	0						
36	11				0	0						
37	12				0	0						
38	13				0	0						
39	14				0	0						
40	15				0	0						
41	16				0	0						
42	17				0	0						
43	18				0	0						
44	19				0	0						
45	20				0	0						
46	21				0	0						
47	22				0	0						
48	23				0	0						
49	24				0	0						
50	48				0	0						
51					0	0						
52					0	0						
53					0	0						
54					0	0						
55					0	0						
56					0	0						
57					0	0						
58					0	0						
59					0	0						
60					0	0						
61					0	0						
62					0	0						
63					0	0						
64					0	0						
99	255				0	0						
100	254				0	0						

APPENDIX G

Space Coast TPO Traffic Counts

**SPACE COAST
TRANSPORTATION PLANNING ORGANIZATION
HISTORICAL TRAFFIC VOLUMES – 2013-2022**

[Click Here for On-line Interactive Website](#)



JUNE 22, 2023



SPACE COAST TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNTS: 2013 - 2022

ID	ROAD	FROM	TO	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	2022 AADT	Current MAV	Last Count Taken	Functional Classification
AREA: MERRITT ISLAND																
	SR 520		HUMPHREY BRIDGE													
101		SR 520	HUMPHREY BRIDGE													
148		SR 520	N.TROPICAL TR.													
97		SR 520	SR 3													
98		SR 520	GOODWIN DR.													
99		SR 520	PLUMOSA ST.													
100		SR 520	PLUMOSA ST.													
149		SR 520	MALL ENTRANCE													
150		SR 520	SYKES CREEK PKWY.													
151		SR 520	NEWFOUND HARBOR DR.													
			N BANANA RIVER DR.													
			S BANANA RIVER DR.													
	SR 528		US 1													
128		SR 528	SR 401													
129		SR 528	N COURTENAY PKWY. (SR 3)													
127		SR 528	N BANANA RIVER DR.													
			SR 401													
123	SYKES CREEK PKWY.		FORTENBERRY RD.													
121	SYKES CREEK PKWY.		SR 520													
108	SYKES CREEK PKWY.		MERRITT AVE.													
			N BANANA RIVER DR.													

SPACE COAST TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNTS: 2013 - 2022

ID	ROAD	FROM	TO	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	2022 AADT	Current MAV	Last Count Taken	Functional Classification
AREA: CENTRAL																
	US 1	ROSA JONES DR.	PEACHTREE ST.	26,795	25,375	33,480	30,220	26,885	28,525	29,360	27,795	29,375	28,270			
24	US 1	ROSA JONES DR.	SR 520	32,840	32,890	33,480	30,220	33,500	34,020	36,970	33,770	35,750	32,790	62,900	02/17/22-02/18/22	Urban Principal Arterial-Other
23	US 1	SR 520	PEACHTREE ST.	20,750	17,860	UC	UC	20,270	23,030	21,750	21,820	23,000	23,750	62,900	01/27/22-01/28/22	Urban Principal Arterial-Other
	US 1	PEACHTREE ST.	SR 528	27,025				26,600	28,873	28,425	28,678	28,615	26,850			
22	US 1	PEACHTREE ST.	FORREST AVE.	20,560	UC	UC	UC	21,290	24,850	22,720	22,510	23,870	21,780	62,900	01/27/22-01/28/22	Urban Principal Arterial-Other
21	US 1	FORREST AVE.	DIXON BLVD.	29,460	UC	UC	UC	28,620	30,090	30,890	32,280	31,080	30,840	62,900	01/27/22-01/28/22	Urban Principal Arterial-Other
20	US 1	DIXON BLVD.	MICHIGAN AVE.	28,510	UC	UC	UC	25,890	30,430	29,670	27,250	30,370	25,680	62,900	02/03/22-02/04/22	Urban Principal Arterial-Other
19	US 1	MICHIGAN AVE.	SR 528	29,570	UC	UC	UC	30,600	30,120	30,420	32,670	29,140	29,100	62,900	03/01/22-03/02/22	Urban Principal Arterial-Other
572	VIERA BLVD.	TAVISTOCK DRIVE	STADIUM PKWY.	7,070	7,160	NC	8,190	NC	8,310	NC	8,610	NC	8,360	39,800	01/11/22-01/12/22	Urban Local
	VIERA BLVD	STADIUM PKWY.	HOLIDAY SPRINGS RD.	13,930	14,490	15,950	16,780	17,445	17,430	17,380	19,950	17,370	18,720			
536	VIERA BLVD	STADIUM PKWY.	MURRELL RD.	13,760	14,600	15,980	17,450	18,130	17,810	NC	22,320	18,320	19,910	39,800	01/11/22-01/12/22	Urban Minor Arterial
58	VIERA BLVD.	MURRELL RD.	HOLIDAY SPRINGS RD.	14,100	14,380	15,920	16,110	16,760	17,050	17,380	17,580	16,420	17,530	39,800	01/11/22-01/12/22	Urban Minor Arterial
537	VIERA BLVD.	HOLIDAY SPRINGS RD.	US 1	12,130	12,190	13,280	13,930	14,800	14,900	14,900	14,440	13,120	13,830	30,300	01/11/22-01/12/22	Urban Minor Arterial

SPACE COAST TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNTS: 2013 - 2022

ID	ROAD	FROM	TO	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	2022 AADT	Current MAV	Last Count Taken	Functional Classification
AREA: SOUTH																
	PINEDA CSWY.		LAKE ANDREW DR.													
638		PINEDA CSWY.	LAKE ANDREW DR.													Urban Minor Arterial
570		PINEDA CSWY.	I-95													Urban Minor Arterial
328		PINEDA CSWY.	ST ANDREWS BLVD.													Urban Minor Arterial
327		PINEDA CSWY.	WICKHAM RD.													Urban Principal Arterial-Other
352	PINEHURST AVE.		WICKHAM RD.													Urban Minor Collector
	PORT MALABAR BLVD.		BABCOCK ST. (SR 507)													
339		PORT MALABAR BLVD.	BABCOCK ST. (SR 507)													Urban Minor Arterial
340		PORT MALABAR BLVD.	TROUTMAN BLVD.													Urban Minor Arterial
329	POST RD.		PINECONE RD.													Urban Major Collector
	RJ CONLAN BLVD.		PALM BAY RD.													
562		RJ CONLAN BLVD.	PALM BAY RD.													Urban Principal Arterial-Other
563		RJ CONLAN BLVD.	COMMERCE PARK DR.													Urban Principal Arterial-Other
495	SARNO RD. (SR 5054)		EAU GALLIE BLVD. (SR 518)													Urban Minor Arterial
	SARNO RD.		WICKHAM RD.													
358		SARNO RD.	WICKHAM RD.													Urban Minor Arterial
496		SARNO RD.	CROTON RD.													Urban Minor Arterial
498		SARNO RD.	GARFIELD ST.													Urban Minor Arterial
499		SARNO RD.	APOLLO BLVD.													Urban Minor Arterial
581	SHERIDAN RD.		JOHN RODES BLVD.													Urban Minor Collector
	ST. ANDREWS BLVD.		PINEDA CSWY. (SR 404)													
381		ST. ANDREWS BLVD.	PINEDA CSWY. (SR 404)													Urban Minor Collector
325		ST. ANDREWS BLVD.	INTERLACHEN RD.													Urban Minor Collector
326		ST. ANDREWS BLVD.	PINEHURST AVE.													Urban Minor Collector
	ST JOHNS HERITAGE PKWY.		MALABAR RD.													
609		ST JOHNS HERITAGE PKWY.	MALABAR RD.													Urban Minor Arterial
610		ST JOHNS HERITAGE PKWY.	PACE DR.													Urban Minor Arterial
629		ST JOHNS HERITAGE PKWY.	EMERSON DR.													Urban Minor Arterial
630		ST JOHNS HERITAGE PKWY.	US 192													Urban Minor Arterial
632	ST JOHNS HERITAGE PKWY.		BABCOCK ST.													Urban Minor Arterial
564	SAN FILIPPO DR.		JUPITER BLVD.													Urban Minor Arterial
324	SUNTREE BLVD.		WICKHAM RD.													Urban Minor Collector
	TURTLEMOUND RD.		EAU GALLIE BLVD. (SR 518)													
611		TURTLEMOUND RD.	EAU GALLIE BLVD. (SR 518)													Urban Major Collector
379		TURTLEMOUND RD.	AURORA RD.													Urban Major Collector
331		TURTLEMOUND RD.	LAKE WASHINGTON													Urban Major Collector
378		TURTLEMOUND RD.	PARKWAY DR.													Urban Major Collector
341	UNIVERSITY BLVD.		BABCOCK ST.													Urban Major Collector
	US 1		INDIAN RIVER COUNTY LINE													
416		US 1	INDIAN RIVER COUNTY LINE													Urban Principal Arterial-Other
417		US 1	MICCO RD.													Urban Principal Arterial-Other
565		US 1	FIRST ST.													Urban Principal Arterial-Other
418		US 1	VALKARIA RD.													Urban Principal Arterial-Other
	US 1		MALABAR RD. (SR 514)													
419		US 1	MALABAR RD. (SR 514)													Urban Principal Arterial-Other
420		US 1	PORT MALABAR BLVD.													Urban Principal Arterial-Other
539		US 1	PALM BAY RD.													Urban Principal Arterial-Other
	US 1		RJ CONLAN BLVD.													
343		US 1	RJ CONLAN BLVD.													Urban Principal Arterial-Other
348		US 1	UNIVERSITY BLVD.													Urban Principal Arterial-Other
384		US 1	NEW HAVEN AVE.													Urban Principal Arterial-Other
	US 1		STRAWBRIDGE AVE.													
385		US 1	STRAWBRIDGE AVE.													Urban Principal Arterial-Other
431		US 1	HIBISCUS BLVD.													Urban Principal Arterial-Other
432		US 1	NASA BLVD. (SR 508)													Urban Principal Arterial-Other
433		US 1	CHERRY ST.													Urban Principal Arterial-Other
434		US 1	BALLARD DR.													Urban Principal Arterial-Other
	US 1		SARNO RD.													
435		US 1	SARNO RD.													Urban Principal Arterial-Other
442		US 1	EAU GALLIE BLVD. (SR 518)													Urban Principal Arterial-Other
450		US 1	AURORA RD.													Urban Principal Arterial-Other
436		US 1	LAKE WASHINGTON RD.													Urban Principal Arterial-Other
437		US 1	PARKWAY DR.													Urban Principal Arterial-Other
415		US 1	POST RD.													Urban Principal Arterial-Other

*Note: 2016 AADT's Beaches area were counted twice in 2016 and the AADT listed is the average of the two counts.
NC=Not Counted; UC=Under Construction

SPACE COAST TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNTS: 2013 - 2022

ID	ROAD	FROM	TO	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	2022 AADT	Current MAV	Last Count Taken	Functional Classification
AREA: BEACHES - NOTE: No counts were taken in 2015.																
622	BANANA RIVER DR. BANANA RIVER DR./PINE TREE DR.	MATHERS BRIDGE S PATRICK DR.	S. PATRICK DR. (SR 513) SR A1A					3,180 5,045	3,120 5,117	NC 4,805	NC 4,520	2,840 4,300	NC 4,340	15,600	11/16/21-11/17/21	Urban Major Collector
623	BANANA RIVER DR.	S PATRICK DR.	WIMICO DR.					4,350	4,450	NC	4,270	NC	4,140	15,600	12/19/22-12/20/22	Urban Major Collector
624	BANANA RIVER DR.	WIMICO DR.	PINE TREE DR.					3,920	NC	4,600	NC	4,150	NC	15,600	12/07/21-12/08/21	Urban Major Collector
625	BANANA RIVER DR./PINE TREE DR.	PINE TREE DR.	SCHOOL RD.					6,280	5,750	NC	NC	NC	5,320	15,600	12/19/22-12/20/22	Urban Major Collector
626	BANANA RIVER DR./PINE TREE DR.	SCHOOL RD.	PALM SPRINGS BLVD.					5,630	NC	5,010	NC	4,450	NC	15,600	12/07/21-12/08/21	Urban Major Collector
627	BANANA RIVER DR./PINE TREE DR.	PALM SPRINGS BLVD.	SR A1A					NC	5,150	NC	4,770	NC	4,540	15,600	12/15/22-12/16/22	Urban Major Collector
	CENTRAL BLVD.	SR A1A	RIDGEWOOD AVE.	2,660	4,300		3,945	3,050	4,290	3,050	3,820	3,080	NC			
303	CENTRAL BLVD.	SR A1A	N ATLANTIC AVE.	NC	4,300		5,290	NC	4,290	NC	3,820	NC	NC	15,600	11/18/20-11/19/20	Urban Minor Collector
301	CENTRAL BLVD.	N ATLANTIC AVE.	RIDGEWOOD AVE.	2,660	NC		2,600	3,050	NC	3,050	NC	3,080	NC	15,600	11/16/21-11/17/21	Urban Minor Collector
	EAU GALLIE BLVD. (SR 518)	CAUSEWAY	SR A1A	29,930	30,830		31,215	31,040	30,965	31,405	28,115	27,785	28,020			
312	EAU GALLIE BLVD. (SR 518)	CAUSEWAY	S PATRICK DR. (SR 513)	35,670	36,000		38,280	37,320	36,730	37,530	33,290	31,740	33,250	41,790	12/15/22-12/16/22	Urban Principal Arterial-Other
293	EAU GALLIE BLVD. (SR 518)	S PATRICK DR. (SR 513)	SR A1A	24,190	25,660		24,150	24,760	25,200	25,280	22,940	23,830	22,790	41,790	12/15/22-12/16/22	Urban Principal Arterial-Other
310	GEORGE KING BLVD. N. ATLANTIC AVE.	DAVE NISBET DR. SR A1A	N ATLANTIC AVE. GEORGE KING BLVD.	NC 6,045	NC 7,255		NC 5,975	NC 5,890	NC 6,470	NC 6,425	NC 6,145	NC 5,785	NC 6,240			
298	N. ATLANTIC AVE.	SR A1A	CANAVERAL BLVD.	NC	8,580		NC	NC	7,640	NC	7,420	NC	7,570	15,600	12/15/22-12/16/22	Urban Minor Collector
299	N. ATLANTIC AVE.	CANAVERAL BLVD.	CENTRAL BLVD.	6,570	NC		6,000	6,310	NC	6,850	NC	6,260	NC	15,600	11/23/21-11/24/21	Urban Minor Collector
300	N. ATLANTIC AVE.	CENTRAL BLVD.	GEORGE KING BLVD.	5,520	5,930		5,950	5,470	5,300	6,000	4,870	5,310	4,910	15,600	12/15/22-12/16/22	Urban Minor Collector
	OAK ST.	SR A1A	SR A1A/OCEAN AVE.	4,190	3,035		3,270	4,005	3,515	4,135	3,125	3,805	3,215			
314	OAK ST.	SR A1A	BONITA AVE.	NC	1,660		1,840	NC	1,870	NC	2,040	NC	1,930	15,600	12/15/22-12/16/22	Urban Major Collector
306	OAK ST.	BONITA AVE.	SURF RD.	3,390	NC		3,190	3,350	NC	3,560	NC	3,220	NC	15,600	11/23/21-11/24/21	Urban Major Collector
305	OAK ST.	SURF RD.	SR A1A/OCEAN AVE.	4,990	4,410		4,780	4,660	5,160	4,710	4,210	4,390	4,500	15,600	12/15/22-12/16/22	Urban Major Collector
307	OCEAN BEACH BLVD. PINEDA CSWY. (SR 404)	VOLUSIA LN. US 1	YOUNG AVE. SR A1A	3,510 31,430	3,670 32,730		4,210 33,680	4,050 32,970	3,840 35,747	3,920 35,587	2,890 28,267	2,980 31,437	3,150 32,897	15,600	12/15/22-12/16/22	Urban Minor Collector
267	PINEDA CSWY. (SR 404)	US 1	TROPICAL TR.	39,870	41,210		42,750	43,050	45,670	45,380	33,060	36,840	39,880	65,600	12/15/22-12/16/22	Urban Principal Arterial-Other
268	PINEDA CSWY. (SR 404)	S TROPICAL TR.	S PATRICK DR. (SR 513)	35,960	37,510		37,930	34,570	40,590	40,460	35,250	38,630	39,270	65,600	12/15/22-12/16/22	Urban Principal Arterial-Other
266	PINEDA CSWY. (SR 404)	S PATRICK DR. (SR 513)	SR A1A	18,460	19,470		20,360	21,290	20,980	20,920	16,490	18,840	19,540	41,790	12/15/22-12/16/22	Urban Principal Arterial-Other
302	RIDGEWOOD AVE. RIVERSIDE DR.	YOUNG AVE. US 192	CENTRAL BLVD. EAU GALLIE BLVD. (SR 518)	NC 9,780	2,000 7,575		2,360 10,323	NC 11,545	2,130 11,615	NC 12,360	2,030 8,880	NC 10,315	2,020 9,905	15,600	12/19/22-12/20/22	Urban Minor Collector
292	RIVERSIDE DR.	US 192	RIVIERA DR.	9,260	NC		9,380	11,090	NC	11,570	NC	10,290	NC	15,600	12/07/21-12/08/21	Urban Minor Arterial
286	RIVERSIDE DR.	RIVIERA DR.	PARADISE BLVD.	NC	7,700		10,230	NC	11,010	NC	8,270	NC	8,620	15,600	12/15/22-12/16/22	Urban Minor Arterial
313	RIVERSIDE DR.	PARADISE BLVD.	EAU GALLIE BLVD. (SR 518)	10,300	7,450		11,360	12,000	12,220	13,150	9,490	10,340	11,190	15,600	12/15/22-12/16/22	Urban Minor Arterial
	S. PATRICK DR. (SR 513)	EAU GALLIE BLVD. (SR 518)	BANANA RIVER DR.	21,440	22,660		22,960	21,770	25,360	23,090	23,220	23,690	23,190			
251	S. PATRICK DR. (SR 513)	EAU GALLIE BLVD. (SR 518)	YACHT CLUB BLVD.	NC	22,660		24,030	NC	25,360	NC	23,220	NC	23,190	41,790	12/15/22-12/16/22	Urban Minor Arterial
253	S. PATRICK DR. (SR 513)	YACHT CLUB BLVD.	BANANA RIVER DR.	21,440	NC		21,890	21,770	NC	23,090	NC	23,690	NC	41,790	11/16/21-11/17/21	Urban Minor Arterial
	S. PATRICK DR. (SR 513)	BANANA RIVER DR.	PINEDA S RAMPS	14,953	15,790		15,361	15,823	17,465	16,577	15,833	17,073	17,743			
541	S. PATRICK DR. (SR 513)	BANANA RIVER DR.	DESOTO PKWY.	NC	18,320		18,670	NC	19,620	NC	18,540	NC	20,520	19,470	12/19/22-12/20/22	Urban Minor Arterial
259	S. PATRICK DR. (SR 513)	DESOTO PKWY.	JACKSON CT.	16,510	NC		15,230	16,700	NC	17,980	NC	18,230	NC	18,590	11/16/21-11/17/21	Urban Minor Arterial
262	S. PATRICK DR. (SR 513)	JACKSON CT.	TITAN DR.	NC	14,980		15,530	NC	16,570	NC	15,490	NC	17,310	19,470	12/19/22-12/20/22	Urban Minor Arterial
263	S. PATRICK DR. (SR 513)	TITAN DR.	SHEARWATER PKWY.	14,240	NC		13,790	15,370	NC	16,390	NC	16,540	NC	19,470	11/16/21-11/17/21	Urban Minor Arterial
264	S. PATRICK DR. (SR 513)	SHEARWATER PKWY.	BERKELEY ST.	NC	14,530		14,990	NC	17,040	NC	14,550	NC	16,530	19,470	12/19/22-12/20/22	Urban Minor Arterial
265	S. PATRICK DR. (SR 513)	BERKELEY ST.	OCEAN BLVD.	14,110	NC		13,540	15,400	NC	15,360	NC	16,450	NC	18,590	12/09/21-12/10/21	Urban Minor Arterial
287	S. PATRICK DR. (SR 513)	OCEAN BLVD.	PINEDA S RAMPS	NC	15,330		15,780	NC	16,630	NC	14,750	NC	16,610	18,590	12/19/22-12/20/22	Urban Minor Arterial
	SR A1A	INDIAN RIVER COUNTY LINE	US 192	10,720	10,773		11,487	11,471	11,990	10,697	10,711	9,294	11,855			
295	SR A1A	INDIAN RIVER COUNTY LINE	STRAWBERRY LN.	2,580	2,460		3,000	2,790	3,140	3,160	2,920	3,180	2,670	24,200	12/19/22-12/20/22	Urban Minor Arterial
249	SR A1A	STRAWBERRY LN.	HERON DR.	4,550	4,570		4,920	4,790	5,110	5,200	4,530	4,170	4,880	24,200	12/19/22-12/20/22	Urban Minor Arterial
542	SR A1A	HERON DR.	MARLEN DR.	8,310	8,210		9,350	8,640	9,100	9,610	8,410	8,740	NC	24,200	11/30/21-12/01/21	Urban Minor Arterial
296	SR A1A	MARLEN DR.	OAK ST.	12,690	12,870		14,410	14,310	13,990	13,900	13,190	NC	14,050	24,200	12/19/22-12/20/22	Urban Minor Arterial
260	SR A1A	OAK ST.	OCEAN AVE.	11,440	11,660		13,180	11,870	12,830	13,200	11,970	12,500	12,250	17,700	12/19/22-12/20/22	Urban Minor Arterial
248	SR A1A	OCEAN AVE.	MIAMI AVE.	16,620	16,400		16,830	17,770	19,560	NC	16,190	17,320	17,670	17,700	12/19/22-12/20/22	Urban Minor Arterial
383	SR A1A	MIAMI AVE.	US 192	18,850	19,240		18,720	20,130	20,200	19,110	17,770	19,150	19,610	17,700	12/19/22-12/20/22	Urban Minor Arterial
	SR A1A	US 192	EAU GALLIE BLVD. (SR 518)	25,060	26,425		25,550	24,050	25,390	23,990	21,120	21,580	21,795			
250	SR A1A	PARADISE BLVD.	SR A1A	25,150	25,480		24,280	24,720	25,190	23,300	20,690	21,850	21,360	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
294	SR A1A	PARADISE BLVD.	EAU GALLIE BLVD. (SR 518)	24,970	27,370		26,820	23,380	25,590	24,680	21,550	21,310	22,230	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
	SR A1A	EAU GALLIE BLVD. (SR 518)	PINEDA CSWY. (SR 404)	22,344	22,863		24,300	23,280	22,910	23,738	17,468	20,590	19,903			
252	SR A1A	EAU GALLIE BLVD. (SR 518)	PALM SPRINGS BLVD.	25,640	NC		27,350	26,950	NC	26,800	NC	23,050	NC	41,790	12/16/21-12/17/21	Urban Principal Arterial-Other
254	SR A1A	PALM SPRINGS BLVD.	PINETREE DR.	NC	25,540		UC	NC	24,960	NC	19,530	NC	21,600	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
255	SR A1A	PINETREE DR.	DESOTO PKWY.	25,160	NC		26,770	25,900	NC	25,810	NC	22,090	NC	41,790	12/09/21-12/10/21	Urban Principal Arterial-Other
256	SR A1A	DESOTO PKWY.	CASSIA BLVD.	NC	23,630		UC	NC	23,490	NC	18,260	NC	20,230	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
257	SR A1A	CASSIA BLVD.	JACKSON CT.	22,810	NC		24,160	20,110	NC	24,130	NC	21,230	NC	41,790	11/18/21-11/19/21	Urban Principal Arterial-Other
543	SR A1A	JACKSON CT.	SHEARWATER PKWY.	NC	22,120		UC	NC	22,250	NC	16,880	NC	19,650	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
258	SR A1A	SHEARWATER PKWY.	BERKELEY ST.	20,510	NC		23,320	24,170	NC	22,120	NC	19,110	NC	41,790	11/18/21-11/19/21	Urban Principal Arterial-Other
544	SR A1A	BERKELEY ST.	OCEAN BLVD.	NC	20,160		UC	NC	20,940	NC	15,200	NC	18,130	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
545	SR A1A	OCEAN BLVD.	PINEDA CSWY. (SR 404)	17,600	NC		19,900	19,270	NC	19,830	NC	17,470	NC	41,790	11/18/21-11/19/21	Urban Principal Arterial-Other
	SR A1A	PINEDA CSWY. (SR 404)	S END OF ONE WAY PAIRS	17,095	17,560		18,455	18,850	18,730	18,705	17,530	16,815	17,380			
261	SR A1A	PINEDA CSWY. (SR 404)	PATRICK MAIN GATE	17,840	18,490		20,170	19,770	18,910	19,660	16,900	16,620	17,610	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
387	SR A1A	PATRICK MAIN GATE	S END OF ONE WAY PAIRS	16,350	16,630		16,740	17,930	18,550	17,750	18,160	17,010	17,150	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other

*Note: 2016 AADT's Beaches area were counted twice in 2016 and the AADT listed is the average of the two counts.
NC=Not Counted; UC=Under Construction

SPACE COAST TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNTS: 2013 - 2022

ID	ROAD	FROM	TO	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	2022 AADT	Current MAV	Last Count Taken	Functional Classification
AREA: BEACHES - NOTE: No counts were taken in 2015.																
	SR AIA (NB ONLY)	S END OF ONE WAY PAIRS	N END OF ONE WAY PAIRS	11,945	11,465		12,030	11,745	11,840	11,610	10,025	10,885	11,255			
269	SR AIA (NB ONLY)	S END OF ONE WAY PAIRS	MINUTEMEN CSWY.	10,860	10,530		10,530	10,790	11,090	10,660	9,140	10,120	10,250	19,440	12/19/22-12/20/22	Urban Principal Arterial-Other
272	SR AIA (NB ONLY)	MINUTEMEN CSWY.	N END OF ONE WAY PAIRS	13,030	12,400		13,530	12,700	12,590	12,560	10,910	11,650	12,260	19,440	12/19/22-12/20/22	Urban Principal Arterial-Other
	SR AIA (SB ONLY)	N END OF ONE WAY PAIRS	S END OF ONE WAY PAIRS	12,000	11,675		11,935	11,960	12,570	12,135	10,405	10,995	11,825			
270	SR AIA (SB ONLY)	N END OF ONE WAY PAIRS	MINUTEMEN CSWY.	13,090	12,690		12,690	13,450	13,770	13,230	11,460	12,140	13,030	19,440	12/19/22-12/20/22	Urban Principal Arterial-Other
546	SR AIA (SB ONLY)	MINUTEMEN CSWY.	S END OF ONE WAY PAIRS	10,910	10,660		11,180	10,470	11,370	11,040	9,350	9,850	10,620	19,440	12/19/22-12/20/22	Urban Principal Arterial-Other
	SR AIA	N END OF ONE WAY PAIRS	SR 520	31,816	30,930		33,743	33,197	32,902	32,043	27,140	29,476	31,046			
273	SR AIA	N END OF ONE WAY PAIRS	TULIP AVE.	30,660	29,760		31,270	30,860	31,910	29,390	26,520	27,780	30,920	34,020	12/19/22-12/20/22	Urban Principal Arterial-Other
274	SR AIA	TULIP AVE.	BAHAMA BLVD.	31,620	30,210		35,710	31,750	32,560	31,850	27,210	29,420	31,670	34,020	12/19/22-12/20/22	Urban Principal Arterial-Other
275	SR AIA	BAHAMA BLVD.	S BANANA RIVER BLVD.	NC	30,890		NC	32,510	32,700	NC	27,350	NC	30,130	34,020	12/19/22-12/20/22	Urban Principal Arterial-Other
276	SR AIA	S BANANA RIVER BLVD.	FISHER DR.	33,150	NC		34,830	34,020	NC	31,670	26,850	29,610	NC	34,020	12/01/21-12/02/21	Urban Principal Arterial-Other
277	SR AIA	FISHER DR.	ST. LUCIE LN.	32,470	32,670		34,880	35,590	33,760	35,260	28,570	29,950	33,410	34,020	12/19/22-12/20/22	Urban Principal Arterial-Other
278	SR AIA	ST. LUCIE LN.	MARION LN.	NC	31,120		31,900	NC	33,580	NC	26,340	NC	29,100	34,020	12/19/22-12/20/22	Urban Principal Arterial-Other
279	SR AIA	MARION LN.	SR 520	31,180	NC		33,870	34,450	NC	31,440	NC	30,620	NC	34,020	12/02/21-12/03/21	Urban Principal Arterial-Other
	SR AIA	SR 520	N ATLANTIC AVE.	29,350	30,078		30,070	29,823	28,648	28,880	24,098	25,808	-			
280	SR AIA	SR 520	OSCEOLA LN.	28,300	28,450		27,780	29,510	27,270	26,740	22,880	23,460	NC	39,800	12/02/21-12/03/21	Urban Principal Arterial-Other
281	SR AIA	OSCEOLA LN.	SHEPARD DR.	28,110	28,360		28,390	28,520	27,180	27,060	22,760	22,450	NC	39,800	12/09/21-12/10/21	Urban Principal Arterial-Other
282	SR AIA	SHEPARD DR.	MCKINLEY AVE.	NC	32,150		30,790	NC	30,370	NC	25,580	NC	NC	39,800	11/30/20-12/01/20	Urban Principal Arterial-Other
297	SR AIA	MCKINLEY AVE.	BUCHANAN AVE.	30,620	NC		32,990	32,960	NC	30,950	NC	32,070	NC	39,800	12/09/21-12/10/21	Urban Principal Arterial-Other
283	SR AIA	BUCHANAN AVE.	N ATLANTIC AVE.	30,370	31,350		30,400	28,300	29,770	30,770	25,170	25,250	NC	39,800	12/09/21-12/10/21	Urban Principal Arterial-Other
	SR AIA	N ATLANTIC AVE.	SR 401	28,310	28,550		28,205	26,760	28,400	30,805	22,865	23,390	24,130			
285	SR AIA	N ATLANTIC AVE.	CENTRAL BLVD.	24,840	24,680		25,490	26,760	24,640	25,800	20,060	20,780	24,130	41,790	12/19/22-12/20/22	Urban Principal Arterial-Other
284	SR AIA	CENTRAL BLVD.	SR 401	31,780	32,420		30,920	NC	32,160	35,810	25,670	26,000	NC	39,800	12/09/21-12/10/21	Urban Principal Arterial-Other
309	SR 401	SR 528-CCAFS	SR 528-CCAFS	11,860	12,110		12,860	11,430	14,490	14,200	10,390	10,680	NC	41,790	12/09/21-12/10/21	Urban Minor Arterial
	SR 520	WEST MERRITT ISLAND CAUSEWAY	SR A1A	24,130	24,685		24,925	24,575	24,265	23,555	19,175	19,750	-			
288	SR 520	WEST MERRITT ISLAND CAUSEWAY	EAST MERRITT ISLAND CAUSEWAY	24,610	25,520		25,640	25,190	25,020	24,440	22,300	23,080	NC	39,800	12/02/21-12/03/21	Urban Principal Arterial-Other
311	SR 520	EAST MERRITT ISLAND CAUSEWAY	SR A1A	23,650	23,850		24,210	23,960	23,510	22,670	16,050	16,420	NC	34,020	12/16/21-12/17/21	Urban Principal Arterial-Other
	US 192	CAUSEWAY	SR A1A	27,680	28,385		29,195	29,500	30,475	29,095	25,445	28,010	-			
289	US 192	CAUSEWAY	RIVERSIDE DR.	33,360	34,140		35,000	35,640	37,110	35,540	30,950	34,330	NC	41,790	12/07/21-12/08/21	Urban Principal Arterial-Other
290	US 192	RIVERSIDE DR.	SR A1A	22,000	22,630		23,390	23,360	23,840	22,650	19,940	21,690	NC	34,020	11/30/21-12/01/21	Urban Principal Arterial-Other

INTERSTATE 95

*Disclaimer: The following Traffic Counts are provided by The Florida Department of Transportation.
Questions or concerns regarding the counts below, should be directed to The Florida Department of Transportation.
Source: <https://tdaappsprod.dot.state.fl.us/fdot/>*

70-0441	I-95	INDIAN RIVER COUNTY	ST. JOHNS HERITAGE PKWY.									44,000	NC	64,000		Rural Principal Arterial-Interstate
70-0134	I-95	ST. JOHNS HERITAGE PKWY.	MALABAR RD. (SR 514)	35,000	39,614	40,650	42,760	45,330	46,680	48,620	43,130	52,705	54,314	64,000		Rural Principal Arterial-Interstate
70-0428	I-95	MALABAR RD. (SR 514)	PALM BAY RD.	31,500	55,000	59,500	64,500	61,500	62,500	64,500	62,500	61,500	61,500	111,800		Urban Principal Arterial-Interstate
70-0371	I-95	PALM BAY RD.	US 192	65,000	67,500	72,000	81,500	78,000	78,000	80,000	77,000	81,500	65,000	111,800		Urban Principal Arterial-Interstate
70-0372	I-95	US 192	EAU GALLIE BLVD. (SR 518)		41,000	43,500	68,500	72,500	75,500	84,500	77,500	78,500	77,500	111,800		Urban Principal Arterial-Interstate
70-0415	I-95	EAU GALLIE BLVD. (SR 518)	WICKHAM RD.	76,000	76,500	81,000	82,500	87,500	90,500	94,000	91,000	92,000	76,000	111,800		Urban Principal Arterial-Interstate
70-0388	I-95	WICKHAM RD.	FISKE BLVD. (SR 519)	55,000	57,000	60,500	68,000	72,500	75,500	86,000	83,000	84,000	88,000	111,800		Urban Principal Arterial-Interstate
70-9919	I-95	FISKE BLVD. (SR 519)	SR 520	67,139	71,181	77,120	81,760	85,450	87,920	88,670	76,440	89,978	94,085	111,800		Urban Principal Arterial-Interstate
70-0366	I-95	SR 520	SR 524		37,500	40,000	42,000	45,000	47,000	52,000	50,000	51,000	57,500	111,800		Urban Principal Arterial-Interstate
70-0368	I-95	SR 524	SR 528	50,500	54,000	57,000	65,000	58,000	67,500	69,000	67,000	68,000	67,500	111,800		Urban Principal Arterial-Interstate
70-0439	I-95	SR 528	PORT ST. JOHNS PKWY.	21,900	23,000	24,500	48,100	51,500	53,000	46,500	44,500	45,500	50,500	111,800		Urban Principal Arterial-Interstate
70-0401	I-95	PORT ST. JOHNS PKWY.	SR 407	37,000	38,500	42,000	45,000	52,500	47,500	48,500	46,500	47,500	48,500	111,800		Urban Principal Arterial-Interstate
70-0402	I-95	SR 407	SR 50	23,400	24,200	25,700	36,500	38,500	40,000	41,500	40,500	41,500	57,000	111,800		Urban Principal Arterial-Interstate
70-0364	I-95	SR 50	SR 406	36,000	37,500	39,500	26,500	28,500	29,500	41,000	40,000	41,000	36,000	111,800		Urban Principal Arterial-Interstate
70-0363	I-95	SR 406	SR 46	38,500	40,000	34,000	39,500	43,500	40,000	45,000	43,000	44,000	45,000	111,800		Urban Principal Arterial-Interstate
70-0322	I-95	SR 46	DEERING PKWY.	26,000	25,000	25,500	32,680	34,750	34,920	36,150	31,490	37,343	38,799	64,000		Rural Principal Arterial-Interstate
70-0436	I-95	DEERING PKWY.	VOLUSIA CO.	26,500	27,500	36,000	29,000	29,000	30,500	33,000	32,000	32,000	34,500	64,000		Rural Principal Arterial-Interstate

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	183	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	4	5	2	7	18
Located On	CARPENTER	1:00-2:00	1	4	4	0	9
Loc On Alias		2:00-3:00	2	2	1	0	5
From Road	Dairy	3:00-4:00	0	1	1	1	3
To Road	SR 46	4:00-5:00	3	6	2	8	19
Direction	2-WAY	5:00-6:00	13	16	30	19	78
County	Brevard	6:00-7:00	34	41	45	56	176
Community	Titusville	7:00-8:00	53	78	94	102	327
CMS Segment	280	8:00-9:00	86	85	74	51	296
HPMS ID		9:00-10:00	70	55	62	69	256
Agency	Space Coast TPO	10:00-11:00	64	60	70	76	270
		11:00-12:00	71	71	61	55	258
		12:00-13:00	62	50	60	69	241
		13:00-14:00	47	69	60	61	237
		14:00-15:00	58	72	58	76	264
		15:00-16:00	70	83	105	118	376
		16:00-17:00	95	123	100	102	420
		17:00-18:00	119	94	99	93	405
		18:00-19:00	101	93	84	65	343
		19:00-20:00	62	64	60	54	240
		20:00-21:00	51	61	35	31	178
		21:00-22:00	40	18	19	15	92
		22:00-23:00	14	10	11	13	48
		23:00-24:00 	11	11	7	4	33
		Total					4,592
		AADT					4640
		AM Peak	07:30-08:30 367				
		PM Peak	16:15-17:15 444				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	184	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	10	5	6	3	24
Located On	CARPENTER	1:00-2:00	4	7	2	3	16
Loc On Alias		2:00-3:00	1	5	4	0	10
From Road	Garden	3:00-4:00	3	4	9	5	21
To Road	Dairy	4:00-5:00	5	12	8	14	39
Direction	2-WAY	5:00-6:00	22	20	34	37	113
County	Brevard	6:00-7:00	50	64	82	93	289
Community	Titusville	7:00-8:00	84	107	179	130	500
CMS Segment	270	8:00-9:00	97	101	84	83	365
HPMS ID		9:00-10:00	81	87	81	74	323
Agency	Space Coast TPO	10:00-11:00	64	57	63	61	245
		11:00-12:00	84	64	77	69	294
		12:00-13:00	72	79	75	86	312
		13:00-14:00	82	77	76	86	321
		14:00-15:00	86	90	93	116	385
		15:00-16:00	98	97	144	115	454
		16:00-17:00	107	133	104	119	463
		17:00-18:00	109	97	92	105	403
		18:00-19:00	100	82	77	55	314
		19:00-20:00	67	61	79	78	285
		20:00-21:00	58	85	72	51	266
		21:00-22:00	29	28	25	34	116
		22:00-23:00	24	26	33	29	112
		23:00-24:00 	13	15	12	9	49
		Total					5,719
		AADT					5780
		AM Peak	07:15-08:15 513				
		PM Peak	15:30-16:30 499				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	185	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	8	5	2	3	18
Located On	DAIRY	1:00-2:00	3	3	2	4	12
Loc On Alias		2:00-3:00	1	2	2	1	6
From Road	Carpenter	3:00-4:00	1	2	2	2	7
To Road	Holder	4:00-5:00	5	10	5	15	35
Direction	2-WAY	5:00-6:00	12	9	28	16	65
County	Brevard	6:00-7:00	29	52	52	66	199
Community	Titusville	7:00-8:00	38	95	132	127	392
CMS Segment	400	8:00-9:00	106	133	77	65	381
HPMS ID		9:00-10:00	73	96	68	72	309
Agency	Space Coast TPO	10:00-11:00	76	57	58	74	265
		11:00-12:00	80	74	60	60	274
		12:00-13:00	73	70	82	89	314
		13:00-14:00	81	81	82	85	329
		14:00-15:00	82	75	89	88	334
		15:00-16:00	94	84	122	117	417
		16:00-17:00	101	142	99	113	455
		17:00-18:00	115	127	111	112	465
		18:00-19:00	100	91	76	66	333
		19:00-20:00	60	17	59	83	219
		20:00-21:00	55	63	54	34	206
		21:00-22:00	24	33	25	21	103
		22:00-23:00	15	18	12	15	60
		23:00-24:00 	13	9	9	8	39
		Total					5,237
		AADT					5290
		AM Peak	07:30-08:30 498				
		PM Peak	15:30-16:30 482				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	186	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	5	11	2	5	23
Located On	DAIRY	1:00-2:00	5	6	4	2	17
Loc On Alias		2:00-3:00	1	1	0	3	5
From Road	Singleton	3:00-4:00	5	4	6	3	18
To Road	Old Dixie	4:00-5:00	3	9	11	20	43
Direction	2-WAY	5:00-6:00	22	23	69	42	156
County	Brevard	6:00-7:00	51	73	100	98	322
Community	Titusville	7:00-8:00	60	91	102	144	397
CMS Segment	400	8:00-9:00	123	129	100	79	431
HPMS ID		9:00-10:00	128	118	103	97	446
Agency	Space Coast TPO	10:00-11:00	97	96	78	74	345
		11:00-12:00	94	99	92	98	383
		12:00-13:00	94	101	84	103	382
		13:00-14:00	92	105	91	115	403
		14:00-15:00	104	97	113	117	431
		15:00-16:00	130	145	174	168	617
		16:00-17:00	148	177	150	132	607
		17:00-18:00	166	153	154	155	628
		18:00-19:00	136	113	110	120	479
		19:00-20:00	109	66	77	132	384
		20:00-21:00	87	82	56	54	279
		21:00-22:00	54	38	42	28	162
		22:00-23:00	22	9	9	11	51
		23:00-24:00 	13	17	8	13	51
		Total					7,060
		AADT					7130
		AM Peak	07:30-08:30 498				
		PM Peak	15:30-16:30 667				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	188	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	0	5	3	1	9
Located On	CARPENTER	1:00-2:00	1	3	1	5	10
Loc On Alias		2:00-3:00	1	0	1	2	4
From Road	Fox Lake	3:00-4:00	2	0	1	1	4
To Road	Garden	4:00-5:00	2	1	2	5	10
Direction	2-WAY	5:00-6:00	6	4	8	11	29
County	Brevard	6:00-7:00	14	21	29	31	95
Community	Titusville	7:00-8:00	36	61	86	100	283
CMS Segment	260	8:00-9:00	78	50	56	52	236
HPMS ID		9:00-10:00	42	39	59	58	198
Agency	Space Coast TPO	10:00-11:00	42	48	52	50	192
		11:00-12:00	53	57	46	50	206
		12:00-13:00	52	60	61	47	220
		13:00-14:00	60	50	50	60	220
		14:00-15:00	77	73	62	77	289
		15:00-16:00	76	76	73	69	294
		16:00-17:00	69	89	82	85	325
		17:00-18:00	87	70	76	71	304
		18:00-19:00	51	56	48	45	200
		19:00-20:00	52	45	49	34	180
		20:00-21:00	35	40	24	24	123
		21:00-22:00	28	10	17	15	70
		22:00-23:00	13	11	6	3	33
		23:00-24:00 	5	4	8	2	19
		Total					3,553
		AADT					3590
		AM Peak	07:15-08:15 325				
		PM Peak	16:15-17:15 343				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/21/2023
End Date	Fri 9/22/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	199	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	14	 0:00-1:00	15	13	14	10	52
Located On	SR 46	1:00-2:00	8	12	4	14	38
Loc On Alias		2:00-3:00	11	7	9	10	37
From Road	195	3:00-4:00	5	13	17	9	44
To Road	US1	4:00-5:00	16	19	37	41	113
Direction	2-WAY	5:00-6:00	52	86	86	114	338
County	Brevard	6:00-7:00	123	172	199	202	696
Community	Mims	7:00-8:00	203	238	266	268	975
CMS Segment	1980	8:00-9:00	238	216	169	173	796
HPMS ID		9:00-10:00	161	186	169	153	669
Agency	Space Coast TPO	10:00-11:00	171	10	146	185	512
		11:00-12:00	137	173	159	187	656
		12:00-13:00	181	175	186	199	741
		13:00-14:00	156	179	164	183	682
		14:00-15:00	204	201	235	221	861
		15:00-16:00	215	236	255	269	975
		16:00-17:00	257	248	271	264	1,040
		17:00-18:00	211	252	293	267	1,023
		18:00-19:00	211	216	166	160	753
		19:00-20:00	162	139	131	129	561
		20:00-21:00	110	116	117	95	438
		21:00-22:00	88	73	79	41	281
		22:00-23:00	50	41	43	42	176
		23:00-24:00 	37	26	26	22	111
		Total					12,568
		AADT					12820
		AM Peak	07:15-08:15 1,010				
		PM Peak	15:45-16:45 1,045				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.020

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	200	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	14	 0:00-1:00	13	14	13	11	51
Located On	SR 46	1:00-2:00	11	8	3	4	26
Loc On Alias		2:00-3:00	6	4	7	8	25
From Road	Fawn Lake	3:00-4:00	8	18	18	11	55
To Road	I 95	4:00-5:00	17	25	34	34	110
Direction	2-WAY	5:00-6:00	49	52	68	101	270
County	Brevard	6:00-7:00	106	119	150	160	535
Community	Mims	7:00-8:00	123	184	210	201	718
CMS Segment	1975	8:00-9:00	185	196	161	136	678
HPMS ID		9:00-10:00	133	159	157	148	597
Agency	Space Coast TPO	10:00-11:00	157	156	156	134	603
		11:00-12:00	135	154	151	154	594
		12:00-13:00	165	201	160	171	697
		13:00-14:00	136	141	195	162	634
		14:00-15:00	187	184	146	173	690
		15:00-16:00	211	176	229	243	859
		16:00-17:00	240	240	256	222	958
		17:00-18:00	221	245	226	247	939
		18:00-19:00	200	169	136	138	643
		19:00-20:00	102	125	120	63	410
		20:00-21:00	74	81	75	51	281
		21:00-22:00	47	37	33	32	149
		22:00-23:00	41	29	35	32	137
		23:00-24:00 	23	24	19	18	84
		Total					10,743
		AADT					10740
		AM Peak	07:30-08:30 792				
		PM Peak	15:45-16:45 979				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 10/19/2023
End Date	Fri 10/20/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.000

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	201	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	04	 0:00-1:00	11	7	4	7	29
Located On	SR 46	1:00-2:00	5	5	6	4	20
Loc On Alias		2:00-3:00	2	3	6	2	13
From Road	Volusia Co	3:00-4:00	2	9	3	7	21
To Road	Fawn Lake	4:00-5:00	12	10	17	25	64
Direction	2-WAY	5:00-6:00	30	57	76	69	232
County	Brevard	6:00-7:00	100	122	125	105	452
Community	Mims	7:00-8:00	127	136	126	132	521
CMS Segment	1971	8:00-9:00	132	131	119	79	461
HPMS ID		9:00-10:00	114	103	80	75	372
Agency	Space Coast TPO	10:00-11:00	86	78	85	115	364
		11:00-12:00	119	107	105	96	427
		12:00-13:00	95	88	103	109	395
		13:00-14:00	111	102	104	95	412
		14:00-15:00	97	94	96	103	390
		15:00-16:00	103	111	152	136	502
		16:00-17:00	140	135	163	169	607
		17:00-18:00	145	131	86	122	484
		18:00-19:00	106	98	75	79	358
		19:00-20:00	67	56	48	47	218
		20:00-21:00	45	52	38	34	169
		21:00-22:00	32	25	32	19	108
		22:00-23:00	13	18	17	10	58
		23:00-24:00 	16	10	10	10	46
		Total					6,723
		AADT					6790
		AM Peak	07:15-08:15 526				
		PM Peak	16:15-17:15 612				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 11/15/2023
End Date	Thu 11/16/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	202	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	14	 0:00-1:00	17	12	13	15	57
Located On	SR 406 (Garden Street)	1:00-2:00	9	13	16	9	47
Loc On Alias		2:00-3:00	4	10	12	18	44
From Road	195	3:00-4:00	12	9	15	13	49
To Road	Singleton	4:00-5:00	25	26	26	40	117
Direction	2-WAY	5:00-6:00	64	86	99	107	356
County	Brevard	6:00-7:00	122	163	199	218	702
Community	Titusville	7:00-8:00	225	269	361	356	1,211
CMS Segment	720	8:00-9:00	311	313	200	232	1,056
HPMS ID		9:00-10:00	213	35	177	206	631
Agency	Space Coast TPO	10:00-11:00	195	194	172	203	764
		11:00-12:00	200	190	202	202	794
		12:00-13:00	218	200	208	221	847
		13:00-14:00	184	197	229	248	858
		14:00-15:00	200	236	249	293	978
		15:00-16:00	241	267	333	348	1,189
		16:00-17:00	320	319	283	321	1,243
		17:00-18:00	315	311	305	273	1,204
		18:00-19:00	272	237	222	223	954
		19:00-20:00	168	179	188	166	701
		20:00-21:00	156	155	117	123	551
		21:00-22:00	101	74	50	68	293
		22:00-23:00	43	53	44	29	169
		23:00-24:00 	55	27	26	19	127
		Total					14,942
		AADT					15240
		AM Peak	07:30-08:30 1,341				
		PM Peak	15:30-16:30 1,320				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.020

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	203	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	14	 0:00-1:00	26	25	32	15	98
Located On	SR 406 (Garden Street)	1:00-2:00	20	10	6	15	51
Loc On Alias		2:00-3:00	4	12	8	23	47
From Road	Singleton	3:00-4:00	7	8	13	11	39
To Road	Park	4:00-5:00	8	15	29	24	76
Direction	2-WAY	5:00-6:00	29	37	64	68	198
County	Brevard	6:00-7:00	84	94	140	160	478
Community	Titusville	7:00-8:00	177	162	195	227	761
CMS Segment	720	8:00-9:00	289	259	261	213	1,022
HPMS ID		9:00-10:00	230	206	220	202	858
Agency	Space Coast TPO	10:00-11:00	244	237	227	253	961
		11:00-12:00	234	234	246	251	965
		12:00-13:00	282	286	315	334	1,217
		13:00-14:00	271	284	289	263	1,107
		14:00-15:00	287	275	289	286	1,137
		15:00-16:00	310	283	300	335	1,228
		16:00-17:00	371	315	298	365	1,349
		17:00-18:00	352	367	307	270	1,296
		18:00-19:00	241	253	193	182	869
		19:00-20:00	156	152	180	159	647
		20:00-21:00	140	158	112	102	512
		21:00-22:00	91	96	64	63	314
		22:00-23:00	46	46	33	20	145
		23:00-24:00 	38	39	32	29	138
		Total					15,513
		AADT					15670
		AM Peak	11:45-12:45 1,134				
		PM Peak	16:45-17:45 1,391				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 10/11/2023
End Date	Thu 10/12/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010



Volume Count Report

LOCATION INFO	
Location ID	240
Type	LINK
Funct'l Class	17
Located On	OLD DIXIE
Loc On Alias	
From Road	Dairy
To Road	Parker
Direction	2-WAY
County	Brevard
Community	Titusville
CMS Segment	
HPMS ID	
Agency	Space Coast TPO

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 9/28/2023
End Date	Fri 9/29/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	0	1	0	1	2
1:00-2:00	0	1	0	0	1
2:00-3:00	0	2	0	0	2
3:00-4:00	0	0	0	0	0
4:00-5:00	0	0	0	5	5
5:00-6:00	6	0	4	7	17
6:00-7:00	1	7	8	11	27
7:00-8:00	5	14	11	25	55
8:00-9:00	21	11	9	16	57
9:00-10:00	7	11	9	10	37
10:00-11:00	6	17	10	3	36
11:00-12:00	4	10	10	14	38
12:00-13:00	17	15	13	14	59
13:00-14:00	13	30	14	14	71
14:00-15:00	14	16	27	20	77
15:00-16:00	18	19	24	11	72
16:00-17:00	13	19	18	17	67
17:00-18:00	17	19	11	16	63
18:00-19:00	20	15	4	8	47
19:00-20:00	10	11	16	10	47
20:00-21:00	4	12	11	17	44
21:00-22:00	7	2	10	7	26
22:00-23:00	2	1	3	2	8
23:00-24:00	3	5	0	1	9
Total					867
AADT					880
AM Peak	07:15-08:15				71
PM Peak	14:30-15:30				84

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	241	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	1	0	2	0	3
Located On	PARRISH	1:00-2:00	0	1	1	0	2
Loc On Alias		2:00-3:00	0	0	0	1	1
From Road	Singleton	3:00-4:00	0	0	1	1	2
To Road	US 1	4:00-5:00	0	2	0	2	4
Direction	2-WAY	5:00-6:00	2	5	9	13	29
County	Brevard	6:00-7:00	10	5	14	21	50
Community	Titusville	7:00-8:00	13	13	21	17	64
CMS Segment		8:00-9:00	14	12	19	12	57
HPMS ID		9:00-10:00	13	15	10	7	45
Agency	Space Coast TPO	10:00-11:00	13	14	7	17	51
		11:00-12:00	20	10	18	12	60
		12:00-13:00	19	14	14	12	59
		13:00-14:00	9	10	18	21	58
		14:00-15:00	16	11	10	9	46
		15:00-16:00	23	22	28	29	102
		16:00-17:00	25	21	26	25	97
		17:00-18:00	26	32	16	23	97
		18:00-19:00	9	18	13	3	43
		19:00-20:00	14	8	16	12	50
		20:00-21:00	13	7	12	10	42
		21:00-22:00	10	3	3	8	24
		22:00-23:00	5	5	3	5	18
		23:00-24:00 	3	3	5	2	13
		Total					1,017
		AADT					1020
		AM Peak	06:45-07:45 68				
		PM Peak	16:30-17:30 109				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 10/19/2023
End Date	Fri 10/20/2023
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.000

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	523	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	5	3	3	5	16
Located On	DAIRY	1:00-2:00	7	2	1	1	11
Loc On Alias		2:00-3:00	1	3	2	0	6
From Road	Holder	3:00-4:00	1	3	2	0	6
To Road	Singleton	4:00-5:00	1	5	5	5	16
Direction	2-WAY	5:00-6:00	11	13	19	25	68
County	Brevard	6:00-7:00	25	36	63	65	189
Community	Titusville	7:00-8:00	65	111	149	115	440
CMS Segment	400	8:00-9:00	133	186	98	85	502
HPMS ID		9:00-10:00	96	94	88	79	357
Agency	Space Coast TPO	10:00-11:00	59	78	78	72	287
		11:00-12:00	72	59	94	63	288
		12:00-13:00	98	79	81	89	347
		13:00-14:00	83	98	85	91	357
		14:00-15:00	84	95	109	126	414
		15:00-16:00	123	148	185	162	618
		16:00-17:00	150	146	147	149	592
		17:00-18:00	140	174	139	158	611
		18:00-19:00	118	112	92	85	407
		19:00-20:00	84	108	62	47	301
		20:00-21:00	40	26	24	29	119
		21:00-22:00	25	23	18	23	89
		22:00-23:00	27	15	10	18	70
		23:00-24:00 	9	9	13	6	37
		Total					6,148
		AADT					6210
		AM Peak	07:30-08:30 583				
		PM Peak	15:15-16:15 645				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 11/29/2022
End Date	Wed 11/30/2022
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Tube Class
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

Volume Count Report

LOCATION INFO		INTERVAL:15-MIN					
Location ID	595	Time	15-min Interval				Hourly Count
Type	LINK		1st	2nd	3rd	4th	
Funct'l Class	17	 0:00-1:00	5	6	5	4	20
Located On	SR 406 (Garden Street)	1:00-2:00	3	7	5	4	19
Loc On Alias		2:00-3:00	2	2	3	3	10
From Road	Carpenter	3:00-4:00	4	6	7	9	26
To Road	I 95	4:00-5:00	5	8	10	6	29
Direction	2-WAY	5:00-6:00	24	41	31	43	139
County	Brevard	6:00-7:00	57	57	86	82	282
Community	Titusville	7:00-8:00	83	123	238	255	699
CMS Segment		8:00-9:00	138	113	122	110	483
HPMS ID		9:00-10:00	92	90	90	101	373
Agency	Space Coast TPO	10:00-11:00	89	88	89	85	351
		11:00-12:00	103	92	90	104	389
		12:00-13:00	102	116	109	96	423
		13:00-14:00	106	93	92	128	419
		14:00-15:00	107	112	150	214	583
		15:00-16:00	120	141	166	155	582
		16:00-17:00	152	157	175	164	648
		17:00-18:00	186	154	135	136	611
		18:00-19:00	145	119	84	79	427
		19:00-20:00	94	86	70	58	308
		20:00-21:00	68	71	57	40	236
		21:00-22:00	38	34	29	24	125
		22:00-23:00	26	26	12	14	78
		23:00-24:00 	12	11	9	9	41
		Total					7,301
		AADT					7370
		AM Peak	07:15-08:15 754				
		PM Peak	16:15-17:15 682				

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 11/29/2022
End Date	Wed 11/30/2022
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	brevard
Station	
Study	
Speed Limit	
Description	
Sensor Type	Tube Class
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude,Longitude	
AADT Factor	1.010

APPENDIX H

Synchro Outputs

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Existing
AM Peak Hour

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	52	40	7	77	65	16
Future Vol, veh/h	52	40	7	77	65	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	6	5	0	1	2	13
Mvmt Flow	55	43	7	82	69	17

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	174	78	86	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	97	-	-	-	-	-
Critical Hdwy	6.46	6.25	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.345	2.2	-	-	-
Pot Cap-1 Maneuver	806	975	1523	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	802	975	1523	-	-	-
Mov Cap-2 Maneuver	802	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.67	0.61	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	150	-	869	-	-
HCM Lane V/C Ratio	0.005	-	0.113	-	-
HCM Control Delay (s/veh)	7.4	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Existing

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	33	479	37	66	280	104	21	11	108	7
Future Volume (vph)	33	479	37	66	280	104	21	11	108	7
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 82.8

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Existing
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	33	479	32	37	66	280	104	21	11	102	108	7
Future Volume (veh/h)	33	479	32	37	66	280	104	21	11	102	108	7
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No				No				No			No
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	36	521	35		72	304	113	23	12	111	117	8
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	399	597	40		269	679	469	64	16	152	224	51
Arrive On Green	0.05	0.36	0.36		0.07	0.38	0.38	0.04	0.10	0.10	0.09	0.17
Sat Flow, veh/h	1598	1678	113		1654	1767	1221	1810	159	1475	2607	308
Grp Volume(v), veh/h	36	0	556		72	304	113	23	0	123	117	0
Grp Sat Flow(s),veh/h/ln	1598	0	1791		1654	1767	1221	1810	0	1634	1303	0
Q Serve(g_s), s	1.0	0.0	21.5		1.9	9.5	4.7	0.9	0.0	5.4	3.2	0.0
Cycle Q Clear(g_c), s	1.0	0.0	21.5		1.9	9.5	4.7	0.9	0.0	5.4	3.2	0.0
Prop In Lane	1.00		0.06		1.00		1.00	1.00		0.90	1.00	
Lane Grp Cap(c), veh/h	399	0	637		269	679	469	64	0	169	224	0
V/C Ratio(X)	0.09	0.00	0.87		0.27	0.45	0.24	0.36	0.00	0.73	0.52	0.00
Avail Cap(c_a), veh/h	496	0	921		323	899	621	453	0	409	618	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	22.4		16.1	17.0	15.5	35.0	0.0	32.3	32.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	6.6		0.5	0.5	0.3	3.3	0.0	5.9	1.9	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
%ile BackOfQ(95%),veh/ln	0.6	0.0	13.9		1.2	6.2	2.2	0.8	0.0	4.1	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.9	0.0	29.0		16.6	17.5	15.8	38.3	0.0	38.2	34.4	0.0
LnGrp LOS	B		C		B	B	B	D		D	C	
Approach Vol, veh/h	592				489				146			160
Approach Delay, s/veh	28.0				16.9				38.2			32.3
Approach LOS	C				B				D			C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	33.6	9.0	19.0	10.5	35.7	13.8	14.3				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	3.9	23.5	2.9	3.6	3.0	11.5	5.2	7.4				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.1	0.0	2.0	0.3	0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	25.7
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Existing
AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	32
Future Volume (veh/h)	32
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	35
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	225
Arrive On Green	0.17
Sat Flow, veh/h	1349
Grp Volume(v), veh/h	43
Grp Sat Flow(s),veh/h/ln	1657
Q Serve(g_s), s	1.6
Cycle Q Clear(g_c), s	1.6
Prop In Lane	0.81
Lane Grp Cap(c), veh/h	277
V/C Ratio(X)	0.16
Avail Cap(c_a), veh/h	411
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	26.5
Incr Delay (d2), s/veh	0.3
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.1
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	26.7
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC

3: Carpenter Rd & Dairy Rd

Existing
AM Peak Hour

Intersection

Intersection Delay, s/veh 11

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	28	16	138	6	40	6	52	121	127	142	3
Future Vol, veh/h	1	28	16	138	6	40	6	52	121	127	142	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	2	17	3	0	0	1	2	1	0
Mvmt Flow	1	33	19	160	7	47	7	60	141	148	165	3
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	9	11.2	9.6	12.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	2%	96%	0%	47%
Vol Thru, %	29%	62%	4%	0%	52%
Vol Right, %	68%	36%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	45	144	40	272
LT Vol	6	1	138	0	127
Through Vol	52	28	6	0	142
RT Vol	121	16	0	40	3
Lane Flow Rate	208	52	167	47	316
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.276	0.08	0.299	0.071	0.441
Departure Headway (Hd)	4.774	5.538	6.423	5.486	5.125
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	758	648	563	655	708
Service Time	2.774	3.558	4.135	3.199	3.125
HCM Lane V/C Ratio	0.274	0.08	0.297	0.072	0.446
HCM Control Delay, s/veh	9.6	9	11.9	8.6	12.1
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	1.1	0.3	1.2	0.2	2.3

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Existing
AM Peak Hour

Intersection													
Int Delay, s/veh	3.6												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	336	402	2	298	445	0	0	0	0	32	0	45
Future Vol, veh/h	0	336	402	2	298	445	0	0	0	0	32	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	11	0	5	10	0	0	0	0	6	0	36
Mvmt Flow	0	365	437	2	324	484	0	0	0	0	35	0	49
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	365	365	0	0				1314	-	484
Stage 1	-	-	-	-	-	-	-				1132	-	-
Stage 2	-	-	-	-	-	-	-				183	-	-
Critical Hdwy	-	-	-	6.9	4.175	-	-				6.69	-	6.74
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.89	-	-
Follow-up Hdwy	-	-	-	3.12	2.475	-	-				3.557	-	3.642
Pot Cap-1 Maneuver	0	-	0	672	1173	-	0				157	0	505
Stage 1	0	-	0	-	-	-	0				299	0	-
Stage 2	0	-	0	-	-	-	0				820	0	-
Platoon blocked, %		-				-							
Mov Cap-1 Maneuver	-	-	-	1167	1167	-	-				129	0	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				206	0	-
Stage 1	-	-	-	-	-	-	-				299	0	-
Stage 2	-	-	-	-	-	-	-				675	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			3.74				18.35					
HCM LOS	C												
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1167	-	206	505								
HCM Lane V/C Ratio	-	0.279	-	0.169	0.097								
HCM Control Delay (s/veh)	-	9.3	-	26	12.9								
HCM Lane LOS	-	A	-	D	B								
HCM 95th %tile Q(veh)	-	1.2	-	0.6	0.3								

Timings

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing

AM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations		↩	↑	↑↑	↑	↩	↩
Traffic Volume (vph)	9	68	302	513	40	206	165
Future Volume (vph)	9	68	302	513	40	206	165
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	14.0	14.0	14.0	14.0		10.0	
Minimum Split (s)	24.8	24.8	24.8	24.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing
AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	9	68	302	0	0	513	40	206	0	165	0	0
Future Volume (veh/h)	9	68	302	0	0	513	40	206	0	165	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1618	1841	0	0	1811	1752	1678	0	1767		
Adj Flow Rate, veh/h		76	339	0	0	576	0	231	0	0		
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %		19	4	0	0	6	10	15	0	9		
Cap, veh/h		586	1433	0	0	2317		250	0			
Arrive On Green		0.07	0.78	0.00	0.00	0.67	0.00	0.16	0.00	0.00		
Sat Flow, veh/h		1541	1841	0	0	3532	1485	1598	0	1497		
Grp Volume(v), veh/h		76	339	0	0	576	0	231	0	0		
Grp Sat Flow(s),veh/h/ln		1541	1841	0	0	1721	1485	1598	0	1497		
Q Serve(g_s), s		2.5	10.0	0.0	0.0	13.1	0.0	28.5	0.0	0.0		
Cycle Q Clear(g_c), s		2.5	10.0	0.0	0.0	13.1	0.0	28.5	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		586	1433	0	0	2317		250	0			
V/C Ratio(X)		0.13	0.24	0.00	0.00	0.25		0.93	0.00			
Avail Cap(c_a), veh/h		586	1433	0	0	2317		637	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		7.0	6.0	0.0	0.0	12.8	0.0	83.2	0.0	0.0		
Incr Delay (d2), s/veh		0.5	0.4	0.0	0.0	0.3	0.0	13.7	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		
%ile BackOfQ(95%),veh/ln		1.6	6.8	0.0	0.0	8.8	0.0	18.7	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		7.4	6.4	0.0	0.0	13.1	0.0	96.9	0.0	0.0		
LnGrp LOS		A	A			B		F				
Approach Vol, veh/h			415			576			231			
Approach Delay, s/veh			6.6			13.1			96.9			
Approach LOS			A			B			F			
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		162.5			21.0	141.5		37.5				
Change Period (Y+Rc), s		6.8			6.8	6.8		6.3				
Max Green Setting (Gmax), s		107.2			14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s		12.0			4.5	15.1		30.5				
Green Ext Time (p_c), s		2.0			0.1	4.0		0.7				

Intersection Summary

HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

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

HCM 7th Signalized Intersection Summary 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing
 AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Existing
AM Peak Hour

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	10	0	0	0	2	66	0	1	84	13
Future Vol, veh/h	20	0	10	0	0	0	2	66	0	1	84	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	1	15
Mvmt Flow	21	0	11	0	0	0	2	70	0	1	89	14
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	173	173	96	166	180	70	103	0	0	70	0	0
Stage 1	98	98	-	74	74	-	-	-	-	-	-	-
Stage 2	74	74	-	91	105	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	783	724	966	803	718	998	1501	-	-	1543	-	-
Stage 1	901	817	-	940	837	-	-	-	-	-	-	-
Stage 2	927	837	-	921	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	782	722	966	792	716	998	1501	-	-	1543	-	-
Mov Cap-2 Maneuver	782	722	-	792	716	-	-	-	-	-	-	-
Stage 1	900	817	-	938	836	-	-	-	-	-	-	-
Stage 2	926	836	-	910	811	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.48		0		0.22		0.07					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	53	-	-	835	-	18	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.038	-	0.001	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.5	0	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-				

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Existing
PM Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	25	30	51	74	111	33
Future Vol, veh/h	25	30	51	74	111	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	3	2	3
Mvmt Flow	27	32	55	80	119	35

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	326	137	155	0	-	0
Stage 1	137	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	672	917	1413	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	645	917	1413	-	-	-
Mov Cap-2 Maneuver	645	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.07		3.12	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	734	-	769	-	-
HCM Lane V/C Ratio	0.039	-	0.077	-	-
HCM Control Delay (s/veh)	7.7	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Timings 2: Carpenter Rd/Loves Driveway & SR 46

Existing
PM Peak Hour

										
Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	19	335	16	131	558	116	41	13	92	14
Future Volume (vph)	19	335	16	131	558	116	41	13	92	14
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None

Intersection Summary

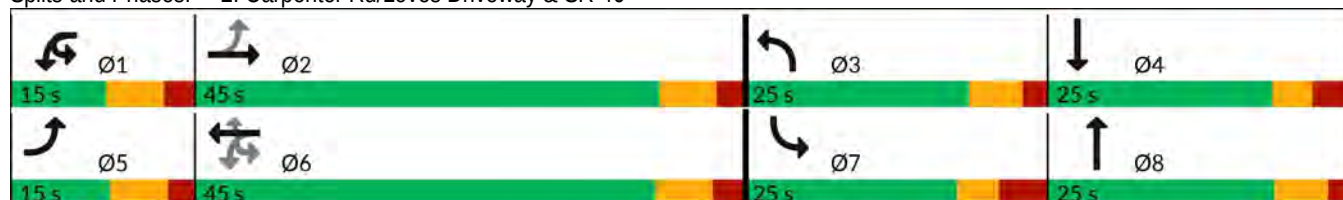
Cycle Length: 110

Actuated Cycle Length: 70.4

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Existing
PM Peak Hour

															
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT			
Lane Configurations															
Traffic Volume (veh/h)	19	335	43	16	131	558	116	41	13	74	92	14			
Future Volume (veh/h)	19	335	43	16	131	558	116	41	13	74	92	14			
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	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			
Work Zone On Approach	No			No			No			No					
Adj Sat Flow, veh/h/ln	1900	1900	1900		1870	1841	1426	1826	1900	1841	1366	1589			
Adj Flow Rate, veh/h	20	356	46		139	594	123	44	14	79	98	15			
Peak Hour Factor	0.94	0.94	0.94		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0		2	4	32	5	0	4	36	21			
Cap, veh/h	223	510	66		389	694	456	101	24	138	217	57			
Arrive On Green	0.03	0.31	0.31		0.09	0.38	0.38	0.06	0.10	0.10	0.09	0.14			
Sat Flow, veh/h	1810	1649	213		1781	1841	1208	1739	248	1400	2525	406			
Grp Volume(v), veh/h	20	0	402		139	594	123	44	0	93	98	0			
Grp Sat Flow(s),veh/h/ln	1810	0	1862		1781	1841	1208	1739	0	1648	1262	0			
Q Serve(g_s), s	0.5	0.0	13.1		3.5	20.5	4.9	1.7	0.0	3.7	2.5	0.0			
Cycle Q Clear(g_c), s	0.5	0.0	13.1		3.5	20.5	4.9	1.7	0.0	3.7	2.5	0.0			
Prop In Lane	1.00		0.11		1.00		1.00	1.00		0.85	1.00				
Lane Grp Cap(c), veh/h	223	0	576		389	694	456	101	0	163	217	0			
V/C Ratio(X)	0.09	0.00	0.70		0.36	0.86	0.27	0.44	0.00	0.57	0.45	0.00			
Avail Cap(c_a), veh/h	379	0	1031		423	1009	662	469	0	444	644	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			
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	17.0	0.0	21.0		14.8	19.8	14.9	31.4	0.0	29.7	30.0	0.0			
Incr Delay (d2), s/veh	0.2	0.0	1.5		0.6	5.1	0.3	3.0	0.0	3.1	1.5	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			
%ile BackOfQ(95%),veh/ln	0.3	0.0	9.0		2.2	13.0	2.2	1.3	0.0	2.7	1.4	0.0			
Unsig. Movement Delay, s/veh															
LnGrp Delay(d), s/veh	17.2	0.0	22.5		15.3	24.8	15.2	34.4	0.0	32.8	31.5	0.0			
LnGrp LOS	B		C		B	C	B	C		C	C				
Approach Vol, veh/h	422			856			137			150					
Approach Delay, s/veh	22.3			21.9			33.3			29.9					
Approach LOS	C			C			C			C					
Timer - Assigned Phs	1	2	3	4	5	6	7	8							
Phs Duration (G+Y+Rc), s	13.7	28.5	10.4	16.4	9.0	33.2	13.3	13.4							
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6							
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19							
Max Q Clear Time (g_c+I1), s	5.5	15.1	3.7	4.3	2.5	22.5	4.5	5.7							
Green Ext Time (p_c), s	0.1	2.2	0.1	0.1	0.0	3.5	0.2	0.3							

Intersection Summary

HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Existing
PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	35
Future Volume (veh/h)	35
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	37
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	142
Arrive On Green	0.14
Sat Flow, veh/h	1002
Grp Volume(v), veh/h	52
Grp Sat Flow(s),veh/h/ln	1408
Q Serve(g_s), s	2.3
Cycle Q Clear(g_c), s	2.3
Prop In Lane	0.71
Lane Grp Cap(c), veh/h	199
V/C Ratio(X)	0.26
Avail Cap(c_a), veh/h	376
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	26.4
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	27.1
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC

3: Carpenter Rd & Dairy Rd

Existing
PM Peak Hour

Intersection

Intersection Delay, s/veh10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	14	16	100	23	138	22	129	113	85	102	1
Future Vol, veh/h	0	14	16	100	23	138	22	129	113	85	102	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	0	0	0	2	4	0	3	0
Mvmt Flow	0	15	17	106	24	147	23	137	120	90	109	1
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	8.6	9.8	10.5	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	0%	81%	0%	45%
Vol Thru, %	49%	47%	19%	0%	54%
Vol Right, %	43%	53%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	264	30	123	138	188
LT Vol	22	0	100	0	85
Through Vol	129	14	23	0	102
RT Vol	113	16	0	138	1
Lane Flow Rate	281	32	131	147	200
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.366	0.047	0.222	0.202	0.283
Departure Headway (Hd)	4.695	5.344	6.106	4.953	5.102
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	758	674	582	715	698
Service Time	2.766	3.344	3.901	2.747	3.184
HCM Lane V/C Ratio	0.371	0.047	0.225	0.206	0.287
HCM Control Delay, s/veh	10.5	8.6	10.7	9	10.2
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	1.7	0.1	0.8	0.8	1.2

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Existing
PM Peak Hour

Intersection													
Int Delay, s/veh	2.9												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	263	261	2	157	712	0	0	0	0	38	1	91
Future Vol, veh/h	0	263	261	2	157	712	0	0	0	0	38	1	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	2	5	0	0	0	0	5	100	20
Mvmt Flow	0	271	269	2	162	734	0	0	0	0	39	1	94
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	271	271	0	0				1193	1333	734
Stage 1	-	-	-	-	-	-	-				1058	1062	-
Stage 2	-	-	-	-	-	-	-				136	271	-
Critical Hdwy	-	-	-	6.9	4.13	-	-				6.675	8	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.475	7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.875	7	-
Follow-up Hdwy	-	-	-	3.1	2.219	-	-				3.5475	4.95	3.49
Pot Cap-1 Maneuver	0	-	0	774	1291	-	0				189	82	383
Stage 1	0	-	0	-	-	-	0				327	175	-
Stage 2	0	-	0	-	-	-	0				869	514	-
Platoon blocked, %		-				-							
Mov Cap-1 Maneuver	-	-	-	1280	1280	-	-				174	0	383
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				264	0	-
Stage 1	-	-	-	-	-	-	-				327	0	-
Stage 2	-	-	-	-	-	-	-				800	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			1.5				18.48					
HCM LOS	C												
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1280	-	264	383								
HCM Lane V/C Ratio	-	0.128	-	0.149	0.245								
HCM Control Delay (s/veh)	-	8.2	-	21	17.4								
HCM Lane LOS	-	A	-	C	C								
HCM 95th %tile Q(veh)	-	0.4	-	0.5	0.9								

Timings

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing

PM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations								
Traffic Volume (vph)	2	42	262	462	36	408	1	326
Future Volume (vph)	2	42	262	462	36	408	1	326
Turn Type	pm+pt	pm+pt	NA	NA	Free	Split	NA	Free
Protected Phases	5	5	2	6		8	8	
Permitted Phases	2	2			Free			Free
Detector Phase	5	5	2	6		8	8	
Switch Phase								
Minimum Initial (s)	10.0	10.0	14.0	14.0		10.0	10.0	
Minimum Split (s)	20.8	20.8	20.8	20.8		16.3	16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.8	6.8	6.8		6.3		
Lead/Lag	Lead	Lead		Lag				
Lead-Lag Optimize?	Yes	Yes		Yes				
Recall Mode	Max	Max	C-Max	Max		None	None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107.2 (54%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	42	262	0	0	462	36	408	1	326	0	0
Future Volume (veh/h)	2	42	262	0	0	462	36	408	1	326	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1900	1900	0	0	1870	1737	1781	1900	1811		
Adj Flow Rate, veh/h		44	273	0	0	481	0	425	1	0		
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %		0	0	0	0	2	11	8	0	6		
Cap, veh/h		627	1275	0	0	2012		447	0			
Arrive On Green		0.07	0.67	0.00	0.00	0.57	0.00	0.26	0.26	0.00		
Sat Flow, veh/h		1810	1900	0	0	3647	1472	1697	0	1535		
Grp Volume(v), veh/h		44	273	0	0	481	0	425	0	0		
Grp Sat Flow(s),veh/h/ln		1810	1900	0	0	1777	1472	1697	0	1535		
Q Serve(g_s), s		1.8	11.0	0.0	0.0	13.6	0.0	49.3	0.0	0.0		
Cycle Q Clear(g_c), s		1.8	11.0	0.0	0.0	13.6	0.0	49.3	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		627	1275	0	0	2012		447	0			
V/C Ratio(X)		0.07	0.21	0.00	0.00	0.24		0.95	0.00			
Avail Cap(c_a), veh/h		627	1275	0	0	2012		676	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		13.4	12.6	0.0	0.0	21.8	0.0	72.4	0.0	0.0		
Incr Delay (d2), s/veh		0.2	0.4	0.0	0.0	0.3	0.0	18.1	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		
%ile BackOfQ(95%),veh/ln		1.4	8.4	0.0	0.0	9.7	0.0	31.8	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		13.6	13.0	0.0	0.0	22.0	0.0	90.5	0.0	0.0		
LnGrp LOS		B	B			C		F				
Approach Vol, veh/h						481			425			
Approach Delay, s/veh			13.1			22.0			90.5			
Approach LOS			B			C			F			
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		141.1			21.0	120.1		58.9				
Change Period (Y+Rc), s		6.8			6.8	6.8		6.3				
Max Green Setting (Gmax), s		107.2			14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s		13.0			3.8	15.6		51.3				
Green Ext Time (p_c), s		1.5			0.0	3.2		1.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			43.5									
HCM 7th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Existing
 PM Peak Hour



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Rd

Existing
PM Peak Hour

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	16	0	4	0	0	0	6	133	0	2	123	33
Future Vol, veh/h	16	0	4	0	0	0	6	133	0	2	123	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	3	3
Mvmt Flow	17	0	4	0	0	0	6	139	0	2	128	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	301	301	145	283	318	139	163	0	0	139	0	0
Stage 1	149	149	-	151	151	-	-	-	-	-	-	-
Stage 2	151	151	-	132	167	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	656	615	907	673	602	915	1429	-	-	1458	-	-
Stage 1	858	777	-	856	776	-	-	-	-	-	-	-
Stage 2	856	776	-	876	764	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	652	611	907	666	598	915	1429	-	-	1458	-	-
Mov Cap-2 Maneuver	652	611	-	666	598	-	-	-	-	-	-	-
Stage 1	856	776	-	852	772	-	-	-	-	-	-	-
Stage 2	852	772	-	871	763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.38		0	0.33	0.09
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	78	-	-	691	-	22	-
HCM Lane V/C Ratio	0.004	-	-	0.03	-	0.001	-
HCM Control Delay (s/veh)	7.5	0	-	10.4	0	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Background - 2026
AM Peak Hour

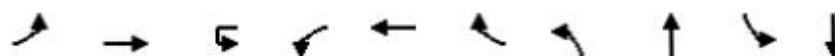
Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	54	42	7	80	68	17
Future Vol, veh/h	54	42	7	80	68	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	6	5	0	1	2	13
Mvmt Flow	57	45	7	85	72	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	181	81	90	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.46	6.25	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.345	2.2	-	-	-
Pot Cap-1 Maneuver	799	970	1517	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	795	970	1517	-	-	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.73	0.59		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	145	-	863	-	-	
HCM Lane V/C Ratio	0.005	-	0.118	-	-	
HCM Control Delay (s/veh)	7.4	0	9.7	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	

Timings

Background - 2026

2: Carpenter Rd/Loves Driveway & SR 46

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	498	38	69	291	108	22	11	112	7
Future Volume (vph)	34	498	38	69	291	108	22	11	112	7
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

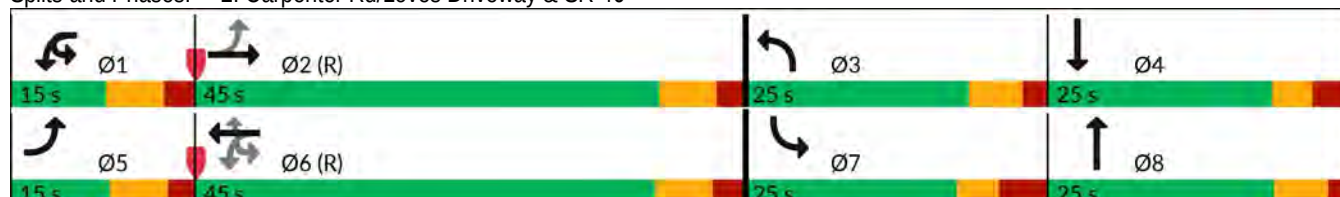
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2026

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	34	498	33	38	69	291	108	22	11	106	112	7
Future Volume (veh/h)	34	498	33	38	69	291	108	22	11	106	112	7
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	37	541	36		75	316	117	24	12	115	122	8
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	512	878	58		390	955	660	60	15	144	169	41
Arrive On Green	0.04	0.52	0.52		0.06	0.54	0.54	0.03	0.10	0.10	0.06	0.14
Sat Flow, veh/h	1598	1679	112		1654	1767	1221	1810	154	1479	2607	301
Grp Volume(v), veh/h	37	0	577		75	316	117	24	0	127	122	0
Grp Sat Flow(s),veh/h/ln	1598	0	1791		1654	1767	1221	1810	0	1634	1303	0
Q Serve(g_s), s	1.1	0.0	24.9		2.2	11.0	5.4	1.4	0.0	8.4	5.1	0.0
Cycle Q Clear(g_c), s	1.1	0.0	24.9		2.2	11.0	5.4	1.4	0.0	8.4	5.1	0.0
Prop In Lane	1.00		0.06		1.00		1.00	1.00		0.91	1.00	
Lane Grp Cap(c), veh/h	512	0	936		390	955	660	60	0	159	169	0
V/C Ratio(X)	0.07	0.00	0.62		0.19	0.33	0.18	0.40	0.00	0.80	0.72	0.00
Avail Cap(c_a), veh/h	562	0	936		413	955	660	306	0	276	417	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	18.5		13.3	14.1	12.8	52.1	0.0	48.6	50.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	3.0		0.2	0.9	0.6	4.3	0.0	8.9	5.8	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
%ile BackOfQ(95%),veh/ln	0.7	0.0	15.4		1.4	7.7	2.7	1.3	0.0	6.7	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.1	0.0	21.5		13.5	15.1	13.4	56.4	0.0	57.6	56.2	0.0
LnGrp LOS	B		C		B	B	B	E		E	E	
Approach Vol, veh/h	614			508			151			166		
Approach Delay, s/veh	20.9			14.5			57.4			52.6		
Approach LOS	C			B			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	64.7	10.0	21.8	11.5	66.7	14.5	17.3				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	4.2	26.9	3.4	4.6	3.1	13.0	7.1	10.4				
Green Ext Time (p_c), s	0.0	2.6	0.0	0.1	0.0	2.1	0.2	0.3				

Intersection Summary

HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2026

AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	33
Future Volume (veh/h)	33
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	36
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	187
Arrive On Green	0.14
Sat Flow, veh/h	1355
Grp Volume(v), veh/h	44
Grp Sat Flow(s),veh/h/ln	1656
Q Serve(g_s), s	2.6
Cycle Q Clear(g_c), s	2.6
Prop In Lane	0.82
Lane Grp Cap(c), veh/h	228
V/C Ratio(X)	0.19
Avail Cap(c_a), veh/h	277
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	42.0
Incr Delay (d2), s/veh	0.4
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	42.4
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection

Intersection Delay, s/veh11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	29	17	144	6	42	6	54	126	132	148	3
Future Vol, veh/h	1	29	17	144	6	42	6	54	126	132	148	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	2	17	3	0	0	1	2	1	0
Mvmt Flow	1	34	20	167	7	49	7	63	147	153	172	3
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach RightNB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh9.2		11.4	9.8	12.8
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	2%	96%	0%	47%
Vol Thru, %	29%	62%	4%	0%	52%
Vol Right, %	68%	36%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	186	47	150	42	283
LT Vol	6	1	144	0	132
Through Vol	54	29	6	0	148
RT Vol	126	17	0	42	3
Lane Flow Rate	216	55	174	49	329
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.29	0.085	0.315	0.075	0.474
Departure Headway (Hd)	4.825	5.63	6.496	5.558	5.185
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	744	636	555	645	698
Service Time	2.855	3.671	4.227	3.289	3.185
HCM Lane V/C Ratio	0.29	0.086	0.314	0.076	0.471
HCM Control Delay, s/veh	9.8	9.2	12.2	8.7	12.8
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	1.2	0.3	1.3	0.2	2.6

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Background - 2026
AM Peak Hour

Intersection													
Int Delay, s/veh	3.6												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	349	418	2	310	463	0	0	0	0	33	0	47
Future Vol, veh/h	0	349	418	2	310	463	0	0	0	0	33	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	11	0	5	10	0	0	0	0	6	0	36
Mvmt Flow	0	379	454	2	337	503	0	0	0	0	36	0	51
Major/Minor	Major1			Major2			Minor2						
Conflicting Flow All	-	0	-	379	379	0	0				1367	-	503
Stage 1	-	-	-	-	-	-	-				1177	-	-
Stage 2	-	-	-	-	-	-	-				190	-	-
Critical Hdwy	-	-	-	6.9	4.175	-	-				6.69	-	6.74
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.89	-	-
Follow-up Hdwy	-	-	-	3.12	2.475	-	-				3.557	-	3.642
Pot Cap-1 Maneuver	0	-	0	658	1159	-	0				163	0	601
Stage 1	0	-	0	-	-	-	0				310	0	-
Stage 2	0	-	0	-	-	-	0				814	0	-
Platoon blocked, %		-				-					0		0
Mov Cap-1 Maneuver	-	-	-	1153	1153	-	-				133	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				205	0	-
Stage 1	-	-	-	-	-	-	-				310	0	-
Stage 2	-	-	-	-	-	-	-				662	0	-
Approach	EB			WB			SB						
HCM Control Delay, s/v	0			3.79			17.62						
HCM LOS							C						
Minor Lane/Major Mvmt	EBT		WBL	WBT	SBLn1	SBLn2							
Capacity (veh/h)	-		1153	-	205	601							
HCM Lane V/C Ratio	-		0.294	-	0.175	0.085							
HCM Control Delay (s/veh)	-		9.4	-	26.3	11.5							
HCM Lane LOS	-		A	-	D	B							
HCM 95th %tile Q(veh)	-		1.2	-	0.6	0.3							

Timings

Background - 2026

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

AM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations		↩	↑	↑↑	↑	↩	↩
Traffic Volume (vph)	9	71	314	534	42	214	172
Future Volume (vph)	9	71	314	534	42	214	172
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	14.0	14.0	14.0	14.0		10.0	
Minimum Split (s)	24.8	24.8	24.8	24.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2026

AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	9	71	314	0	0	534	42	214	0	172	0	0
Future Volume (veh/h)	9	71	314	0	0	534	42	214	0	172	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1618	1841	0	0	1811	1752	1678	0	1767		
Adj Flow Rate, veh/h		80	353	0	0	600	0	240	0	0		
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %		19	4	0	0	6	10	15	0	9		
Cap, veh/h		569	1422	0	0	2297		259	0			
Arrive On Green		0.07	0.77	0.00	0.00	0.67	0.00	0.16	0.00	0.00		
Sat Flow, veh/h		1541	1841	0	0	3532	1485	1598	0	1497		
Grp Volume(v), veh/h		80	353	0	0	600	0	240	0	0		
Grp Sat Flow(s),veh/h/ln		1541	1841	0	0	1721	1485	1598	0	1497		
Q Serve(g_s), s		2.8	10.8	0.0	0.0	14.0	0.0	29.6	0.0	0.0		
Cycle Q Clear(g_c), s		2.8	10.8	0.0	0.0	14.0	0.0	29.6	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		569	1422	0	0	2297		259	0			
V/C Ratio(X)		0.14	0.25	0.00	0.00	0.26		0.93	0.00			
Avail Cap(c_a), veh/h		569	1422	0	0	2297		637	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		7.4	6.4	0.0	0.0	13.4	0.0	82.7	0.0	0.0		
Incr Delay (d2), s/veh		0.5	0.4	0.0	0.0	0.3	0.0	13.6	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		
%ile BackOfQ(95%),veh/ln		1.7	7.4	0.0	0.0	9.3	0.0	19.3	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		7.9	6.8	0.0	0.0	13.7	0.0	96.3	0.0	0.0		
LnGrp LOS		A	A			B		F				
Approach Vol, veh/h			433			600			240			
Approach Delay, s/veh			7.0			13.7			96.3			
Approach LOS			A			B			F			
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		161.3			21.0	140.3		38.7				
Change Period (Y+Rc), s		6.8			6.8	6.8		6.3				
Max Green Setting (Gmax), s		107.2			14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s		12.8			4.8	16.0		31.6				
Green Ext Time (p_c), s		2.1			0.1	4.2		0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			27.0									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2026

AM Peak Hour



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Background - 2026
AM Peak Hour

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	21	0	10	0	0	0	2	69	0	1	87	14
Future Vol, veh/h	21	0	10	0	0	0	2	69	0	1	87	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	1	15
Mvmt Flow	22	0	11	0	0	0	2	73	0	1	93	15

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	180	180	100	172	187	73	107	0	0	73	0	0
Stage 1	102	102	-	78	78	-	-	-	-	-	-	-
Stage 2	78	78	-	95	110	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	775	718	961	795	711	994	1496	-	-	1539	-	-
Stage 1	897	814	-	936	834	-	-	-	-	-	-	-
Stage 2	924	834	-	917	809	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	774	716	961	785	709	994	1496	-	-	1539	-	-
Mov Cap-2 Maneuver	774	716	-	785	709	-	-	-	-	-	-	-
Stage 1	896	814	-	935	833	-	-	-	-	-	-	-
Stage 2	922	833	-	906	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.54	0	0.21	0.07
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	51	-	-	826	-	17	-
HCM Lane V/C Ratio	0.001	-	-	0.04	-	0.001	-
HCM Control Delay (s/veh)	7.4	0	-	9.5	0	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Background - 2026
PM Peak Hour

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	26	31	53	76	115	34
Future Vol, veh/h	26	31	53	76	115	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	3	2	3
Mvmt Flow	28	33	57	82	124	37

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	338	142	160	0	-	0
Stage 1	142	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	662	911	1407	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	634	911	1407	-	-	-
Mov Cap-2 Maneuver	634	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	842	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.15		3.15	0
HCM LOS	B		

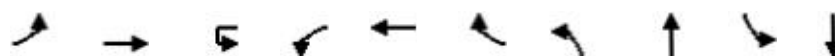
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	740	-	760	-	-
HCM Lane V/C Ratio	0.041	-	0.081	-	-
HCM Control Delay (s/veh)	7.7	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2026

PM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	348	17	136	580	121	43	13	96	16
Future Volume (vph)	20	348	17	136	580	121	43	13	96	16
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

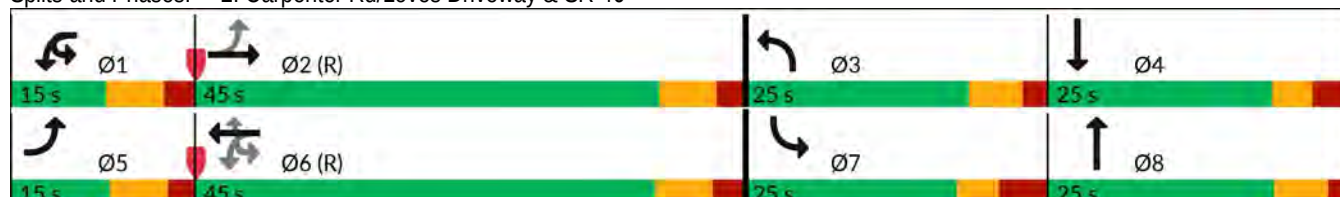
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2026

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	20	348	45	17	136	580	121	43	13	77	96	16
Future Volume (veh/h)	20	348	45	17	136	580	121	43	13	77	96	16
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1900	1900	1900		1870	1841	1426	1826	1900	1841	1366	1589
Adj Flow Rate, veh/h	21	370	48		145	617	129	46	14	82	102	17
Peak Hour Factor	0.94	0.94	0.94		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0		2	4	32	5	0	4	36	21
Cap, veh/h	384	891	116		572	1062	697	84	19	109	154	43
Arrive On Green	0.03	0.54	0.54		0.06	0.58	0.58	0.05	0.08	0.08	0.06	0.10
Sat Flow, veh/h	1810	1648	214		1781	1841	1208	1739	240	1407	2525	437
Grp Volume(v), veh/h	21	0	418		145	617	129	46	0	96	102	0
Grp Sat Flow(s),veh/h/ln	1810	0	1862		1781	1841	1208	1739	0	1647	1262	0
Q Serve(g_s), s	0.6	0.0	14.6		3.9	23.5	5.6	2.8	0.0	6.3	4.3	0.0
Cycle Q Clear(g_c), s	0.6	0.0	14.6		3.9	23.5	5.6	2.8	0.0	6.3	4.3	0.0
Prop In Lane	1.00		0.11		1.00		1.00	1.00		0.85	1.00	
Lane Grp Cap(c), veh/h	384	0	1006		572	1062	697	84	0	128	154	0
V/C Ratio(X)	0.05	0.00	0.42		0.25	0.58	0.19	0.55	0.00	0.75	0.66	0.00
Avail Cap(c_a), veh/h	464	0	1006		587	1062	697	294	0	278	404	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.0	0.0	15.0		10.6	14.8	11.0	51.2	0.0	49.7	50.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.3		0.2	2.3	0.6	5.6	0.0	8.6	4.9	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
%ile BackOfQ(95%),veh/ln	0.4	0.0	10.0		2.5	14.4	2.7	2.4	0.0	5.1	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.1	0.0	16.2		10.8	17.1	11.6	56.8	0.0	58.3	55.4	0.0
LnGrp LOS	B		B		B	B	B	E		E	E	
Approach Vol, veh/h		439				891			142			157
Approach Delay, s/veh		16.0				15.3			57.8			52.9
Approach LOS		B				B			E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.1	66.7	11.7	17.5	10.1	70.7	14.1	15.1				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	5.9	16.6	4.8	6.0	2.6	25.5	6.3	8.3				
Green Ext Time (p_c), s	0.1	2.3	0.1	0.1	0.0	3.4	0.2	0.3				

Intersection Summary

HCM 7th Control Delay, s/veh	22.8
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2026

PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	38
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	97
Arrive On Green	0.10
Sat Flow, veh/h	976
Grp Volume(v), veh/h	55
Grp Sat Flow(s),veh/h/ln	1413
Q Serve(g_s), s	4.0
Cycle Q Clear(g_c), s	4.0
Prop In Lane	0.69
Lane Grp Cap(c), veh/h	140
V/C Ratio(X)	0.39
Avail Cap(c_a), veh/h	236
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	46.4
Incr Delay (d2), s/veh	1.8
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.6
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	48.2
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection

Intersection Delay, s/veh 10.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	17	104	24	144	23	134	118	89	106	1
Future Vol, veh/h	0	15	17	104	24	144	23	134	118	89	106	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	0	0	0	2	4	0	3	0
Mvmt Flow	0	16	18	111	26	153	24	143	126	95	113	1
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	8.8	10	10.9	10.6
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	0%	81%	0%	45%
Vol Thru, %	49%	47%	19%	0%	54%
Vol Right, %	43%	53%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	32	128	144	196
LT Vol	23	0	104	0	89
Through Vol	134	15	24	0	106
RT Vol	118	17	0	144	1
Lane Flow Rate	293	34	136	153	209
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.386	0.051	0.237	0.218	0.305
Departure Headway (Hd)	4.846	5.439	6.268	5.114	5.264
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	746	660	575	705	686
Service Time	2.846	3.46	3.98	2.826	3.264
HCM Lane V/C Ratio	0.393	0.052	0.237	0.217	0.305
HCM Control Delay, s/veh	10.9	8.8	10.9	9.2	10.6
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	1.8	0.2	0.9	0.8	1.3

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Background - 2026
PM Peak Hour

Intersection													
Int Delay, s/veh	2.9												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	274	271	2	163	740	0	0	0	0	40	0	95
Future Vol, veh/h	0	274	271	2	163	740	0	0	0	0	40	0	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	2	5	0	0	0	0	5	0	20
Mvmt Flow	0	282	279	2	168	763	0	0	0	0	41	0	98
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	282	282	0	0				1240	-	763
Stage 1	-	-	-	-	-	-	-				1099	-	-
Stage 2	-	-	-	-	-	-	-				141	-	-
Critical Hdwy	-	-	-	6.9	4.13	-	-				6.675	-	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.475	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.875	-	-
Follow-up Hdwy	-	-	-	3.1	2.219	-	-				3.5475	-	3.49
Pot Cap-1 Maneuver	0	-	0	761	1278	-	0				194	0	417
Stage 1	0	-	0	-	-	-	0				334	0	-
Stage 2	0	-	0	-	-	-	0				863	0	-
Platoon blocked, %		-				-					0		0
Mov Cap-1 Maneuver	-	-	-	1268	1268	-	-				178	0	417
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				268	0	-
Stage 1	-	-	-	-	-	-	-				334	0	-
Stage 2	-	-	-	-	-	-	-				791	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			1.51				17.63					
HCM LOS	C												
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1268	-	268	417								
HCM Lane V/C Ratio	-	0.134	-	0.154	0.235								
HCM Control Delay (s/veh)	-	8.3	-	20.9	16.3								
HCM Lane LOS	-	A	-	C	C								
HCM 95th %tile Q(veh)	-	0.5	-	0.5	0.9								

Timings

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2026

PM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	44	272	480	37	424	339
Future Volume (vph)	2	44	272	480	37	424	339
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	10.0	10.0	14.0	14.0		10.0	
Minimum Split (s)	20.8	20.8	20.8	20.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

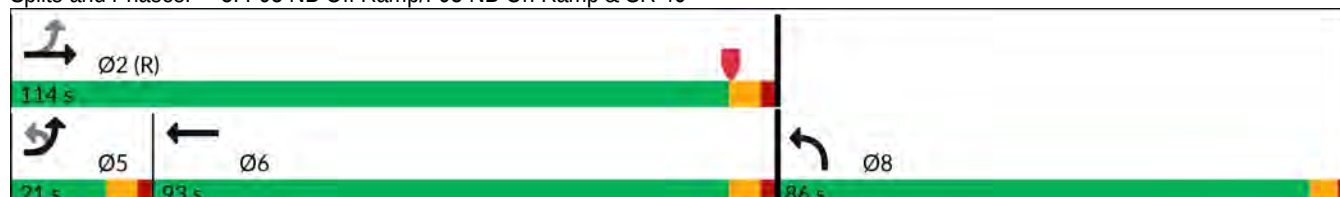
Actuated Cycle Length: 200

Offset: 107.2 (54%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2026

PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	44	272	0	0	480	37	424	0	339	0	0
Future Volume (veh/h)	2	44	272	0	0	480	37	424	0	339	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1900	1900	0	0	1870	1737	1781	0	1811		
Adj Flow Rate, veh/h		46	283	0	0	500	0	442	0	0		
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %		0	0	0	0	2	11	8	0	6		
Cap, veh/h		606	1256	0	0	1977		464	0			
Arrive On Green		0.07	0.66	0.00	0.00	0.56	0.00	0.27	0.00	0.00		
Sat Flow, veh/h		1810	1900	0	0	3647	1472	1697	0	1535		
Grp Volume(v), veh/h		46	283	0	0	500	0	442	0	0		
Grp Sat Flow(s),veh/h/ln		1810	1900	0	0	1777	1472	1697	0	1535		
Q Serve(g_s), s		1.9	11.9	0.0	0.0	14.5	0.0	51.2	0.0	0.0		
Cycle Q Clear(g_c), s		1.9	11.9	0.0	0.0	14.5	0.0	51.2	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		606	1256	0	0	1977		464	0			
V/C Ratio(X)		0.08	0.23	0.00	0.00	0.25		0.95	0.00			
Avail Cap(c_a), veh/h		606	1256	0	0	1977		676	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		14.2	13.5	0.0	0.0	22.9	0.0	71.4	0.0	0.0		
Incr Delay (d2), s/veh		0.2	0.4	0.0	0.0	0.3	0.0	19.0	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		
%ile BackOfQ(95%),veh/ln		1.5	9.0	0.0	0.0	10.3	0.0	33.0	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		14.5	13.9	0.0	0.0	23.2	0.0	90.5	0.0	0.0		
LnGrp LOS		B	B			C		F				
Approach Vol, veh/h			329			500			442			
Approach Delay, s/veh			14.0			23.2			90.5			
Approach LOS			B			C			F			
Timer - Assigned Phs	2				5	6		8				
Phs Duration (G+Y+Rc), s	139.0				21.0	118.0		61.0				
Change Period (Y+Rc), s	6.8				6.8	6.8		6.3				
Max Green Setting (Gmax), s	107.2				14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s	13.9				3.9	16.5		53.2				
Green Ext Time (p_c), s	1.6				0.0	3.3		1.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			44.2									
HCM 7th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2026

PM Peak Hour



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Rd

Background - 2026
PM Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	17	0	4	0	0	0	6	138	0	2	128	34
Future Vol, veh/h	17	0	4	0	0	0	6	138	0	2	128	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	3	3
Mvmt Flow	18	0	4	0	0	0	6	144	0	2	133	35

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	311	311	151	294	329	144	169	0	0	144	0	0
Stage 1	155	155	-	156	156	-	-	-	-	-	-	-
Stage 2	156	156	-	138	173	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	645	607	901	662	593	909	1421	-	-	1451	-	-
Stage 1	852	773	-	851	772	-	-	-	-	-	-	-
Stage 2	851	772	-	870	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	641	603	901	655	589	909	1421	-	-	1451	-	-
Mov Cap-2 Maneuver	641	603	-	655	589	-	-	-	-	-	-	-
Stage 1	851	772	-	847	768	-	-	-	-	-	-	-
Stage 2	847	768	-	865	758	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.49		0	0.31	0.09
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	75	-	-	678	-	21	-
HCM Lane V/C Ratio	0.004	-	-	0.032	-	0.001	-
HCM Control Delay (s/veh)	7.5	0	-	10.5	0	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	94	45	8	114	80	31
Future Vol, veh/h	94	45	8	114	80	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	6	5	0	1	2	13
Mvmt Flow	100	48	9	121	85	33
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	240	102	118	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	6.46	6.25	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.345	2.2	-	-	-
Pot Cap-1 Maneuver	740	945	1483	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	735	945	1483	-	-	-
Mov Cap-2 Maneuver	735	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.58		0.49		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	118	-	792	-	-	
HCM Lane V/C Ratio	0.006	-	0.187	-	-	
HCM Control Delay (s/veh)	7.4	0	10.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.7	-	-	

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	34	498	38	89	271	108	34	11	112	7
Future Volume (vph)	34	498	38	89	271	108	34	11	112	7
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	34	498	38	38	89	271	108	34	11	167	112	7
Future Volume (veh/h)	34	498	38	38	89	271	108	34	11	167	112	7
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	37	541	41		97	295	117	37	12	182	122	8
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	483	796	60		341	883	610	78	14	210	169	51
Arrive On Green	0.04	0.48	0.48		0.06	0.50	0.50	0.04	0.14	0.14	0.06	0.17
Sat Flow, veh/h	1598	1662	126		1654	1767	1221	1810	101	1525	2607	301
Grp Volume(v), veh/h	37	0	582		97	295	117	37	0	194	122	0
Grp Sat Flow(s),veh/h/ln	1598	0	1788		1654	1767	1221	1810	0	1626	1303	0
Q Serve(g_s), s	1.2	0.0	27.7		3.2	11.0	5.8	2.2	0.0	12.9	5.1	0.0
Cycle Q Clear(g_c), s	1.2	0.0	27.7		3.2	11.0	5.8	2.2	0.0	12.9	5.1	0.0
Prop In Lane	1.00		0.07		1.00		1.00	1.00		0.94	1.00	
Lane Grp Cap(c), veh/h	483	0	856		341	883	610	78	0	224	169	0
V/C Ratio(X)	0.08	0.00	0.68		0.28	0.33	0.19	0.47	0.00	0.87	0.72	0.00
Avail Cap(c_a), veh/h	534	0	856		359	883	610	306	0	275	417	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.2	0.0	22.1		16.4	16.5	15.2	51.4	0.0	46.4	50.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	4.3		0.5	1.0	0.7	4.4	0.0	20.7	5.8	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
%ile BackOfQ(95%),veh/ln	0.8	0.0	17.3		2.0	7.8	3.0	1.9	0.0	10.5	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.3	0.0	26.5		16.8	17.5	15.9	55.8	0.0	67.1	56.2	0.0
LnGrp LOS	B		C		B	B	B	E		E	E	
Approach Vol, veh/h	619			509			231			166		
Approach Delay, s/veh	25.7			17.0			65.3			51.8		
Approach LOS	C			B			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	59.9	11.1	25.2	11.5	62.2	14.5	21.8				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+l1), s	5.2	29.7	4.2	4.5	3.2	13.0	7.1	14.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	0.1	0.0	2.0	0.2	0.3				

Intersection Summary

HCM 7th Control Delay, s/veh	31.6
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)
AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	33
Future Volume (veh/h)	33
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	36
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	229
Arrive On Green	0.17
Sat Flow, veh/h	1355
Grp Volume(v), veh/h	44
Grp Sat Flow(s),veh/h/ln	1656
Q Serve(g_s), s	2.5
Cycle Q Clear(g_c), s	2.5
Prop In Lane	0.82
Lane Grp Cap(c), veh/h	279
V/C Ratio(X)	0.16
Avail Cap(c_a), veh/h	279
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	39.1
Incr Delay (d2), s/veh	0.3
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	39.3
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection

Intersection Delay, s/veh11.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	1	29	17	144	6	44	6	55	126	138	151	3
Future Vol, veh/h	1	29	17	144	6	44	6	55	126	138	151	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	2	17	3	0	0	1	2	1	0
Mvmt Flow	1	34	20	167	7	51	7	64	147	160	176	3
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach RightNB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh9.3		11.5	9.9	13.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	2%	96%	0%	47%
Vol Thru, %	29%	62%	4%	0%	52%
Vol Right, %	67%	36%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	47	150	44	292
LT Vol	6	1	144	0	138
Through Vol	55	29	6	0	151
RT Vol	126	17	0	44	3
Lane Flow Rate	217	55	174	51	340
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.293	0.086	0.316	0.079	0.49
Departure Headway (Hd)	4.855	5.672	6.53	5.592	5.199
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	739	631	551	641	696
Service Time	2.884	3.715	4.263	3.324	3.199
HCM Lane V/C Ratio	0.294	0.087	0.316	0.08	0.489
HCM Control Delay, s/veh	9.9	9.3	12.3	8.8	13.1
HCM Lane LOS	A	A	B	A	B
HCM 95th-tile Q	1.2	0.3	1.3	0.3	2.7

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection													
Int Delay, s/veh	3.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	371	457	2	310	481	0	0	0	0	33	0	48
Future Vol, veh/h	0	371	457	2	310	481	0	0	0	0	33	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	11	0	5	10	0	0	0	0	6	0	36
Mvmt Flow	0	403	497	2	337	523	0	0	0	0	36	0	52
Major/Minor	Major1			Major2			Minor2						
Conflicting Flow All	-	0	-	403	403	0	0				1398	-	523
Stage 1	-	-	-	-	-	-	-				1197	-	-
Stage 2	-	-	-	-	-	-	-				202	-	-
Critical Hdwy	-	-	-	6.9	4.175	-	-				6.69	-	6.74
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.89	-	-
Follow-up Hdwy	-	-	-	3.12	2.475	-	-				3.557	-	3.642
Pot Cap-1 Maneuver	0	-	0	635	1135	-	0				160	0	615
Stage 1	0	-	0	-	-	-	0				310	0	-
Stage 2	0	-	0	-	-	-	0				803	0	-
Platoon blocked, %		-				-					0		0
Mov Cap-1 Maneuver	-	-	-	1129	1129	-	-				129	0	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				200	0	-
Stage 1	-	-	-	-	-	-	-				310	0	-
Stage 2	-	-	-	-	-	-	-				649	0	-
Approach	EB			WB			SB						
HCM Control Delay, s/v	0			3.76			17.69						
HCM LOS							C						
Minor Lane/Major Mvmt	EBT		WBL	WBT	SBLn1	SBLn2							
Capacity (veh/h)	-		1129	-	200	615							
HCM Lane V/C Ratio	-		0.3	-	0.179	0.085							
HCM Control Delay (s/veh)	-		9.5	-	26.9	11.4							
HCM Lane LOS	-		A	-	D	B							
HCM 95th %tile Q(veh)	-		1.3	-	0.6	0.3							

Timings

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)

AM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	9	74	333	540	42	226	172
Future Volume (vph)	9	74	333	540	42	226	172
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	14.0	14.0	14.0	14.0		10.0	
Minimum Split (s)	24.8	24.8	24.8	24.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)

AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	9	74	333	0	0	540	42	226	0	172	0	0
Future Volume (veh/h)	9	74	333	0	0	540	42	226	0	172	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1618	1841	0	0	1811	1752	1678	0	1767		
Adj Flow Rate, veh/h		83	374	0	0	607	0	254	0	0		
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %		19	4	0	0	6	10	15	0	9		
Cap, veh/h		558	1406	0	0	2267		273	0			
Arrive On Green		0.07	0.76	0.00	0.00	0.66	0.00	0.17	0.00	0.00		
Sat Flow, veh/h		1541	1841	0	0	3532	1485	1598	0	1497		
Grp Volume(v), veh/h		83	374	0	0	607	0	254	0	0		
Grp Sat Flow(s),veh/h/ln		1541	1841	0	0	1721	1485	1598	0	1497		
Q Serve(g_s), s		3.0	12.0	0.0	0.0	14.6	0.0	31.3	0.0	0.0		
Cycle Q Clear(g_c), s		3.0	12.0	0.0	0.0	14.6	0.0	31.3	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		558	1406	0	0	2267		273	0			
V/C Ratio(X)		0.15	0.27	0.00	0.00	0.27		0.93	0.00			
Avail Cap(c_a), veh/h		558	1406	0	0	2267		637	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		7.9	7.0	0.0	0.0	14.1	0.0	81.8	0.0	0.0		
Incr Delay (d2), s/veh		0.6	0.5	0.0	0.0	0.3	0.0	13.4	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		
%ile BackOfQ(95%),veh/ln		1.9	8.2	0.0	0.0	9.7	0.0	20.2	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		8.5	7.5	0.0	0.0	14.4	0.0	95.2	0.0	0.0		
LnGrp LOS		A	A			B		F				
Approach Vol, veh/h			457			607			254			
Approach Delay, s/veh			7.7			14.4			95.2			
Approach LOS			A			B			F			
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		159.5			21.0	138.5		40.5				
Change Period (Y+Rc), s		6.8			6.8	6.8		6.3				
Max Green Setting (Gmax), s		107.2			14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s		14.0			5.0	16.6		33.3				
Green Ext Time (p_c), s		2.2			0.1	4.2		0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			27.6									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)
 AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	0	13	0	0	0	3	71	0	1	93	18
Future Vol, veh/h	32	0	13	0	0	0	3	71	0	1	93	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	1	15
Mvmt Flow	34	0	14	0	0	0	3	76	0	1	99	19
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	193	193	109	183	202	76	118	0	0	76	0	0
Stage 1	111	111	-	82	82	-	-	-	-	-	-	-
Stage 2	82	82	-	101	120	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	761	706	951	783	698	991	1483	-	-	1536	-	-
Stage 1	887	808	-	931	831	-	-	-	-	-	-	-
Stage 2	919	831	-	910	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	758	704	951	769	696	991	1483	-	-	1536	-	-
Mov Cap-2 Maneuver	758	704	-	769	696	-	-	-	-	-	-	-
Stage 1	887	807	-	929	829	-	-	-	-	-	-	-
Stage 2	917	829	-	896	800	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.75		0		0.3		0.07					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	73	-	-	805	-	16	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.059	-	0.001	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.8	0	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-				

HCM 7th TWSC
9: N Carpenter Rd & Project Driveway 4

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	23	3	1	99	166	8
Future Vol, veh/h	23	3	1	99	166	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	3	1	108	180	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	295	185	189	0	-	0
Stage 1	185	-	-	-	-	-
Stage 2	110	-	-	-	-	-
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	696	857	1385	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	696	857	1385	-	-	-
Mov Cap-2 Maneuver	696	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	915	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.27		0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	18	-	711	-	-
HCM Lane V/C Ratio	0.001	-	0.04	-	-
HCM Control Delay (s/veh)	7.6	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th TWSC
10: Project Driveway 5 & Longbow Dr

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬇↕			⬆↕			⬆↕			⬆↕	
Traffic Vol, veh/h	1	0	0	0	0	5	0	7	0	14	12	3
Future Vol, veh/h	1	0	0	0	0	5	0	7	0	14	12	3
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	0	0	5	0	8	0	15	13	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	0	0	0	9	8	0	9	5	3
Stage 1	-	-	-	-	-	-	2	2	-	3	3	-
Stage 2	-	-	-	-	-	-	7	5	-	6	2	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1616	-	-	-	-	-	1010	887	-	1010	890	1081
Stage 1	-	-	-	-	-	-	1021	894	-	1020	894	-
Stage 2	-	-	-	-	-	-	1015	891	-	1016	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1616	-	-	-	-	-	992	887	-	1001	890	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	992	887	-	1001	890	-
Stage 1	-	-	-	-	-	-	1020	893	-	1020	894	-
Stage 2	-	-	-	-	-	-	997	891	-	1007	893	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	7.23			0						8.88		
HCM LOS							-			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1616	-	-	-	-	-	959				
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.033				
HCM Control Delay (s/veh)	-	7.2	0	-	0	-	-	8.9				
HCM Lane LOS	-	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	0.1				

HCM 7th TWSC
11: Project Driveway A & London Town Rd

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	0	3	35	0	8
Future Vol, veh/h	130	0	3	35	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	0	3	38	0	9
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	186	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	803	907
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	801	907
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	976	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.59		9.01	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	907	-	-	142	-	
HCM Lane V/C Ratio	0.01	-	-	0.002	-	
HCM Control Delay (s/veh)	9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th TWSC
13: Project Driveway C & London Town Rd

Buildout - 2026 (Pod 1)
AM Peak Hour

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	0	11	24	0	34
Future Vol, veh/h	96	0	11	24	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	0	12	26	0	37
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	154	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	50	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1487	-	837	950
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1487	-	830	950
Mov Cap-2 Maneuver	-	-	-	-	830	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	965	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		2.34		8.94	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	950	-	-	566	-	
HCM Lane V/C Ratio	0.039	-	-	0.008	-	
HCM Control Delay (s/veh)	8.9	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	52	33	55	98	146	72
Future Vol, veh/h	52	33	55	98	146	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	3	2	3
Mvmt Flow	56	35	59	105	157	77

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	419	196	234	0	-	0
Stage 1	196	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	594	851	1321	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	818	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	566	851	1321	-	-	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	818	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v11.44		2.82	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	647	-	651	-	-
HCM Lane V/C Ratio	0.045	-	0.14	-	-
HCM Control Delay (s/veh)	7.9	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)

PM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	348	17	192	580	121	51	13	96	15
Future Volume (vph)	20	348	17	192	580	121	51	13	96	15
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

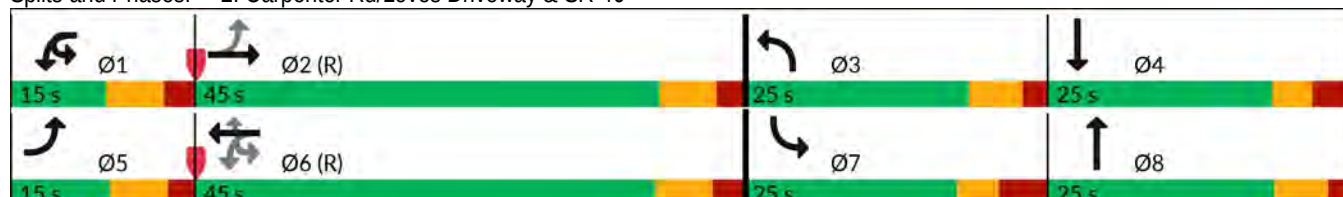
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	20	348	57	17	192	580	121	51	13	117	96	15
Future Volume (veh/h)	20	348	57	17	192	580	121	51	13	117	96	15
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1900	1900	1900		1870	1841	1426	1826	1900	1841	1366	1589
Adj Flow Rate, veh/h	21	370	61		204	617	129	54	14	124	102	16
Peak Hour Factor	0.94	0.94	0.94		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0		2	4	32	5	0	4	36	21
Cap, veh/h	355	805	133		533	1013	665	89	17	153	154	51
Arrive On Green	0.03	0.51	0.51		0.07	0.55	0.55	0.05	0.10	0.10	0.06	0.12
Sat Flow, veh/h	1810	1591	262		1781	1841	1208	1739	166	1470	2525	418
Grp Volume(v), veh/h	21	0	431		204	617	129	54	0	138	102	0
Grp Sat Flow(s),veh/h/ln	1810	0	1853		1781	1841	1208	1739	0	1635	1262	0
Q Serve(g_s), s	0.6	0.0	16.5		6.0	24.9	5.9	3.3	0.0	9.1	4.3	0.0
Cycle Q Clear(g_c), s	0.6	0.0	16.5		6.0	24.9	5.9	3.3	0.0	9.1	4.3	0.0
Prop In Lane	1.00		0.14		1.00		1.00	1.00		0.90	1.00	
Lane Grp Cap(c), veh/h	355	0	938		533	1013	665	89	0	170	154	0
V/C Ratio(X)	0.06	0.00	0.46		0.38	0.61	0.19	0.60	0.00	0.81	0.66	0.00
Avail Cap(c_a), veh/h	436	0	938		533	1013	665	294	0	277	404	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	17.5		12.7	16.7	12.4	51.1	0.0	48.2	50.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.6		0.5	2.7	0.6	6.4	0.0	8.9	4.9	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
%ile BackOfQ(95%),veh/ln	0.4	0.0	11.2		4.0	15.5	2.9	2.9	0.0	7.3	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.9	0.0	19.1		13.1	19.4	13.1	57.5	0.0	57.2	55.4	0.0
LnGrp LOS	B		B		B	B	B	E		E	E	
Approach Vol, veh/h		452				950			192			156
Approach Delay, s/veh		18.9				17.2			57.3			51.8
Approach LOS		B				B			E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	62.9	12.1	20.1	10.1	67.8	14.1	18.0				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	8.0	18.5	5.3	5.8	2.6	26.9	6.3	11.1				
Green Ext Time (p_c), s	0.0	2.3	0.1	0.1	0.0	3.2	0.2	0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	25.1
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2026 (Pod 1)
PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	38
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	121
Arrive On Green	0.12
Sat Flow, veh/h	992
Grp Volume(v), veh/h	54
Grp Sat Flow(s),veh/h/ln	1410
Q Serve(g_s), s	3.8
Cycle Q Clear(g_c), s	3.8
Prop In Lane	0.70
Lane Grp Cap(c), veh/h	173
V/C Ratio(X)	0.31
Avail Cap(c_a), veh/h	236
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	44.0
Incr Delay (d2), s/veh	1.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.5
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	45.1
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC
3: Carpenter Rd & Dairy Rd

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection

Intersection Delay, s/veh10.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	17	104	24	149	23	136	118	93	108	1
Future Vol, veh/h	0	15	17	104	24	149	23	136	118	93	108	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	0	0	0	2	4	0	3	0
Mvmt Flow	0	16	18	111	26	159	24	145	126	99	115	1
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	8.8	10.1	11	10.7
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	0%	81%	0%	46%
Vol Thru, %	49%	47%	19%	0%	53%
Vol Right, %	43%	53%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	277	32	128	149	202
LT Vol	23	0	104	0	93
Through Vol	136	15	24	0	108
RT Vol	118	17	0	149	1
Lane Flow Rate	295	34	136	159	215
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.39	0.052	0.238	0.226	0.316
Departure Headway (Hd)	4.876	5.478	6.293	5.139	5.286
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	743	655	573	701	683
Service Time	2.876	3.499	4.007	2.853	3.286
HCM Lane V/C Ratio	0.397	0.052	0.237	0.227	0.315
HCM Control Delay, s/veh	11	8.8	11	9.4	10.7
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	1.9	0.2	0.9	0.9	1.4

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection													
Int Delay, s/veh	2.9												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	289	296	2	163	793	0	0	0	0	40	1	98
Future Vol, veh/h	0	289	296	2	163	793	0	0	0	0	40	1	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	2	5	0	0	0	0	5	0	20
Mvmt Flow	0	298	305	2	168	818	0	0	0	0	41	1	101
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	298	298	0	0				1303	1456	818
Stage 1	-	-	-	-	-	-	-				1154	1158	-
Stage 2	-	-	-	-	-	-	-				149	298	-
Critical Hdwy	-	-	-	6.9	4.13	-	-				6.675	6.5	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.475	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.875	5.5	-
Follow-up Hdwy	-	-	-	3.1	2.219	-	-				3.5475	4	3.49
Pot Cap-1 Maneuver	0	-	0	744	1262	-	0				176	141	385
Stage 1	0	-	0	-	-	-	0				313	290	-
Stage 2	0	-	0	-	-	-	0				856	671	-
Platoon blocked, %		-				-					0	0	0
Mov Cap-1 Maneuver	-	-	-	1251	1251	-	-				161	0	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				251	0	-
Stage 1	-	-	-	-	-	-	-				313	0	-
Stage 2	-	-	-	-	-	-	-				783	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			1.43				18.94					
HCM LOS	C												
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1251	-	251	385								
HCM Lane V/C Ratio	-	0.136	-	0.164	0.262								
HCM Control Delay (s/veh)	-	8.3	-	22.1	17.6								
HCM Lane LOS	-	A	-	C	C								
HCM 95th %tile Q(veh)	-	0.5	-	0.6	1								

Timings

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)

PM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	46	285	497	37	460	339
Future Volume (vph)	2	46	285	497	37	460	339
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	10.0	10.0	14.0	14.0		10.0	
Minimum Split (s)	20.8	20.8	20.8	20.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107.2 (54%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)

PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	46	285	0	0	497	37	460	0	339	0	0
Future Volume (veh/h)	2	46	285	0	0	497	37	460	0	339	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1900	1900	0	0	1870	1737	1781	0	1811		
Adj Flow Rate, veh/h		48	297	0	0	518	0	479	0	0		
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %		0	0	0	0	2	11	8	0	6		
Cap, veh/h		573	1215	0	0	1899		501	0			
Arrive On Green		0.07	0.64	0.00	0.00	0.53	0.00	0.30	0.00	0.00		
Sat Flow, veh/h		1810	1900	0	0	3647	1472	1697	0	1535		
Grp Volume(v), veh/h		48	297	0	0	518	0	479	0	0		
Grp Sat Flow(s),veh/h/ln		1810	1900	0	0	1777	1472	1697	0	1535		
Q Serve(g_s), s		2.1	13.4	0.0	0.0	15.9	0.0	55.5	0.0	0.0		
Cycle Q Clear(g_c), s		2.1	13.4	0.0	0.0	15.9	0.0	55.5	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		573	1215	0	0	1899		501	0			
V/C Ratio(X)		0.08	0.24	0.00	0.00	0.27		0.96	0.00			
Avail Cap(c_a), veh/h		573	1215	0	0	1899		676	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		16.0	15.4	0.0	0.0	25.4	0.0	69.2	0.0	0.0		
Incr Delay (d2), s/veh		0.3	0.5	0.0	0.0	0.4	0.0	20.8	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		
%ile BackOfQ(95%),veh/ln		1.7	10.0	0.0	0.0	11.2	0.0	35.6	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		16.3	15.9	0.0	0.0	25.7	0.0	90.1	0.0	0.0		
LnGrp LOS		B	B			C		F				
Approach Vol, veh/h			345			518			479			
Approach Delay, s/veh			16.0			25.7			90.1			
Approach LOS			B			C			F			
Timer - Assigned Phs	2				5	6		8				
Phs Duration (G+Y+Rc), s	134.7				21.0	113.7		65.3				
Change Period (Y+Rc), s	6.8				6.8	6.8		6.3				
Max Green Setting (Gmax), s	107.2				14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s	15.4				4.1	17.9		57.5				
Green Ext Time (p_c), s	1.7				0.0	3.5		1.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			46.2									
HCM 7th LOS			D									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2026 (Pod 1)
 PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	24	0	6	0	0	0	9	143	0	2	131	44
Future Vol, veh/h	24	0	6	0	0	0	9	143	0	2	131	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	3	3
Mvmt Flow	25	0	6	0	0	0	9	149	0	2	136	46

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	331	331	159	308	354	149	182	0	0	149	0	0
Stage 1	164	164	-	168	168	-	-	-	-	-	-	-
Stage 2	168	168	-	141	186	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	626	592	891	648	574	903	1405	-	-	1445	-	-
Stage 1	843	767	-	839	763	-	-	-	-	-	-	-
Stage 2	839	763	-	867	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	620	586	891	638	569	903	1405	-	-	1445	-	-
Mov Cap-2 Maneuver	620	586	-	638	569	-	-	-	-	-	-	-
Stage 1	842	765	-	833	758	-	-	-	-	-	-	-
Stage 2	833	758	-	860	748	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.72		0	0.45	0.08
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	107	-	-	661	19	-	-
HCM Lane V/C Ratio	0.007	-	-	0.047	0.001	-	-
HCM Control Delay (s/veh)	7.6	0	-	10.7	0	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

HCM 7th TWSC
9: N Carpenter Rd & Project Driveway 4

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	15	2	3	139	159	21
Future Vol, veh/h	15	2	3	139	159	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	2	3	151	173	23

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	342	184	196	0	-	0
Stage 1	184	-	-	-	-	-
Stage 2	158	-	-	-	-	-
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	654	858	1377	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	653	858	1377	-	-	-
Mov Cap-2 Maneuver	653	-	-	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.51		0.16	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	38	-	672	-	-
HCM Lane V/C Ratio	0.002	-	0.028	-	-
HCM Control Delay (s/veh)	7.6	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th TWSC
10: Project Driveway 5 & Longbow Dr

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	2	0	0	0	0	14	0	28	2	9	7	2
Future Vol, veh/h	2	0	0	0	0	14	0	28	2	9	7	2
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	15	0	30	2	10	8	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	15	0	0	0	0	0	8	20	0	27	12	8
Stage 1	-	-	-	-	-	-	4	4	-	8	8	-
Stage 2	-	-	-	-	-	-	4	15	-	20	4	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1603	-	-	-	-	-	1011	874	-	983	883	1075
Stage 1	-	-	-	-	-	-	1018	892	-	1014	889	-
Stage 2	-	-	-	-	-	-	1019	883	-	999	892	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	-	-	-	999	873	-	947	881	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	999	873	-	947	881	-
Stage 1	-	-	-	-	-	-	1017	891	-	1014	889	-
Stage 2	-	-	-	-	-	-	1008	883	-	964	891	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	7.25	0		8.94
HCM LOS			-	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1603	-	-	-	-	-	932
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.021
HCM Control Delay (s/veh)	-	7.2	0	-	0	-	-	8.9
HCM Lane LOS	-	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	0.1

HCM 7th TWSC
11: Project Driveway A & London Town Rd

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	79	0	7	118	0	5
Future Vol, veh/h	79	0	7	118	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	0	8	128	0	5

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	86	0	229	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1510	-	759	973
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1510	-	755	973
Mov Cap-2 Maneuver	-	-	-	-	755	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	879	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.41	8.72
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	973	-	-	101	-
HCM Lane V/C Ratio	0.006	-	-	0.005	-
HCM Control Delay (s/veh)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 7th TWSC
13: Project Driveway C & London Town Rd

Buildout - 2026 (Pod 1)
PM Peak Hour

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	0	31	87	0	22
Future Vol, veh/h	57	0	31	87	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	0	34	95	0	24
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	62	0	224	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1541	-	764	1003
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1541	-	747	1003
Mov Cap-2 Maneuver	-	-	-	-	747	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	847	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		1.94		8.68	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1003	-	-	473	-	
HCM Lane V/C Ratio	0.024	-	-	0.022	-	
HCM Control Delay (s/veh)	8.7	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Background - 2030
AM Peak Hour

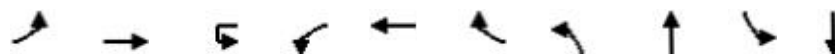
Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	102	49	9	123	86	33
Future Vol, veh/h	102	49	9	123	86	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	6	5	0	1	2	13
Mvmt Flow	109	52	10	131	91	35
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	259	109	127	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.46	6.25	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.345	2.2	-	-	-
Pot Cap-1 Maneuver	721	936	1472	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	716	936	1472	-	-	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.85		0.51		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	123	-	775	-	-	
HCM Lane V/C Ratio	0.007	-	0.207	-	-	
HCM Control Delay (s/veh)	7.5	0	10.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.8	-	-	

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2030

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	37	538	41	96	314	117	37	12	121	8
Future Volume (vph)	37	538	41	96	314	117	37	12	121	8
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

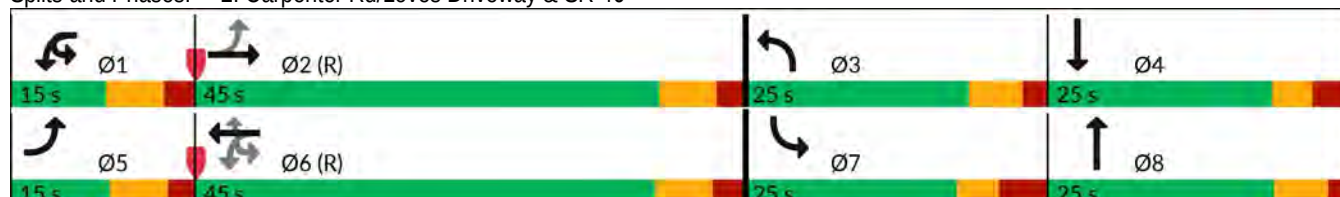
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Background - 2030

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	37	538	41	41	96	314	117	37	12	180	121	8
Future Volume (veh/h)	37	538	41	41	96	314	117	37	12	180	121	8
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No				No				No			No
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	40	585	45		104	341	127	40	13	196	132	9
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	437	773	59		295	857	592	81	15	223	180	56
Arrive On Green	0.04	0.47	0.47		0.06	0.49	0.49	0.04	0.15	0.15	0.07	0.18
Sat Flow, veh/h	1598	1660	128		1654	1767	1221	1810	101	1524	2607	311
Grp Volume(v), veh/h	40	0	630		104	341	127	40	0	209	132	0
Grp Sat Flow(s),veh/h/ln	1598	0	1788		1654	1767	1221	1810	0	1626	1303	0
Q Serve(g_s), s	1.4	0.0	32.0		3.5	13.6	6.6	2.4	0.0	13.8	5.5	0.0
Cycle Q Clear(g_c), s	1.4	0.0	32.0		3.5	13.6	6.6	2.4	0.0	13.8	5.5	0.0
Prop In Lane	1.00		0.07		1.00		1.00	1.00		0.94	1.00	
Lane Grp Cap(c), veh/h	437	0	832		295	857	592	81	0	238	180	0
V/C Ratio(X)	0.09	0.00	0.76		0.35	0.40	0.21	0.49	0.00	0.88	0.73	0.00
Avail Cap(c_a), veh/h	485	0	832		312	857	592	306	0	275	417	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	24.3		18.6	18.1	16.3	51.3	0.0	46.0	50.2	0.0
Incr Delay (d2), s/veh	0.1	0.0	6.4		0.7	1.4	0.8	4.6	0.0	23.6	5.7	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
%ile BackOfQ(95%),veh/ln	0.9	0.0	20.0		2.3	9.3	3.4	2.1	0.0	11.3	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.2	0.0	30.7		19.3	19.5	17.1	55.9	0.0	69.5	55.9	0.0
LnGrp LOS	B		C		B	B	B	E		E	E	
Approach Vol, veh/h	670				572				249			180
Approach Delay, s/veh	29.7				18.9				67.3			51.2
Approach LOS	C				B				E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	58.4	11.3	26.4	11.7	60.6	15.0	22.7				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	5.5	34.0	4.4	4.7	3.4	15.6	7.5	15.8				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.1	0.0	2.2	0.3	0.3				

Intersection Summary

HCM 7th Control Delay, s/veh	33.9
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Background - 2030
AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	39
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	242
Arrive On Green	0.18
Sat Flow, veh/h	1347
Grp Volume(v), veh/h	48
Grp Sat Flow(s),veh/h/ln	1658
Q Serve(g_s), s	2.7
Cycle Q Clear(g_c), s	2.7
Prop In Lane	0.81
Lane Grp Cap(c), veh/h	298
V/C Ratio(X)	0.16
Avail Cap(c_a), veh/h	298
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	38.1
Incr Delay (d2), s/veh	0.3
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	38.4
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection

Intersection Delay, s/veh12.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔			↔	
Traffic Vol, veh/h	1	31	18	156	6	48	6	59	136	149	163	3
Future Vol, veh/h	1	31	18	156	6	48	6	59	136	149	163	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	2	17	3	0	0	1	2	1	0
Mvmt Flow	1	36	21	181	7	56	7	69	158	173	190	3
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach RightNB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh9.5		12.1	10.4	14.4
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	2%	96%	0%	47%
Vol Thru, %	29%	62%	4%	0%	52%
Vol Right, %	68%	36%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	50	162	48	315
LT Vol	6	1	156	0	149
Through Vol	59	31	6	0	163
RT Vol	136	18	0	48	3
Lane Flow Rate	234	58	188	56	366
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.324	0.095	0.349	0.089	0.539
Departure Headway (Hd)	4.994	5.873	6.678	5.737	5.293
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	720	608	539	624	681
Service Time	3.033	3.926	4.417	3.476	3.327
HCM Lane V/C Ratio	0.325	0.095	0.349	0.09	0.537
HCM Control Delay, s/veh	10.4	9.5	13	9	14.4
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	1.4	0.3	1.6	0.3	3.2

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Background - 2030
AM Peak Hour

Intersection													
Int Delay, s/veh	3.8												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↓	↑					↓		↑
Traffic Vol, veh/h	0	401	494	2	335	519	0	0	0	0	36	0	52
Future Vol, veh/h	0	401	494	2	335	519	0	0	0	0	36	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	11	0	5	10	0	0	0	0	6	0	36
Mvmt Flow	0	436	537	2	364	564	0	0	0	0	39	0	57
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	436	436	0	0				1510	-	564
Stage 1	-	-	-	-	-	-	-				1292	-	-
Stage 2	-	-	-	-	-	-	-				218	-	-
Critical Hdwy	-	-	-	6.9	4.175	-	-				6.69	-	6.74
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.89	-	-
Follow-up Hdwy	-	-	-	3.12	2.475	-	-				3.557	-	3.642
Pot Cap-1 Maneuver	0	-	0	604	1104	-	0				133	0	578
Stage 1	0	-	0	-	-	-	0				275	0	-
Stage 2	0	-	0	-	-	-	0				788	0	-
Platoon blocked, %		-				-					0		0
Mov Cap-1 Maneuver	-	-	-	1098	1098	-	-				105	0	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				168	0	-
Stage 1	-	-	-	-	-	-	-				275	0	-
Stage 2	-	-	-	-	-	-	-				619	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			3.9				20.48					
HCM LOS	C												
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1098	-	168	578								
HCM Lane V/C Ratio	-	0.334	-	0.233	0.098								
HCM Control Delay (s/veh)	-	9.9	-	32.9	11.9								
HCM Lane LOS	-	A	-	D	B								
HCM 95th %tile Q(veh)	-	1.5	-	0.9	0.3								

Timings

Background - 2030

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

AM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations		↩	↑	↑↑	↑	↩	↩
Traffic Volume (vph)	10	80	360	583	45	244	186
Future Volume (vph)	10	80	360	583	45	244	186
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	14.0	14.0	14.0	14.0		10.0	
Minimum Split (s)	24.8	24.8	24.8	24.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

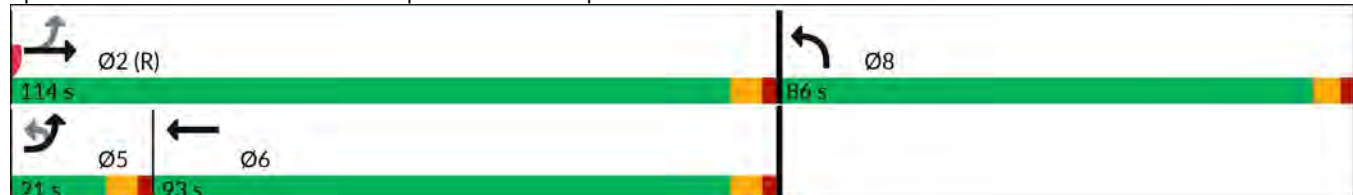
Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2030

AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	10	80	360	0	0	583	45	244	0	186	0	0
Future Volume (veh/h)	10	80	360	0	0	583	45	244	0	186	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1618	1841	0	0	1811	1752	1678	0	1767		
Adj Flow Rate, veh/h		90	404	0	0	655	0	274	0	0		
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %		19	4	0	0	6	10	15	0	9		
Cap, veh/h		524	1383	0	0	2223		293	0			
Arrive On Green		0.07	0.75	0.00	0.00	0.65	0.00	0.18	0.00	0.00		
Sat Flow, veh/h		1541	1841	0	0	3532	1485	1598	0	1497		
Grp Volume(v), veh/h		90	404	0	0	655	0	274	0	0		
Grp Sat Flow(s),veh/h/ln		1541	1841	0	0	1721	1485	1598	0	1497		
Q Serve(g_s), s		3.4	14.0	0.0	0.0	16.6	0.0	33.8	0.0	0.0		
Cycle Q Clear(g_c), s		3.4	14.0	0.0	0.0	16.6	0.0	33.8	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		524	1383	0	0	2223		293	0			
V/C Ratio(X)		0.17	0.29	0.00	0.00	0.29		0.94	0.00			
Avail Cap(c_a), veh/h		524	1383	0	0	2223		637	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		8.9	7.9	0.0	0.0	15.5	0.0	80.5	0.0	0.0		
Incr Delay (d2), s/veh		0.7	0.5	0.0	0.0	0.3	0.0	13.2	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		
%ile BackOfQ(95%),veh/ln		2.2	9.4	0.0	0.0	10.8	0.0	21.5	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		9.6	8.5	0.0	0.0	15.8	0.0	93.7	0.0	0.0		
LnGrp LOS		A	A			B		F				
Approach Vol, veh/h			494			655			274			
Approach Delay, s/veh			8.7			15.8			93.7			
Approach LOS			A			B			F			
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		157.0			21.0	136.0		43.0				
Change Period (Y+Rc), s		6.8			6.8	6.8		6.3				
Max Green Setting (Gmax), s		107.2			14.2	86.2		79.7				
Max Q Clear Time (g_c+I1), s		16.0			5.4	18.6		35.8				
Green Ext Time (p_c), s		2.4			0.1	4.6		0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			28.3									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Background - 2030

AM Peak Hour



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Background - 2030
AM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	0	14	0	0	0	3	77	0	1	100	19
Future Vol, veh/h	35	0	14	0	0	0	3	77	0	1	100	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	1	15
Mvmt Flow	37	0	15	0	0	0	3	82	0	1	106	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	207	207	116	197	217	82	127	0	0	82	0	0
Stage 1	119	119	-	88	88	-	-	-	-	-	-	-
Stage 2	88	88	-	109	129	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	744	693	941	767	685	983	1472	-	-	1528	-	-
Stage 1	879	801	-	924	826	-	-	-	-	-	-	-
Stage 2	912	826	-	902	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	742	691	941	752	682	983	1472	-	-	1528	-	-
Mov Cap-2 Maneuver	742	691	-	752	682	-	-	-	-	-	-	-
Stage 1	878	801	-	922	824	-	-	-	-	-	-	-
Stage 2	910	824	-	887	793	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.88	0	0.28	0.06
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	68	-	-	790	15	-	-
HCM Lane V/C Ratio	0.002	-	-	0.066	0.001	-	-
HCM Control Delay (s/veh)	7.5	0	-	9.9	0	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	-	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Buildout - 2030
PM Peak Hour

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	56	36	59	106	158	78
Future Vol, veh/h	56	36	59	106	158	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	3	2	3
Mvmt Flow	60	39	63	114	170	84

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	453	212	254	0	-	0
Stage 1	212	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	569	833	1300	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	539	833	1300	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	785	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.83	2.83	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	644	-	625	-	-
HCM Lane V/C Ratio	0.049	-	0.158	-	-
HCM Control Delay (s/veh)	7.9	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Timings

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030

PM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	22	376	18	207	626	131	55	14	104	16
Future Volume (vph)	22	376	18	207	626	131	55	14	104	16
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	22	376	62	18	207	626	131	55	14	126	104	16
Future Volume (veh/h)	22	376	62	18	207	626	131	55	14	126	104	16
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1900	1900	1900		1870	1841	1426	1826	1900	1841	1366	1589
Adj Flow Rate, veh/h	23	400	66		220	666	139	59	15	134	111	17
Peak Hour Factor	0.94	0.94	0.94		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0		2	4	32	5	0	4	36	21
Cap, veh/h	317	793	131		498	996	654	92	18	163	155	53
Arrive On Green	0.03	0.50	0.50		0.07	0.54	0.54	0.05	0.11	0.11	0.06	0.13
Sat Flow, veh/h	1810	1590	262		1781	1841	1208	1739	165	1471	2525	413
Grp Volume(v), veh/h	23	0	466		220	666	139	59	0	149	111	0
Grp Sat Flow(s),veh/h/ln	1810	0	1853		1781	1841	1208	1739	0	1635	1262	0
Q Serve(g_s), s	0.7	0.0	18.5		6.7	28.6	6.6	3.7	0.0	9.8	4.7	0.0
Cycle Q Clear(g_c), s	0.7	0.0	18.5		6.7	28.6	6.6	3.7	0.0	9.8	4.7	0.0
Prop In Lane	1.00		0.14		1.00		1.00	1.00		0.90	1.00	
Lane Grp Cap(c), veh/h	317	0	924		498	996	654	92	0	181	155	0
V/C Ratio(X)	0.07	0.00	0.50		0.44	0.67	0.21	0.64	0.00	0.82	0.71	0.00
Avail Cap(c_a), veh/h	394	0	924		498	996	654	294	0	277	404	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	18.5		13.7	18.1	13.1	51.0	0.0	47.9	50.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	2.0		0.6	3.6	0.7	7.1	0.0	11.3	6.0	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
%ile BackOfQ(95%),veh/ln	0.5	0.0	12.4		4.5	17.5	3.3	3.1	0.0	7.9	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.1	0.0	20.4		14.3	21.7	13.8	58.2	0.0	59.1	56.7	0.0
LnGrp LOS	B		C		B	C	B	E		E	E	
Approach Vol, veh/h		489				1025			208			169
Approach Delay, s/veh		20.2				19.0			58.9			52.5
Approach LOS		C				B			E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	62.1	12.2	20.7	10.3	66.7	14.2	18.8				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	8.7	20.5	5.7	6.1	2.7	30.6	6.7	11.8				
Green Ext Time (p_c), s	0.0	2.5	0.1	0.1	0.0	2.7	0.2	0.4				

Intersection Summary

HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030
PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	39
Future Volume (veh/h)	39
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	41
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	128
Arrive On Green	0.13
Sat Flow, veh/h	996
Grp Volume(v), veh/h	58
Grp Sat Flow(s),veh/h/ln	1409
Q Serve(g_s), s	4.1
Cycle Q Clear(g_c), s	4.1
Prop In Lane	0.71
Lane Grp Cap(c), veh/h	181
V/C Ratio(X)	0.32
Avail Cap(c_a), veh/h	236
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	43.6
Incr Delay (d2), s/veh	1.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.6
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	44.6
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC
3: Carpenter Rd & Dairy Rd

Buildout - 2030
PM Peak Hour

Intersection

Intersection Delay, s/veh 11.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	18	112	26	161	25	147	127	100	117	1
Future Vol, veh/h	0	16	18	112	26	161	25	147	127	100	117	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	0	0	0	2	4	0	3	0
Mvmt Flow	0	17	19	119	28	171	27	156	135	106	124	1
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	9.1	10.5	11.9	11.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	0%	81%	0%	46%
Vol Thru, %	49%	47%	19%	0%	54%
Vol Right, %	42%	53%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	299	34	138	161	218
LT Vol	25	0	112	0	100
Through Vol	147	16	26	0	117
RT Vol	127	18	0	161	1
Lane Flow Rate	318	36	147	171	232
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.442	0.057	0.262	0.251	0.348
Departure Headway (Hd)	4.997	5.669	6.424	5.268	5.396
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	725	630	559	682	666
Service Time	2.997	3.721	4.161	3.005	3.43
HCM Lane V/C Ratio	0.439	0.057	0.263	0.251	0.348
HCM Control Delay, s/veh	11.9	9.1	11.4	9.8	11.3
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	2.3	0.2	1	1	1.6

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Buildout - 2030
PM Peak Hour

Intersection													
Int Delay, s/veh	3.1												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	312	320	2	176	856	0	0	0	0	43	1	106
Future Vol, veh/h	0	312	320	2	176	856	0	0	0	0	43	1	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	2	5	0	0	0	0	5	0	20
Mvmt Flow	0	322	330	2	181	882	0	0	0	0	44	1	109
Major/Minor	Major1			Major2			Minor2						
Conflicting Flow All	-	0	-	322	322	0	0				1406	1571	882
Stage 1	-	-	-	-	-	-	-				1245	1249	-
Stage 2	-	-	-	-	-	-	-				161	322	-
Critical Hdwy	-	-	-	6.9	4.13	-	-				6.675	6.5	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.475	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.875	5.5	-
Follow-up Hdwy	-	-	-	3.1	2.219	-	-				3.5475	4	3.49
Pot Cap-1 Maneuver	0	-	0	718	1237	-	0				154	121	365
Stage 1	0	-	0	-	-	-	0				287	266	-
Stage 2	0	-	0	-	-	-	0				844	655	-
Platoon blocked, %		-				-					0	0	0
Mov Cap-1 Maneuver	-	-	-	1227	1227	-	-				140	0	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				228	0	-
Stage 1	-	-	-	-	-	-	-				287	0	-
Stage 2	-	-	-	-	-	-	-				765	0	-
Approach	EB			WB			SB						
HCM Control Delay, s/v	0			1.45			20.62						
HCM LOS							C						
Minor Lane/Major Mvmt	EBT		WBL	WBT	SBLn1	SBLn2							
Capacity (veh/h)	-		1227	-	228	365							
HCM Lane V/C Ratio	-		0.15	-	0.194	0.3							
HCM Control Delay (s/veh)	-		8.5	-	24.5	19							
HCM Lane LOS	-		A	-	C	C							
HCM 95th %tile Q(veh)	-		0.5	-	0.7	1.2							

Timings

Buildout - 2030

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

PM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	50	308	537	40	497	366
Future Volume (vph)	2	50	308	537	40	497	366
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	10.0	10.0	14.0	14.0		10.0	
Minimum Split (s)	20.8	20.8	20.8	20.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 107.2 (54%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030
PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	50	308	0	0	537	40	497	0	366	0	0
Future Volume (veh/h)	2	50	308	0	0	537	40	497	0	366	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1900	1900	0	0	1870	1737	1781	0	1811		
Adj Flow Rate, veh/h		52	321	0	0	559	0	518	0	0		
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %		0	0	0	0	2	11	8	0	6		
Cap, veh/h		528	1171	0	0	1818		539	0			
Arrive On Green		0.07	0.62	0.00	0.00	0.51	0.00	0.32	0.00	0.00		
Sat Flow, veh/h		1810	1900	0	0	3647	1472	1697	0	1535		
Grp Volume(v), veh/h		52	321	0	0	559	0	518	0	0		
Grp Sat Flow(s),veh/h/ln		1810	1900	0	0	1777	1472	1697	0	1535		
Q Serve(g_s), s		2.4	15.6	0.0	0.0	18.2	0.0	60.0	0.0	0.0		
Cycle Q Clear(g_c), s		2.4	15.6	0.0	0.0	18.2	0.0	60.0	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		528	1171	0	0	1818		539	0			
V/C Ratio(X)		0.10	0.27	0.00	0.00	0.31		0.96	0.00			
Avail Cap(c_a), veh/h		528	1171	0	0	1818		676	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		18.2	17.7	0.0	0.0	28.3	0.0	67.0	0.0	0.0		
Incr Delay (d2), s/veh		0.4	0.6	0.0	0.0	0.4	0.0	22.6	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		
%ile BackOfQ(95%),veh/ln		1.9	11.4	0.0	0.0	12.5	0.0	38.4	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		18.6	18.3	0.0	0.0	28.8	0.0	89.5	0.0	0.0		
LnGrp LOS		B	B			C		F				
Approach Vol, veh/h		373				559			518			
Approach Delay, s/veh		18.3				28.8			89.5			
Approach LOS		B				C			F			
Timer - Assigned Phs		2				5		6		8		
Phs Duration (G+Y+Rc), s		130.1				21.0		109.1		69.9		
Change Period (Y+Rc), s		6.8				6.8		6.8		6.3		
Max Green Setting (Gmax), s		107.2				14.2		86.2		79.7		
Max Q Clear Time (g_c+I1), s		17.6				4.4		20.2		62.0		
Green Ext Time (p_c), s		1.8				0.1		3.8		1.6		
Intersection Summary												
HCM 7th Control Delay, s/veh		47.8										
HCM 7th LOS		D										
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030
 PM Peak Hour



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Buildout - 2030
PM Peak Hour

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	26	0	6	0	0	0	10	154	0	2	141	48
Future Vol, veh/h	26	0	6	0	0	0	10	154	0	2	141	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	3	3
Mvmt Flow	27	0	6	0	0	0	10	160	0	2	147	50

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	357	357	172	332	382	160	197	0	0	160	0	0
Stage 1	176	176	-	181	181	-	-	-	-	-	-	-
Stage 2	181	181	-	151	201	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	602	572	877	625	554	890	1388	-	-	1431	-	-
Stage 1	830	757	-	825	753	-	-	-	-	-	-	-
Stage 2	825	753	-	856	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	596	566	877	614	548	890	1388	-	-	1431	-	-
Mov Cap-2 Maneuver	596	566	-	614	548	-	-	-	-	-	-	-
Stage 1	829	756	-	818	747	-	-	-	-	-	-	-
Stage 2	818	747	-	849	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.99		0	0.46	0.08
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	110	-	-	634	-	18	-
HCM Lane V/C Ratio	0.008	-	-	0.053	-	0.001	-
HCM Control Delay (s/veh)	7.6	0	-	11	0	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	163	59	12	126	94	53
Future Vol, veh/h	163	59	12	126	94	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	6	5	0	1	2	13
Mvmt Flow	173	63	13	134	100	56

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	288	128	156	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.46	6.25	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.345	2.2	-	-	-
Pot Cap-1 Maneuver	694	914	1436	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	688	914	1436	-	-	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v12.18		0.65	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	157	-	736	-	-
HCM Lane V/C Ratio	0.009	-	0.321	-	-
HCM Control Delay (s/veh)	7.5	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Timings

Buildout - 2030 (Ultimate)

2: Carpenter Rd/Loves Driveway & SR 46

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	37	538	41	129	314	117	58	12	121	8
Future Volume (vph)	37	538	41	129	314	117	58	12	121	8
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030 (Ultimate)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	37	538	48	41	129	314	117	58	12	282	121	8
Future Volume (veh/h)	37	538	48	41	129	314	117	58	12	282	121	8
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No				No				No			No
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	40	585	52		140	341	127	63	13	307	132	9
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	414	722	64		266	817	565	98	11	263	180	60
Arrive On Green	0.04	0.44	0.44		0.06	0.46	0.46	0.05	0.17	0.17	0.07	0.19
Sat Flow, veh/h	1598	1639	146		1654	1767	1221	1810	66	1554	2607	311
Grp Volume(v), veh/h	40	0	637		140	341	127	63	0	320	132	0
Grp Sat Flow(s),veh/h/ln	1598	0	1785		1654	1767	1221	1810	0	1620	1303	0
Q Serve(g_s), s	1.5	0.0	34.2		5.0	14.1	6.9	3.8	0.0	18.6	5.5	0.0
Cycle Q Clear(g_c), s	1.5	0.0	34.2		5.0	14.1	6.9	3.8	0.0	18.6	5.5	0.0
Prop In Lane	1.00		0.08		1.00		1.00	1.00		0.96	1.00	
Lane Grp Cap(c), veh/h	414	0	786		266	817	565	98	0	274	180	0
V/C Ratio(X)	0.10	0.00	0.81		0.53	0.42	0.22	0.64	0.00	1.17	0.73	0.00
Avail Cap(c_a), veh/h	462	0	786		278	817	565	306	0	274	417	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.6	0.0	26.8		21.3	19.7	17.7	51.0	0.0	45.7	50.2	0.0
Incr Delay (d2), s/veh	0.1	0.0	8.9		1.7	1.6	0.9	6.8	0.0	107.7	5.7	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
%ile BackOfQ(95%),veh/ln	0.9	0.0	21.8		3.4	9.7	3.6	3.3	0.0	23.6	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	0.0	35.7		23.0	21.3	18.7	57.7	0.0	153.4	55.9	0.0
LnGrp LOS	B		D		C	C	B	E		F	E	
Approach Vol, veh/h	677				608				383			180
Approach Delay, s/veh	34.5				21.1				137.7			50.9
Approach LOS	C				C				F			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	55.6	12.4	27.8	11.7	58.1	15.0	25.2				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+l1), s	7.0	36.2	5.8	4.6	3.5	16.1	7.5	20.6				
Green Ext Time (p_c), s	0.0	0.8	0.1	0.1	0.0	2.2	0.3	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh	53.1
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030 (Ultimate)

AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	39
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	260
Arrive On Green	0.19
Sat Flow, veh/h	1347
Grp Volume(v), veh/h	48
Grp Sat Flow(s),veh/h/ln	1658
Q Serve(g_s), s	2.6
Cycle Q Clear(g_c), s	2.6
Prop In Lane	0.81
Lane Grp Cap(c), veh/h	320
V/C Ratio(X)	0.15
Avail Cap(c_a), veh/h	320
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	36.9
Incr Delay (d2), s/veh	0.2
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	37.1
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC
3: Carpenter Rd & Dairy Rd

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection

Intersection Delay, s/veh12.8

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	31	18	156	6	51	6	61	136	159	167	3
Future Vol, veh/h	1	31	18	156	6	51	6	61	136	159	167	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	2	17	3	0	0	1	2	1	0
Mvmt Flow	1	36	21	181	7	59	7	71	158	185	194	3
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach RightNB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh9.6		12.1	10.6	15.1
HCM LOS	A	B	B	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	3%	2%	96%	0%	48%
Vol Thru, %	30%	62%	4%	0%	51%
Vol Right, %	67%	36%	0%	100%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	50	162	51	329
LT Vol	6	1	156	0	159
Through Vol	61	31	6	0	167
RT Vol	136	18	0	51	3
Lane Flow Rate	236	58	188	59	383
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.331	0.096	0.352	0.095	0.565
Departure Headway (Hd)	5.043	5.947	6.735	5.794	5.319
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	713	601	533	618	677
Service Time	3.082	4.003	4.478	3.536	3.352
HCM Lane V/C Ratio	0.331	0.097	0.353	0.095	0.566
HCM Control Delay, s/veh	10.6	9.6	13.1	9.1	15.1
HCM Lane LOS	B	A	B	A	C
HCM 95th-tile Q	1.4	0.3	1.6	0.3	3.6

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection													
Int Delay, s/veh	3.8												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑	↑					↑		↑
Traffic Vol, veh/h	0	438	559	2	335	550	0	0	0	0	36	0	54
Future Vol, veh/h	0	438	559	2	335	550	0	0	0	0	36	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	11	0	5	10	0	0	0	0	6	0	36
Mvmt Flow	0	476	608	2	364	598	0	0	0	0	39	0	59
Major/Minor	Major1			Major2			Minor2						
Conflicting Flow All	-	0	-	476	476	0	0				1564	-	598
Stage 1	-	-	-	-	-	-	-				1326	-	-
Stage 2	-	-	-	-	-	-	-				238	-	-
Critical Hdwy	-	-	-	6.9	4.175	-	-				6.69	-	6.74
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.89	-	-
Follow-up Hdwy	-	-	-	3.12	2.475	-	-				3.557	-	3.642
Pot Cap-1 Maneuver	0	-	0	568	1066	-	0				125	0	578
Stage 1	0	-	0	-	-	-	0				270	0	-
Stage 2	0	-	0	-	-	-	0				769	0	-
Platoon blocked, %		-				-					0		0
Mov Cap-1 Maneuver	-	-	-	1060	1060	-	-				97	0	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				157	0	-
Stage 1	-	-	-	-	-	-	-				270	0	-
Stage 2	-	-	-	-	-	-	-				597	0	-
Approach	EB			WB			SB						
HCM Control Delay, s/v	0			3.87			21.26						
HCM LOS							C						
Minor Lane/Major Mvmt	EBT		WBL	WBT	SBLn1	SBLn2							
Capacity (veh/h)	-		1060	-	157	578							
HCM Lane V/C Ratio	-		0.345	-	0.248	0.101							
HCM Control Delay (s/veh)	-		10.2	-	35.3	11.9							
HCM Lane LOS	-		B	-	E	B							
HCM 95th %tile Q(veh)	-		1.6	-	0.9	0.3							

Timings

Buildout - 2030 (Ultimate)

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

AM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations		↩	↑	↑↑	↑	↩	↩
Traffic Volume (vph)	10	86	391	593	45	265	186
Future Volume (vph)	10	86	391	593	45	265	186
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	14.0	14.0	14.0	14.0		10.0	
Minimum Split (s)	24.8	24.8	24.8	24.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030 (Ultimate)

AM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	10	86	391	0	0	593	45	265	0	186	0	0
Future Volume (veh/h)	10	86	391	0	0	593	45	265	0	186	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No			No			
Adj Sat Flow, veh/h/ln		1618	1841	0	0	1811	1752	1678	0	1767		
Adj Flow Rate, veh/h		97	439	0	0	666	0	298	0	0		
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %		19	4	0	0	6	10	15	0	9		
Cap, veh/h		507	1355	0	0	2171		317	0			
Arrive On Green		0.07	0.74	0.00	0.00	0.63	0.00	0.20	0.00	0.00		
Sat Flow, veh/h		1541	1841	0	0	3532	1485	1598	0	1497		
Grp Volume(v), veh/h		97	439	0	0	666	0	298	0	0		
Grp Sat Flow(s),veh/h/ln		1541	1841	0	0	1721	1485	1598	0	1497		
Q Serve(g_s), s		3.9	16.5	0.0	0.0	17.7	0.0	36.8	0.0	0.0		
Cycle Q Clear(g_c), s		3.9	16.5	0.0	0.0	17.7	0.0	36.8	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		507	1355	0	0	2171		317	0			
V/C Ratio(X)		0.19	0.32	0.00	0.00	0.31		0.94	0.00			
Avail Cap(c_a), veh/h		507	1355	0	0	2171		637	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		10.0	9.2	0.0	0.0	16.9	0.0	79.0	0.0	0.0		
Incr Delay (d2), s/veh		0.8	0.6	0.0	0.0	0.4	0.0	12.9	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		
%ile BackOfQ(95%),veh/ln		2.5	10.9	0.0	0.0	11.5	0.0	23.0	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		10.8	9.8	0.0	0.0	17.3	0.0	91.9	0.0	0.0		
LnGrp LOS		B	A			B		F				
Approach Vol, veh/h		536				666			298			
Approach Delay, s/veh		10.0				17.3			91.9			
Approach LOS		A				B			F			
Timer - Assigned Phs		2				5		6		8		
Phs Duration (G+Y+Rc), s		154.0				21.0		133.0		46.0		
Change Period (Y+Rc), s		6.8				6.8		6.8		6.3		
Max Green Setting (Gmax), s		107.2				14.2		86.2		79.7		
Max Q Clear Time (g_c+I1), s		18.5				5.9		19.7		38.8		
Green Ext Time (p_c), s		2.7				0.1		4.7		1.0		
Intersection Summary												
HCM 7th Control Delay, s/veh		29.5										
HCM 7th LOS		C										
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030 (Ultimate)
 AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	36	0	14	0	0	0	3	82	0	1	114	23
Future Vol, veh/h	36	0	14	0	0	0	3	82	0	1	114	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	5	0	0	0	0	0	0	0	0	0	1	15
Mvmt Flow	38	0	15	0	0	0	3	87	0	1	121	24

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	229	229	134	217	241	87	146	0	0	87	0	0
Stage 1	136	136	-	94	94	-	-	-	-	-	-	-
Stage 2	94	94	-	123	148	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	720	674	921	744	664	977	1449	-	-	1521	-	-
Stage 1	860	788	-	918	821	-	-	-	-	-	-	-
Stage 2	906	821	-	886	779	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	717	672	921	729	661	977	1449	-	-	1521	-	-
Mov Cap-2 Maneuver	717	672	-	729	661	-	-	-	-	-	-	-
Stage 1	860	787	-	916	819	-	-	-	-	-	-	-
Stage 2	904	819	-	871	778	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.06		0	0.26	0.05
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	64	-	-	765	-	13	-
HCM Lane V/C Ratio	0.002	-	-	0.07	-	0.001	-
HCM Control Delay (s/veh)	7.5	0	-	10.1	0	7.4	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-

HCM 7th TWSC
7: N Carpenter Rd & Project Driveway 1

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	4	1	237	121	10
Future Vol, veh/h	31	4	1	237	121	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	4	1	258	132	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	397	137	142
Stage 1	137	-	-
Stage 2	260	-	-
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	608	912	1440
Stage 1	890	-	-
Stage 2	784	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	608	912	1440
Mov Cap-2 Maneuver	608	-	-
Stage 1	889	-	-
Stage 2	784	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v11.06		0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	8	-	632	-	-
HCM Lane V/C Ratio	0.001	-	0.06	-	-
HCM Control Delay (s/veh)	7.5	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th TWSC
8: N Carpenter Rd & Project Driveway 2

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	4	2	207	115	10
Future Vol, veh/h	31	4	2	207	115	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	4	2	225	125	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	360	130	136	0	-	0
Stage 1	130	-	-	-	-	-
Stage 2	229	-	-	-	-	-
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	639	919	1448	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	638	919	1448	-	-	-
Mov Cap-2 Maneuver	638	-	-	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	809	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.78		0.07	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	661	-	-
HCM Lane V/C Ratio	0.002	-	0.058	-	-
HCM Control Delay (s/veh)	7.5	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th TWSC
9: N Carpenter Rd & Project Driveway 4

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	25	3	1	113	143	9
Future Vol, veh/h	25	3	1	113	143	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	3	1	123	155	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	285	160	165	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	125	-	-	-	-	-
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	705	885	1413	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	704	885	1413	-	-	-
Mov Cap-2 Maneuver	704	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.22		0.07		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	16	-	720	-	-	
HCM Lane V/C Ratio	0.001	-	0.042	-	-	
HCM Control Delay (s/veh)	7.5	0	10.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 7th TWSC
10: Project Driveway 5 & Longbow Dr

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		🛣️			🛣️			🛣️			🛣️	
Traffic Vol, veh/h	1	1	0	0	4	5	0	8	0	15	13	3
Future Vol, veh/h	1	1	0	0	4	5	0	8	0	15	13	3
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	0	4	5	0	9	0	16	14	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	10	0	0	1	0	0	15	13	1	15	10	7
Stage 1	-	-	-	-	-	-	3	3	-	7	7	-
Stage 2	-	-	-	-	-	-	11	10	-	8	3	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1610	-	-	1622	-	-	1001	881	1083	1001	884	1075
Stage 1	-	-	-	-	-	-	1019	893	-	1015	890	-
Stage 2	-	-	-	-	-	-	1009	887	-	1014	893	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1610	-	-	1622	-	-	982	881	1083	991	884	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	982	881	-	991	884	-
Stage 1	-	-	-	-	-	-	1019	893	-	1015	890	-
Stage 2	-	-	-	-	-	-	990	887	-	1003	893	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	3.62			0			9.13			8.93		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	881	900	-	-	1622	-	-	950				
HCM Lane V/C Ratio	0.01	0.001	-	-	-	-	-	0.035				
HCM Control Delay (s/veh)	9.1	7.2	0	-	0	-	-	8.9				
HCM Lane LOS	A	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1				

HCM 7th TWSC
11: Project Driveway A & London Town Rd

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	211	0	3	61	0	9
Future Vol, veh/h	211	0	3	61	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	0	3	66	0	10
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	229	0	302	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	73	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1339	-	689	810
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1339	-	688	810
Mov Cap-2 Maneuver	-	-	-	-	688	-
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	948	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.36		9.5	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	810	-	-	84	-	
HCM Lane V/C Ratio	0.012	-	-	0.002	-	
HCM Control Delay (s/veh)	9.5	-	-	7.7	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th TWSC
12: London Town Rd & Project Driveway B

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	44	5	15	0
Future Vol, veh/h	0	56	44	5	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	61	48	5	16	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	53	0	-	0	111	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1552	-	-	-	885	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1552	-	-	-	885	1018
Mov Cap-2 Maneuver	-	-	-	-	885	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	962	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		9.14		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1552	-	-	-	885	
HCM Lane V/C Ratio	-	-	-	-	0.018	
HCM Control Delay (s/veh)	0	-	-	-	9.1	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 7th TWSC
13: Project Driveway C & London Town Rd

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	132	0	12	35	9	0	0	37	28	0	0
Future Vol, veh/h	0	132	0	12	35	9	0	0	37	28	0	0
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	143	0	13	38	10	0	0	40	30	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	143	0	0	208	217	143	213	213	43
Stage 1	-	-	-	-	-	-	143	143	-	69	69	-
Stage 2	-	-	-	-	-	-	64	74	-	143	143	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1559	-	-	1439	-	-	750	681	904	744	685	1027
Stage 1	-	-	-	-	-	-	859	778	-	941	837	-
Stage 2	-	-	-	-	-	-	947	833	-	859	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1439	-	-	743	674	904	705	679	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	674	-	705	679	-
Stage 1	-	-	-	-	-	-	859	778	-	932	830	-
Stage 2	-	-	-	-	-	-	938	826	-	821	778	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			1.61			9.17			10.34		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	904	1559	-	-	371	-	-	705				
HCM Lane V/C Ratio	0.044	-	-	-	0.009	-	-	0.043				
HCM Control Delay (s/veh)	9.2	0	-	-	7.5	0	-	10.3				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1				

HCM 7th TWSC
14: Arnold Palmer Dr & Project Driveway D

Buildout - 2030 (Ultimate)
AM Peak Hour

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱		↱				↰	
Traffic Vol, veh/h	0	0	14	14	0	0	5	0	4	0	0	0
Future Vol, veh/h	0	0	14	14	0	0	5	0	4	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	15	15	0	0	5	0	4	0	0	0

Major/Minor	Minor2		Minor1				Major2		
Conflicting Flow All	-	1	1	1	1	-	0	0	0
Stage 1	-	1	-	0	0	-	-	-	-
Stage 2	-	0	-	1	1	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-
Pot Cap-1 Maneuver	0	895	1083	1022	895	0	-	-	-
Stage 1	0	895	-	-	-	0	-	-	-
Stage 2	0	-	-	1022	895	0	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	895	1083	1007	895	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	1007	895	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-
Stage 2	-	-	-	1008	895	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s/v	8.37		8.63		0	
HCM LOS	A		A			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	1007	-	-	-
HCM Lane V/C Ratio	0.014	0.015	-	-	-
HCM Control Delay (s/veh)	8.4	8.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

HCM 7th TWSC
1: N Carpenter Rd & London Town Rd

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	42	69	114	164	139
Future Vol, veh/h	94	42	69	114	164	139
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	4	3	2	3
Mvmt Flow	101	45	74	123	176	149
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	522	251	326	0	-	0
Stage 1	251	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.236	-	-	-
Pot Cap-1 Maneuver	518	793	1223	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	485	793	1223	-	-	-
Mov Cap-2 Maneuver	485	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v13.88		3.07		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	679	-	551	-	-	
HCM Lane V/C Ratio	0.061	-	0.266	-	-	
HCM Control Delay (s/veh)	8.1	0	13.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-	

Timings

Buildout - 2030 (Ultimate)

2: Carpenter Rd/Loves Driveway & SR 46

PM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	22	376	18	309	626	131	69	14	104	16
Future Volume (vph)	22	376	18	309	626	131	69	14	104	16
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	25.0	25.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	22.7%	22.7%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030 (Ultimate)

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	22	376	83	18	309	626	131	69	14	190	104	16
Future Volume (veh/h)	22	376	83	18	309	626	131	69	14	190	104	16
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1900	1900	1900		1870	1841	1426	1826	1900	1841	1366	1589
Adj Flow Rate, veh/h	23	400	88		329	666	139	73	15	202	111	17
Peak Hour Factor	0.94	0.94	0.94		0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0		2	4	32	5	0	4	36	21
Cap, veh/h	273	691	152		431	922	605	99	17	229	155	68
Arrive On Green	0.03	0.46	0.46		0.07	0.50	0.50	0.06	0.15	0.15	0.06	0.16
Sat Flow, veh/h	1810	1508	332		1781	1841	1208	1739	112	1515	2525	413
Grp Volume(v), veh/h	23	0	488		329	666	139	73	0	217	111	0
Grp Sat Flow(s),veh/h/ln	1810	0	1840		1781	1841	1208	1739	0	1627	1262	0
Q Serve(g_s), s	0.7	0.0	21.5		7.8	31.1	7.1	4.5	0.0	14.4	4.7	0.0
Cycle Q Clear(g_c), s	0.7	0.0	21.5		7.8	31.1	7.1	4.5	0.0	14.4	4.7	0.0
Prop In Lane	1.00		0.18		1.00		1.00	1.00		0.93	1.00	
Lane Grp Cap(c), veh/h	273	0	844		431	922	605	99	0	246	155	0
V/C Ratio(X)	0.08	0.00	0.58		0.76	0.72	0.23	0.74	0.00	0.88	0.71	0.00
Avail Cap(c_a), veh/h	350	0	844		431	922	605	294	0	275	404	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.8	0.0	22.0		24.0	21.5	15.5	51.1	0.0	45.7	50.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	2.9		7.9	4.9	0.9	10.3	0.0	25.1	6.0	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
%ile BackOfQ(95%),veh/ln	0.5	0.0	14.3		8.2	19.5	3.6	4.0	0.0	11.8	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	0.0	24.8		32.0	26.4	16.4	61.3	0.0	70.8	56.7	0.0
LnGrp LOS	B		C		C	C	B	E		E	E	
Approach Vol, veh/h		511				1134			290			169
Approach Delay, s/veh		24.5				26.8			68.4			51.1
Approach LOS		C				C			E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	57.6	12.6	24.7	10.3	62.3	14.2	23.2				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	17.6	* 19				
Max Q Clear Time (g_c+I1), s	9.8	23.5	6.5	5.9	2.7	33.1	6.7	16.4				
Green Ext Time (p_c), s	0.0	2.4	0.1	0.1	0.0	1.9	0.2	0.2				

Intersection Summary

HCM 7th Control Delay, s/veh	33.9
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Buildout - 2030 (Ultimate)
PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	39
Future Volume (veh/h)	39
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	41
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	164
Arrive On Green	0.16
Sat Flow, veh/h	996
Grp Volume(v), veh/h	58
Grp Sat Flow(s),veh/h/ln	1409
Q Serve(g_s), s	3.9
Cycle Q Clear(g_c), s	3.9
Prop In Lane	0.71
Lane Grp Cap(c), veh/h	232
V/C Ratio(X)	0.25
Avail Cap(c_a), veh/h	236
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	40.0
Incr Delay (d2), s/veh	0.6
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.5
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	40.6
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th AWSC
3: Carpenter Rd & Dairy Rd

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection

Intersection Delay, s/veh 11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	16	18	112	26	171	25	151	127	106	120	1
Future Vol, veh/h	0	16	18	112	26	171	25	151	127	106	120	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	0	0	0	2	4	0	3	0
Mvmt Flow	0	17	19	119	28	182	27	161	135	113	128	1
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay, s/veh	9.1	10.7	12.1	11.6
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	0%	81%	0%	47%
Vol Thru, %	50%	47%	19%	0%	53%
Vol Right, %	42%	53%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	303	34	138	171	227
LT Vol	25	0	112	0	106
Through Vol	151	16	26	0	120
RT Vol	127	18	0	171	1
Lane Flow Rate	322	36	147	182	241
Geometry Grp	2	4a	5	5	2
Degree of Util (X)	0.449	0.058	0.264	0.269	0.365
Departure Headway (Hd)	5.019	5.742	6.472	5.316	5.439
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	719	622	556	677	662
Service Time	3.051	3.79	4.204	3.048	3.473
HCM Lane V/C Ratio	0.448	0.058	0.264	0.269	0.364
HCM Control Delay, s/veh	12.1	9.1	11.5	10	11.6
HCM Lane LOS	B	A	B	A	B
HCM 95th-tile Q	2.3	0.2	1.1	1.1	1.7

HCM 7th TWSC
4: I-95 SB On Ramp/I-95 SB Off Ramp & SR 46

Buildout - 2030 (Ultimate)
PM Peak Hour

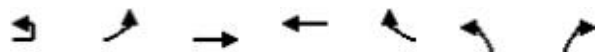
Intersection													
Int Delay, s/veh	3.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↘	↑					↗		↗
Traffic Vol, veh/h	0	335	361	2	176	952	0	0	0	0	43	1	112
Future Vol, veh/h	0	335	361	2	176	952	0	0	0	0	43	1	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	-	None	-	-	None	-	-	Yield
Storage Length	200	-	0	-	0	-	-	-	-	-	215	-	0
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	2	5	0	0	0	0	5	0	20
Mvmt Flow	0	345	372	2	181	981	0	0	0	0	44	1	115
Major/Minor	Major1			Major2				Minor2					
Conflicting Flow All	-	0	-	345	345	0	0				1517	1694	981
Stage 1	-	-	-	-	-	-	-				1344	1348	-
Stage 2	-	-	-	-	-	-	-				173	345	-
Critical Hdwy	-	-	-	6.9	4.13	-	-				6.675	6.5	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	-				5.475	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-				5.875	5.5	-
Follow-up Hdwy	-	-	-	3.1	2.219	-	-				3.5475	4	3.49
Pot Cap-1 Maneuver	0	-	0	693	1212	-	0				129	101	315
Stage 1	0	-	0	-	-	-	0				255	237	-
Stage 2	0	-	0	-	-	-	0				833	639	-
Platoon blocked, %		-				-					0	0	0
Mov Cap-1 Maneuver	-	-	-	1202	1202	-	-				117	0	315
Mov Cap-2 Maneuver	-	-	-	-	-	-	-				203	0	-
Stage 1	-	-	-	-	-	-	-				255	0	-
Stage 2	-	-	-	-	-	-	-				752	0	-
Approach	EB			WB				SB					
HCM Control Delay, s/v	0			1.34				24.22					
HCM LOS								C					
Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2								
Capacity (veh/h)	-	1202	-	203	315								
HCM Lane V/C Ratio	-	0.153	-	0.218	0.367								
HCM Control Delay (s/veh)	-	8.5	-	27.6	22.9								
HCM Lane LOS	-	A	-	D	C								
HCM 95th %tile Q(veh)	-	0.5	-	0.8	1.6								

Timings

Buildout - 2030 (Ultimate)

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

PM Peak Hour



Lane Group	EBU	EBL	EBT	WBT	WBR	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	2	53	328	568	40	562	366
Future Volume (vph)	2	53	328	568	40	562	366
Turn Type	custom	pm+pt	NA	NA	Free	Prot	Free
Protected Phases		5	2	6		8	
Permitted Phases	5	2			Free		Free
Detector Phase	5	5	2	6		8	
Switch Phase							
Minimum Initial (s)	10.0	10.0	14.0	14.0		10.0	
Minimum Split (s)	20.8	20.8	20.8	20.8		16.3	
Total Split (s)	21.0	21.0	114.0	93.0		86.0	
Total Split (%)	10.5%	10.5%	57.0%	46.5%		43.0%	
Yellow Time (s)	4.8	4.8	4.8	4.8		4.3	
All-Red Time (s)	2.0	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.8	6.8	6.8		6.3	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Recall Mode	Max	Max	C-Max	Max		None	

Intersection Summary

Cycle Length: 200

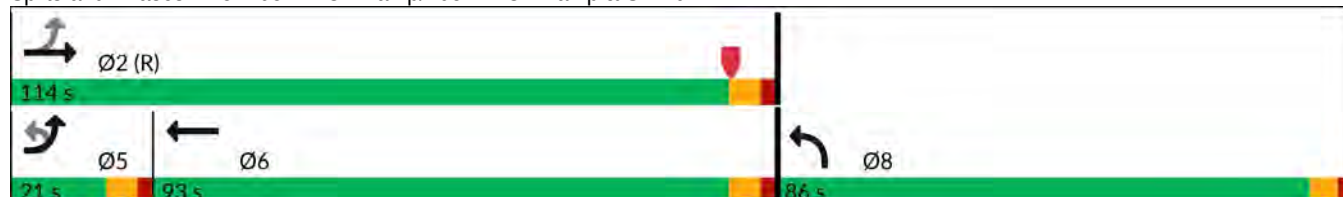
Actuated Cycle Length: 200

Offset: 107.2 (54%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Splits and Phases: 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46



HCM 7th Signalized Intersection Summary

5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030 (Ultimate)

PM Peak Hour

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	2	53	328	0	0	568	40	562	0	366	0	0
Future Volume (veh/h)	2	53	328	0	0	568	40	562	0	366	0	0
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0		
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped-Bike Adj(A_pbT)		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		
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1900	1900	0	0	1870	1737	1781	0	1811		
Adj Flow Rate, veh/h		55	342	0	0	592	0	585	0	0		
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %		0	0	0	0	2	11	8	0	6		
Cap, veh/h		473	1098	0	0	1681		605	0			
Arrive On Green		0.07	0.58	0.00	0.00	0.47	0.00	0.36	0.00	0.00		
Sat Flow, veh/h		1810	1900	0	0	3647	1472	1697	0	1535		
Grp Volume(v), veh/h		55	342	0	0	592	0	585	0	0		
Grp Sat Flow(s),veh/h/ln		1810	1900	0	0	1777	1472	1697	0	1535		
Q Serve(g_s), s		2.8	18.5	0.0	0.0	21.1	0.0	67.7	0.0	0.0		
Cycle Q Clear(g_c), s		2.8	18.5	0.0	0.0	21.1	0.0	67.7	0.0	0.0		
Prop In Lane		1.00		0.00	0.00		1.00	1.00		1.00		
Lane Grp Cap(c), veh/h		473	1098	0	0	1681		605	0			
V/C Ratio(X)		0.12	0.31	0.00	0.00	0.35		0.97	0.00			
Avail Cap(c_a), veh/h		473	1098	0	0	1681		676	0			
HCM Platoon Ratio		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	0.00	1.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh		21.9	21.7	0.0	0.0	33.3	0.0	63.2	0.0	0.0		
Incr Delay (d2), s/veh		0.5	0.7	0.0	0.0	0.6	0.0	25.4	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		
%ile BackOfQ(95%),veh/ln		2.3	13.3	0.0	0.0	14.3	0.0	43.1	0.0	0.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		22.4	22.5	0.0	0.0	33.9	0.0	88.6	0.0	0.0		
LnGrp LOS		C	C			C		F				
Approach Vol, veh/h		397				592				585		
Approach Delay, s/veh		22.5				33.9				88.6		
Approach LOS		C				C				F		
Timer - Assigned Phs		2				5		6		8		
Phs Duration (G+Y+Rc), s		122.4				21.0		101.4		77.6		
Change Period (Y+Rc), s		6.8				6.8		6.8		6.3		
Max Green Setting (Gmax), s		107.2				14.2		86.2		79.7		
Max Q Clear Time (g_c+I1), s		20.5				4.8		23.1		69.7		
Green Ext Time (p_c), s		2.0				0.1		4.1		1.6		
Intersection Summary												
HCM 7th Control Delay, s/veh		51.4										
HCM 7th LOS		D										
Notes												
User approved ignoring U-Turning movement.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
 5: I-95 NB Off Ramp/I-95 NB On Ramp & SR 46

Buildout - 2030 (Ultimate)
 PM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	0
Future Volume (veh/h)	0
Initial Q (Qb), veh	
Lane Width Adj.	
Ped-Bike Adj(A_pbT)	
Parking Bus, Adj	
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	
Adj Flow Rate, veh/h	
Peak Hour Factor	
Percent Heavy Veh, %	
Cap, veh/h	
Arrive On Green	
Sat Flow, veh/h	
Grp Volume(v), veh/h	
Grp Sat Flow(s),veh/h/ln	
Q Serve(g_s), s	
Cycle Q Clear(g_c), s	
Prop In Lane	
Lane Grp Cap(c), veh/h	
V/C Ratio(X)	
Avail Cap(c_a), veh/h	
HCM Platoon Ratio	
Upstream Filter(l)	
Uniform Delay (d), s/veh	
Incr Delay (d2), s/veh	
Initial Q Delay(d3), s/veh	
%ile BackOfQ(95%),veh/ln	
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM 7th TWSC
6: N Carpenter Rd & Longbow Dr

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	30	0	6	0	0	0	10	168	0	2	150	51
Future Vol, veh/h	30	0	6	0	0	0	10	168	0	2	150	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	3	3
Mvmt Flow	31	0	6	0	0	0	10	175	0	2	156	53

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	383	383	183	356	409	175	209	0	0	175	0	0
Stage 1	187	187	-	196	196	-	-	-	-	-	-	-
Stage 2	196	196	-	160	214	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	579	554	865	603	535	874	1373	-	-	1414	-	-
Stage 1	819	749	-	811	743	-	-	-	-	-	-	-
Stage 2	811	743	-	846	730	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	573	548	865	592	530	874	1373	-	-	1414	-	-
Mov Cap-2 Maneuver	573	548	-	592	530	-	-	-	-	-	-	-
Stage 1	818	748	-	804	736	-	-	-	-	-	-	-
Stage 2	804	736	-	839	728	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v11.32		0	0.43	0.07
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	101	-	-	607	-	17	-
HCM Lane V/C Ratio	0.008	-	-	0.062	-	0.001	-
HCM Control Delay (s/veh)	7.6	0	-	11.3	0	7.6	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-

HCM 7th TWSC
7: N Carpenter Rd & Project Driveway 1

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	3	4	168	254	31
Future Vol, veh/h	20	3	4	168	254	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	3	4	183	276	34

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	484	293	310	0	-	0
Stage 1	293	-	-	-	-	-
Stage 2	191	-	-	-	-	-
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	542	746	1251	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	540	746	1251	-	-	-
Mov Cap-2 Maneuver	540	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.73	0.18	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	42	-	560	-	-
HCM Lane V/C Ratio	0.003	-	0.045	-	-
HCM Control Delay (s/veh)	7.9	0	11.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th TWSC
8: N Carpenter Rd & Project Driveway 2

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	20	2	4	153	226	31
Future Vol, veh/h	20	2	4	153	226	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	2	4	166	246	34

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	438	263	279	0	-	0
Stage 1	263	-	-	-	-	-
Stage 2	175	-	-	-	-	-
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	576	776	1283	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	574	776	1283	-	-	-
Mov Cap-2 Maneuver	574	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v11.38		0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	46	-	588	-	-
HCM Lane V/C Ratio	0.003	-	0.041	-	-
HCM Control Delay (s/veh)	7.8	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th TWSC
9: N Carpenter Rd & Project Driveway 4

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	16	2	3	168	184	23
Future Vol, veh/h	16	2	3	168	184	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	2	3	183	200	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	402	213	225	0	-	0
Stage 1	213	-	-	-	-	-
Stage 2	189	-	-	-	-	-
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	604	828	1344	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	603	828	1344	-	-	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.98		0.13	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	32	-	622	-	-
HCM Lane V/C Ratio	0.002	-	0.031	-	-
HCM Control Delay (s/veh)	7.7	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th TWSC
10: Project Driveway 5 & Longbow Dr

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	2	4	0	0	3	15	30	2	0	10	8	2
Future Vol, veh/h	2	4	0	0	3	15	30	2	0	10	8	2
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	0	0	3	16	33	2	0	11	9	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	4	0	0	16	28	4	21	20	11
Stage 1	-	-	-	-	-	-	9	9	-	11	11	-
Stage 2	-	-	-	-	-	-	8	20	-	10	9	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1597	-	-	1617	-	-	999	865	1079	991	874	1069
Stage 1	-	-	-	-	-	-	1013	888	-	1009	886	-
Stage 2	-	-	-	-	-	-	1014	879	-	1011	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1597	-	-	1617	-	-	985	864	1079	988	872	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	985	864	-	988	872	-
Stage 1	-	-	-	-	-	-	1011	887	-	1009	886	-
Stage 2	-	-	-	-	-	-	1002	879	-	1007	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	2.42	0	8.82	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	977	600	-	-	1617	-	-	945
HCM Lane V/C Ratio	0.036	0.001	-	-	-	-	-	0.023
HCM Control Delay (s/veh)	8.8	7.3	0	-	0	-	-	8.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 7th TWSC
11: Project Driveway A & London Town Rd

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	0	8	198	0	5
Future Vol, veh/h	129	0	8	198	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	0	9	215	0	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	373	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1443	-	628	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1443	-	624	908
Mov Cap-2 Maneuver	-	-	-	-	624	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	800	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0.29		8.99	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	908	-	-	70	-	
HCM Lane V/C Ratio	0.006	-	-	0.006	-	
HCM Control Delay (s/veh)	9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th TWSC
12: London Town Rd & Project Driveway B

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	98	151	14	8	0
Future Vol, veh/h	0	98	151	14	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	107	164	15	9	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	179	0	0 278 172
Stage 1	-	-	- 172 -
Stage 2	-	-	- 107 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1396	-	- 712 872
Stage 1	-	-	- 858 -
Stage 2	-	-	- 918 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1396	-	- 712 872
Mov Cap-2 Maneuver	-	-	- 712 -
Stage 1	-	-	- 858 -
Stage 2	-	-	- 918 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1396	-	-	-	712
HCM Lane V/C Ratio	-	-	-	-	0.012
HCM Control Delay (s/veh)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC
13: Project Driveway C & London Town Rd

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		🛑			🛑			🛑			🛑	
Traffic Vol, veh/h	0	80	0	33	123	28	0	0	24	18	0	0
Future Vol, veh/h	0	80	0	33	123	28	0	0	24	18	0	0
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	87	0	36	134	30	0	0	26	20	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	164	0	0	87	0	0	292	323	87	308	308	149
Stage 1	-	-	-	-	-	-	87	87	-	221	221	-
Stage 2	-	-	-	-	-	-	205	236	-	87	87	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1414	-	-	1509	-	-	660	595	972	645	606	898
Stage 1	-	-	-	-	-	-	921	823	-	782	721	-
Stage 2	-	-	-	-	-	-	797	710	-	921	823	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1414	-	-	1509	-	-	643	579	972	611	590	898
Mov Cap-2 Maneuver	-	-	-	-	-	-	643	579	-	611	590	-
Stage 1	-	-	-	-	-	-	921	823	-	761	702	-
Stage 2	-	-	-	-	-	-	776	691	-	896	823	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			1.34			8.81			11.09		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	972	1414	-	-	311	-	-	611				
HCM Lane V/C Ratio	0.027	-	-	-	0.024	-	-	0.032				
HCM Control Delay (s/veh)	8.8	0	-	-	7.4	0	-	11.1				
HCM Lane LOS	A	A	-	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1				

HCM 7th TWSC
14: Arnold Palmer Dr & Project Driveway D

Buildout - 2030 (Ultimate)
PM Peak Hour

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱		↱				↰	
Traffic Vol, veh/h	0	0	9	9	0	0	14	0	15	0	0	0
Future Vol, veh/h	0	0	9	9	0	0	14	0	15	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	10	10	0	0	15	0	16	0	0	0

Major/Minor	Minor2		Minor1				Major2					
Conflicting Flow All	-	1	1	1	1	-		0	0	0		
Stage 1	-	1	-	0	0	-		-	-	-		
Stage 2	-	0	-	1	1	-		-	-	-		
Critical Hdwy	-	6.52	6.22	7.12	6.52	-		4.12	-	-		
Critical Hdwy Stg 1	-	5.52	-	-	-	-		-	-	-		
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-		-	-	-		
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-		2.218	-	-		
Pot Cap-1 Maneuver	0	895	1083	1022	895	0		-	-	-		
Stage 1	0	895	-	-	-	0		-	-	-		
Stage 2	0	-	-	1022	895	0		-	-	-		
Platoon blocked, %									-	-		
Mov Cap-1 Maneuver	-	895	1083	1012	895	-		-	-	-		
Mov Cap-2 Maneuver	-	895	-	1012	895	-		-	-	-		
Stage 1	-	895	-	-	-	-		-	-	-		
Stage 2	-	-	-	1013	895	-		-	-	-		

Approach	EB		WB				SB					
HCM Control Delay, s/v	8.35		8.59				0					
HCM LOS	A		A									

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	1083	1012	-	-	-
HCM Lane V/C Ratio	0.009	0.01	-	-	-
HCM Control Delay (s/veh)	8.4	8.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Timings

Buildout with Improvements - 2030 (Ultimate)

2: Carpenter Rd/Loves Driveway & SR 46

AM Peak Hour



Lane Group	EBL	EBT	WBU	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	37	538	41	129	314	117	58	12	121	8
Future Volume (vph)	37	538	41	129	314	117	58	12	121	8
Turn Type	pm+pt	NA	pm+pt	pm+pt	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	1	6		3	8	7	4
Permitted Phases	2		6	6		6				
Detector Phase	5	2	1	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	7.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.8	38.8	14.2	14.2	37.2	37.2	13.4	24.4	14.4	24.6
Total Split (s)	15.0	45.0	15.0	15.0	45.0	45.0	25.0	30.0	20.0	25.0
Total Split (%)	13.6%	40.9%	13.6%	13.6%	40.9%	40.9%	22.7%	27.3%	18.2%	22.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.4	4.4	3.4	3.4
All-Red Time (s)	2.0	2.0	2.4	2.4	2.4	2.4	2.0	2.0	4.0	3.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		7.2	7.2	7.2	6.4	6.4	7.4	6.6
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	C-Min	None	None	None	None

Intersection Summary

Cycle Length: 110

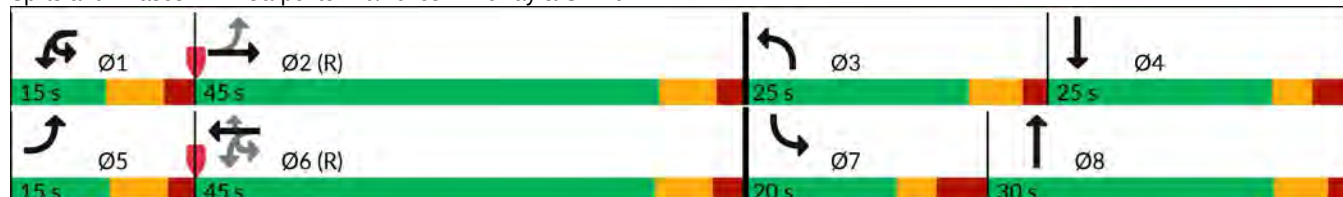
Actuated Cycle Length: 110

Offset: 15 (14%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Splits and Phases: 2: Carpenter Rd/Loves Driveway & SR 46



HCM 7th Signalized Intersection Summary

2: Carpenter Rd/Loves Driveway & SR 46

Buildout with Improvements - 2030 (Ultimate)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	37	538	48	41	129	314	117	58	12	282	121	8
Future Volume (veh/h)	37	538	48	41	129	314	117	58	12	282	121	8
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No				No				No			No
Adj Sat Flow, veh/h/ln	1678	1811	1767		1737	1767	1441	1900	1900	1841	1411	1900
Adj Flow Rate, veh/h	40	585	52		140	341	127	63	13	307	132	9
Peak Hour Factor	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	6	9		11	9	31	0	0	4	33	0
Cap, veh/h	371	646	57		219	742	513	98	14	330	177	73
Arrive On Green	0.04	0.39	0.39		0.07	0.42	0.42	0.05	0.21	0.21	0.07	0.24
Sat Flow, veh/h	1598	1639	146		1654	1767	1221	1810	66	1554	2607	311
Grp Volume(v), veh/h	40	0	637		140	341	127	63	0	320	132	0
Grp Sat Flow(s),veh/h/ln	1598	0	1785		1654	1767	1221	1810	0	1620	1303	0
Q Serve(g_s), s	1.6	0.0	37.0		5.5	15.3	7.4	3.8	0.0	21.3	5.5	0.0
Cycle Q Clear(g_c), s	1.6	0.0	37.0		5.5	15.3	7.4	3.8	0.0	21.3	5.5	0.0
Prop In Lane	1.00		0.08		1.00		1.00	1.00		0.96	1.00	
Lane Grp Cap(c), veh/h	371	0	703		219	742	513	98	0	344	177	0
V/C Ratio(X)	0.11	0.00	0.91		0.64	0.46	0.25	0.64	0.00	0.93	0.74	0.00
Avail Cap(c_a), veh/h	418	0	703		225	742	513	306	0	348	299	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
Upstream Filter(I)	1.00	0.00	1.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	31.4		25.0	22.9	20.7	51.0	0.0	42.5	50.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	17.4		5.7	2.0	1.2	6.8	0.0	30.7	6.0	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
%ile BackOfQ(95%),veh/ln	1.0	0.0	25.2		4.2	10.6	0.3	3.3	0.0	16.7	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.6	0.0	48.8		30.7	25.0	21.8	57.7	0.0	73.2	56.4	0.0
LnGrp LOS	B		D		C	C	C	E		E	E	
Approach Vol, veh/h	677				608				383			180
Approach Delay, s/veh	47.0				25.6				70.6			50.2
Approach LOS	D				C				E			D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	50.5	12.4	32.5	11.7	53.4	14.9	30.0				
Change Period (Y+Rc), s	* 7.2	* 7.2	6.4	* 6.6	6.8	* 7.2	7.4	* 6.6				
Max Green Setting (Gmax), s	* 7.8	* 38	18.6	* 18	8.2	* 38	12.6	* 24				
Max Q Clear Time (g_c+I1), s	7.5	39.0	5.8	4.5	3.6	17.3	7.5	23.3				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.0	2.2	0.2	0.1				

Intersection Summary

HCM 7th Control Delay, s/veh	45.2
HCM 7th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary 2: Carpenter Rd/Loves Driveway & SR 46

Buildout with Improvements - 2030 (Ultimate)

AM Peak Hour

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1574
Adj Flow Rate, veh/h	39
Peak Hour Factor	0.92
Percent Heavy Veh, %	22
Cap, veh/h	317
Arrive On Green	0.24
Sat Flow, veh/h	1347
Grp Volume(v), veh/h	48
Grp Sat Flow(s),veh/h/ln	1658
Q Serve(g_s), s	2.5
Cycle Q Clear(g_c), s	2.5
Prop In Lane	0.81
Lane Grp Cap(c), veh/h	390
V/C Ratio(X)	0.12
Avail Cap(c_a), veh/h	390
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	33.1
Incr Delay (d2), s/veh	0.1
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(95%),veh/ln	1.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	33.3
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

APPENDIX I

ITE Excerpts

Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 174

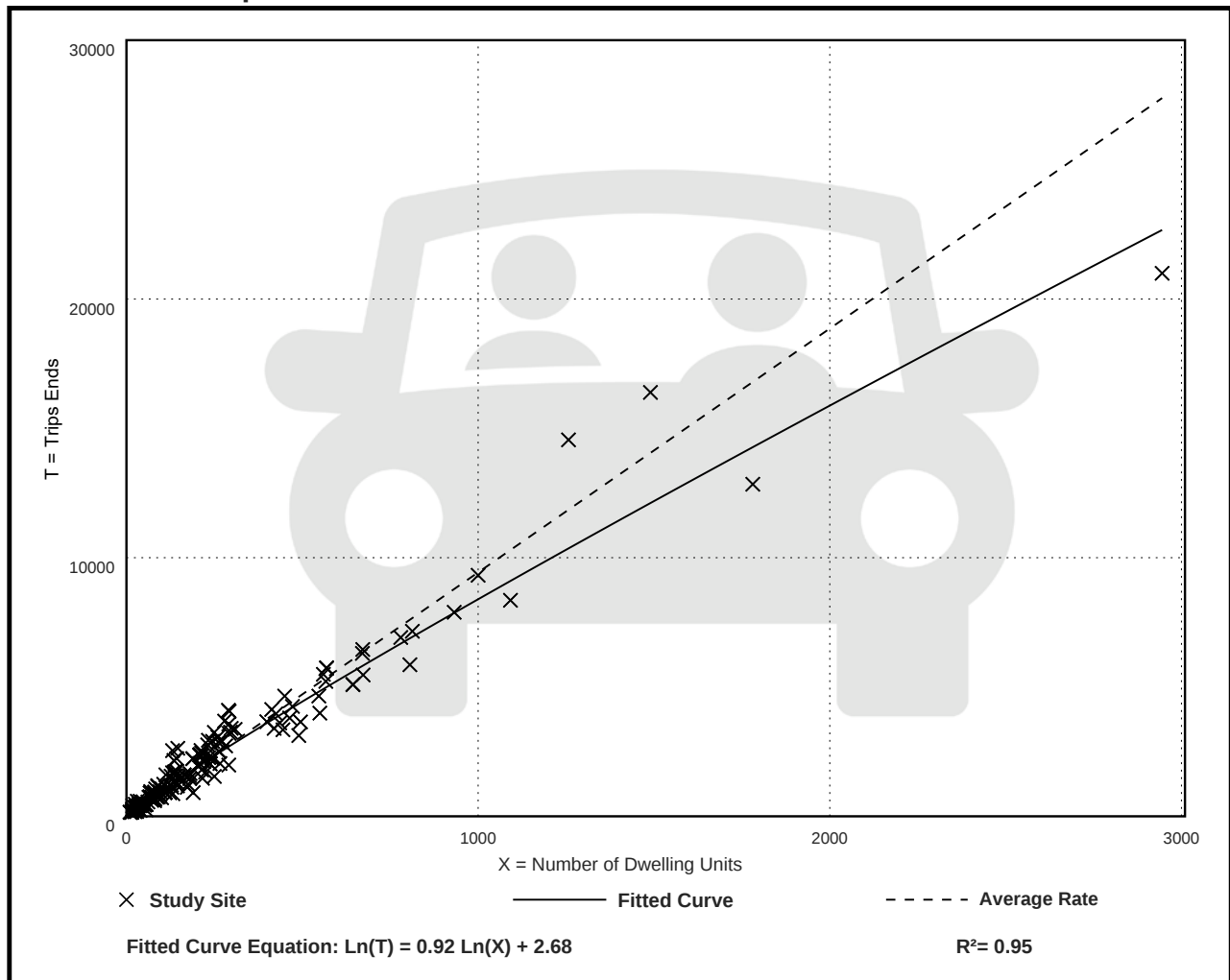
Avg. Num. of Dwelling Units: 246

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

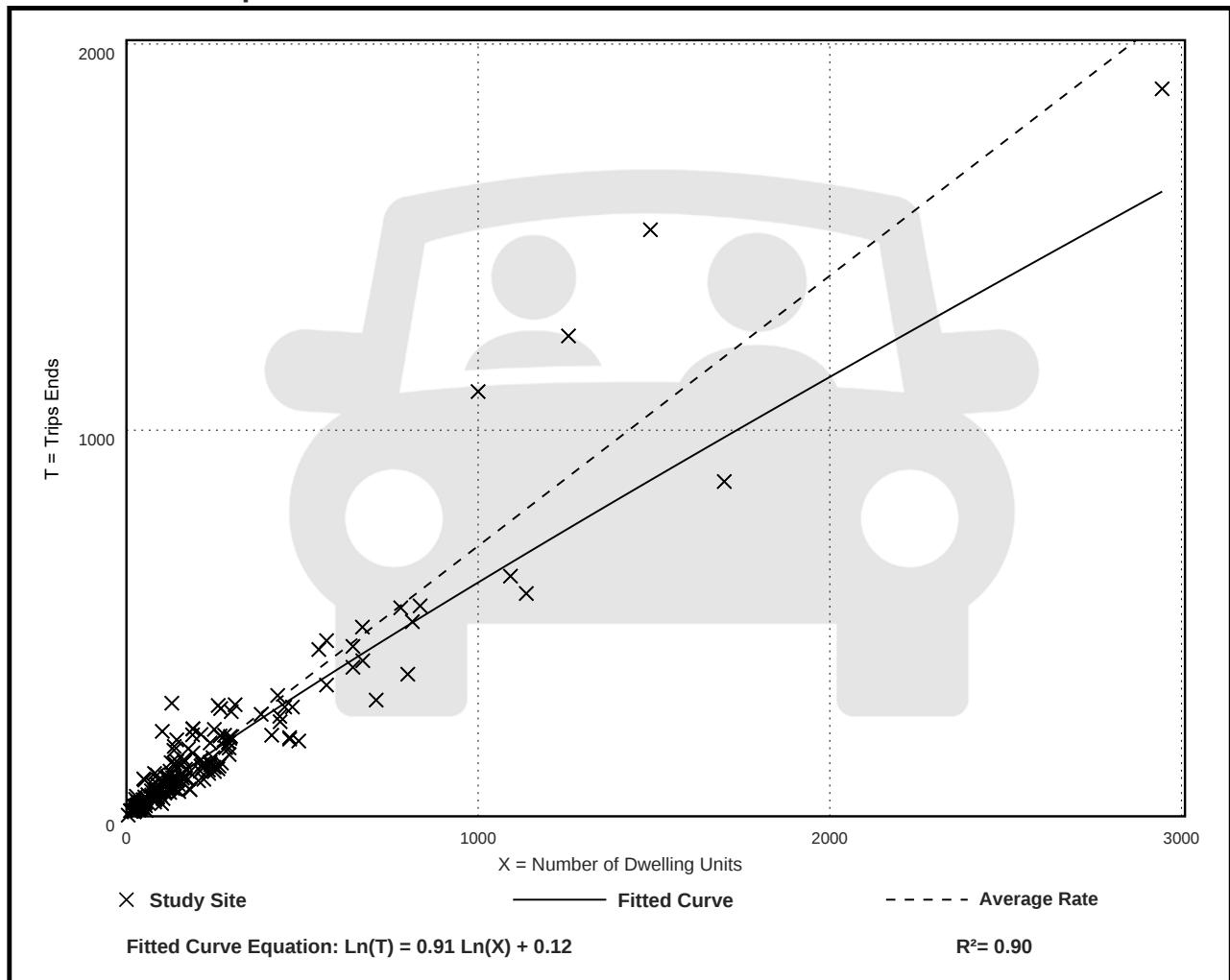
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

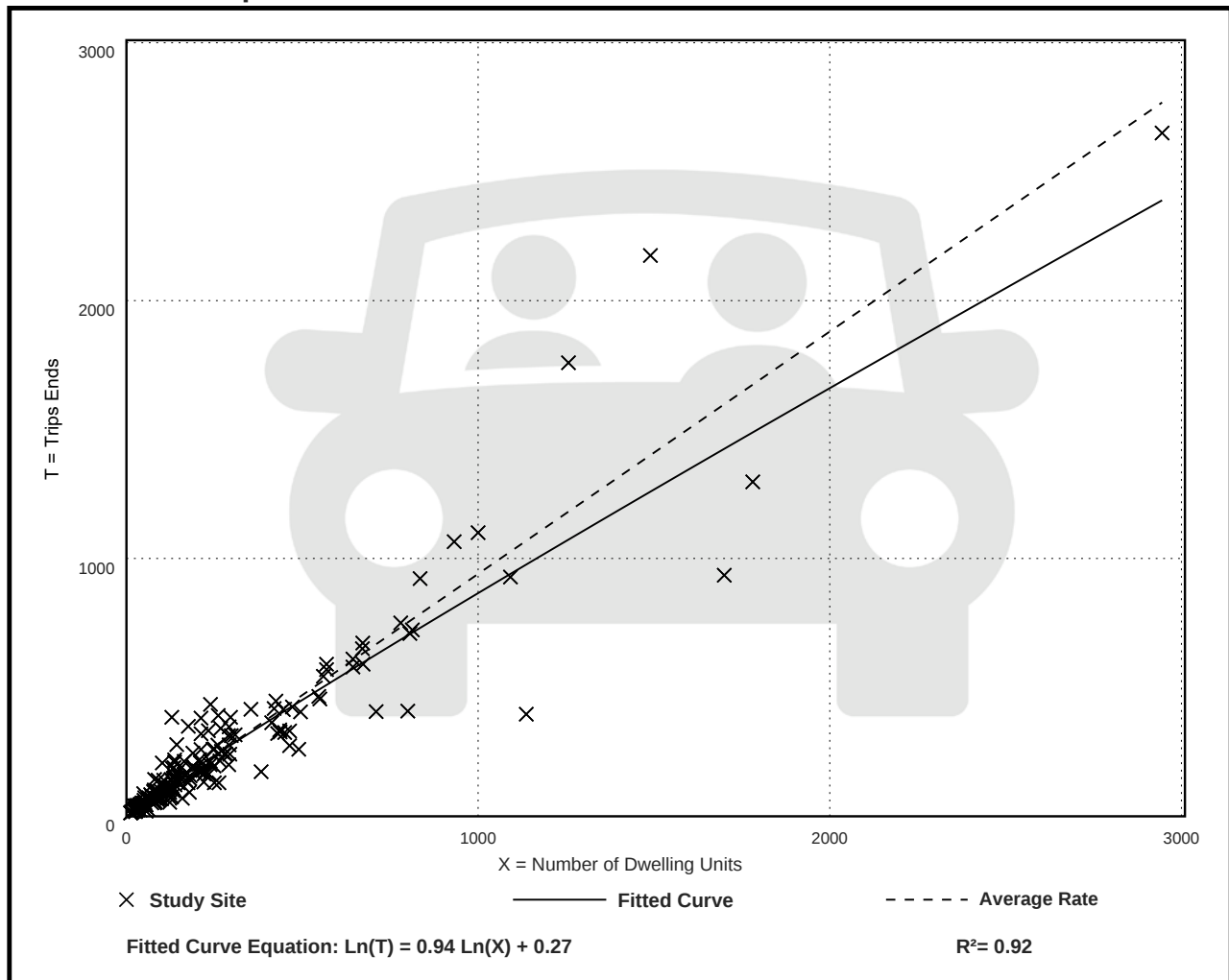
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Land Use: 215

Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

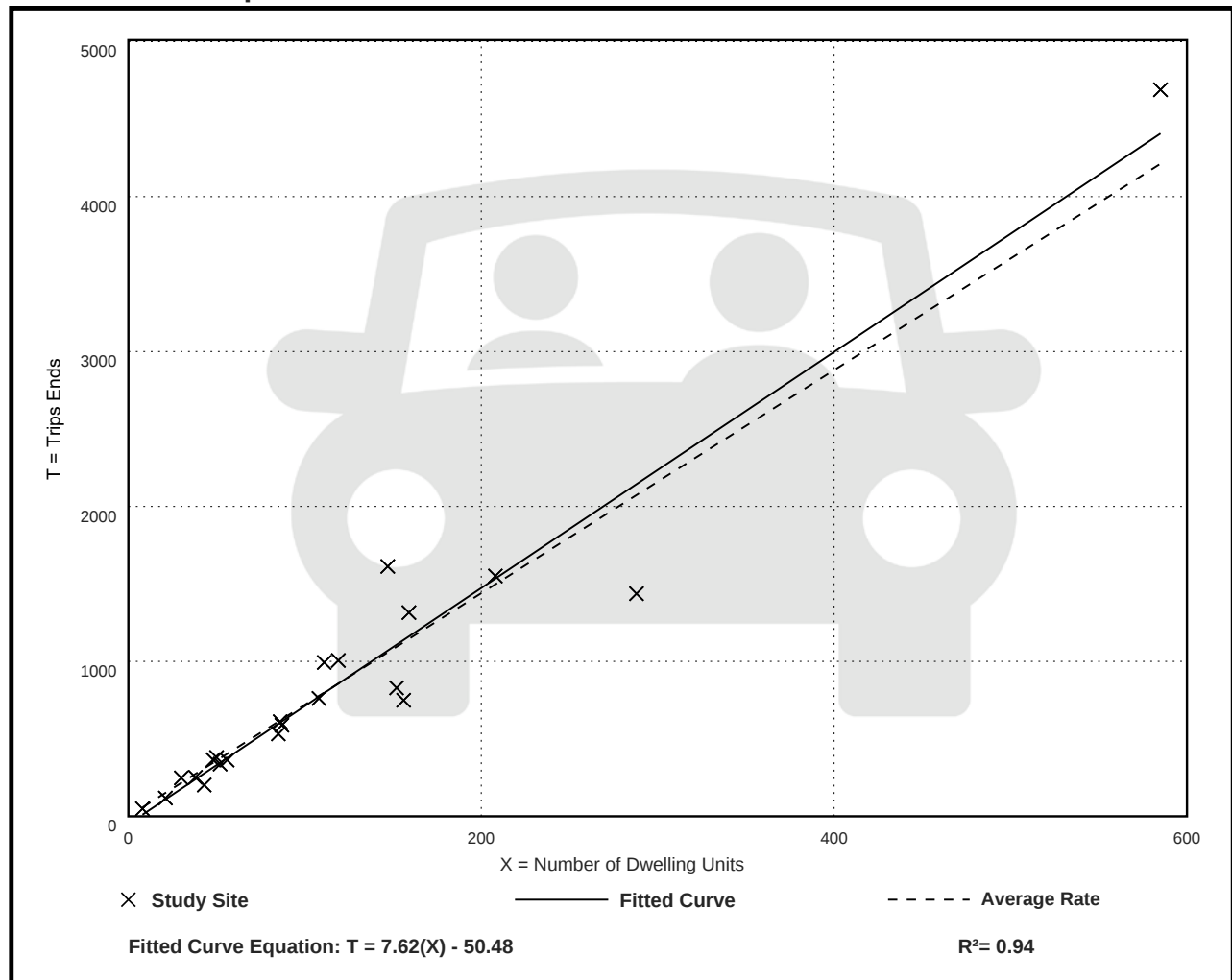
Avg. Num. of Dwelling Units: 120

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 46

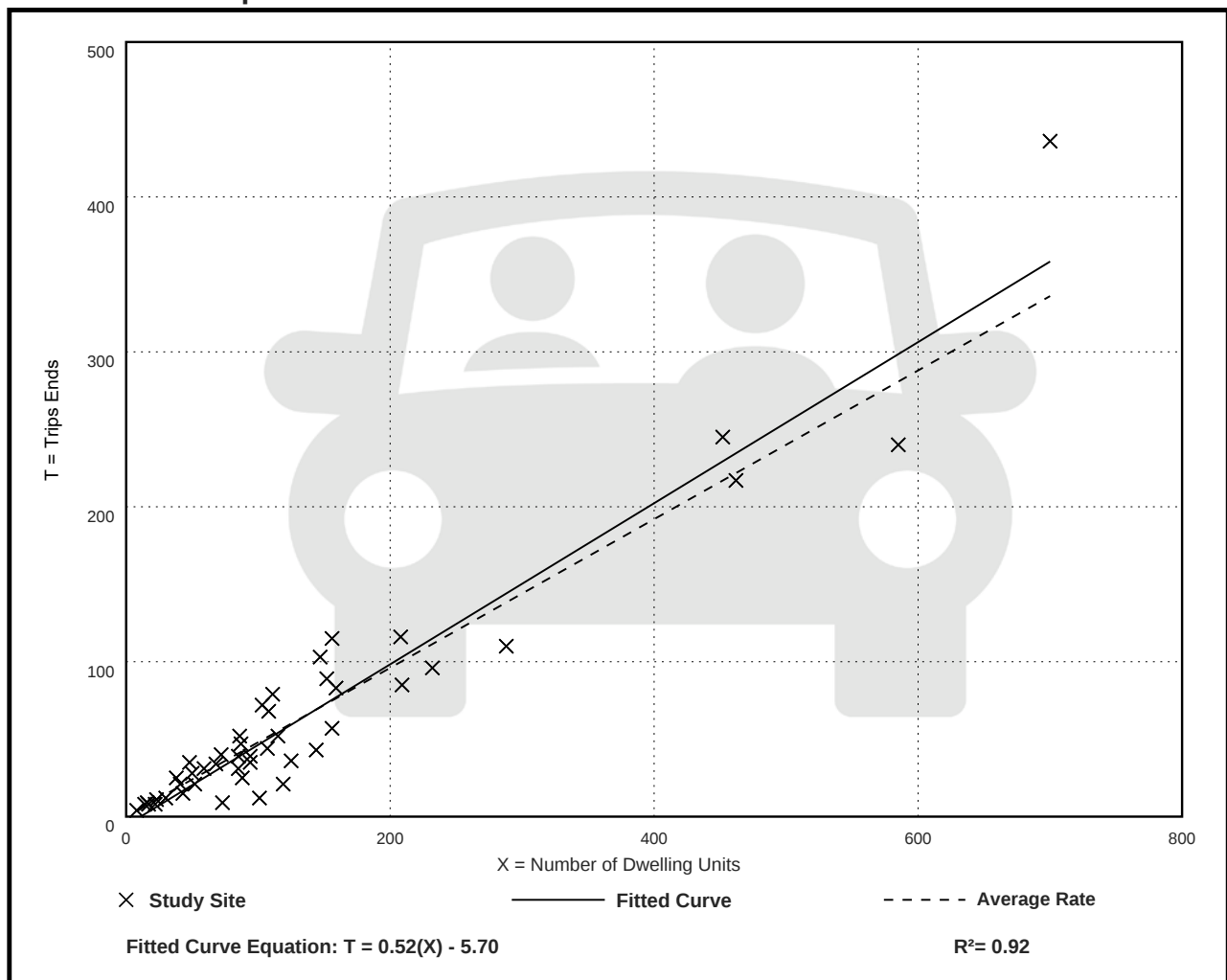
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

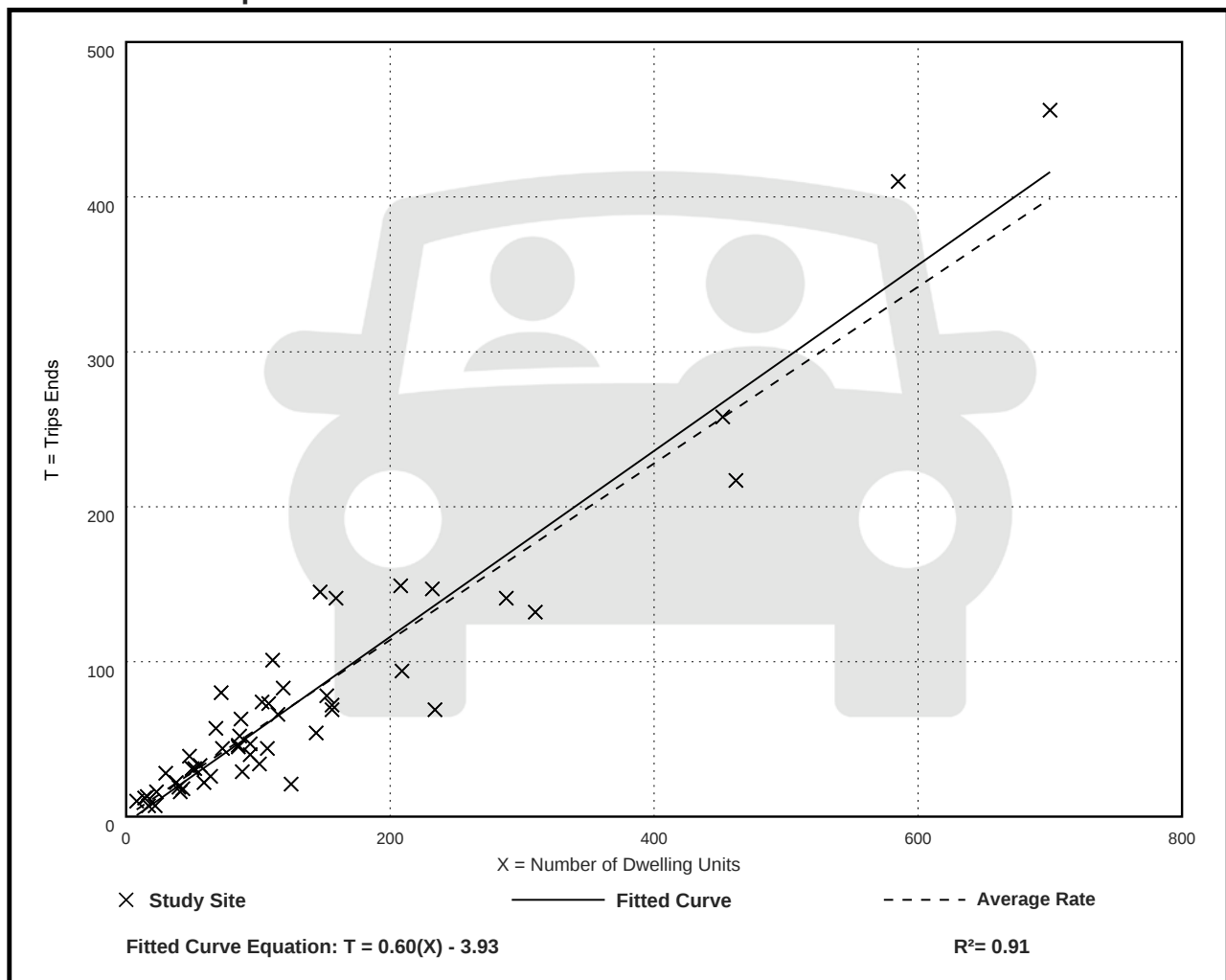
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

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

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

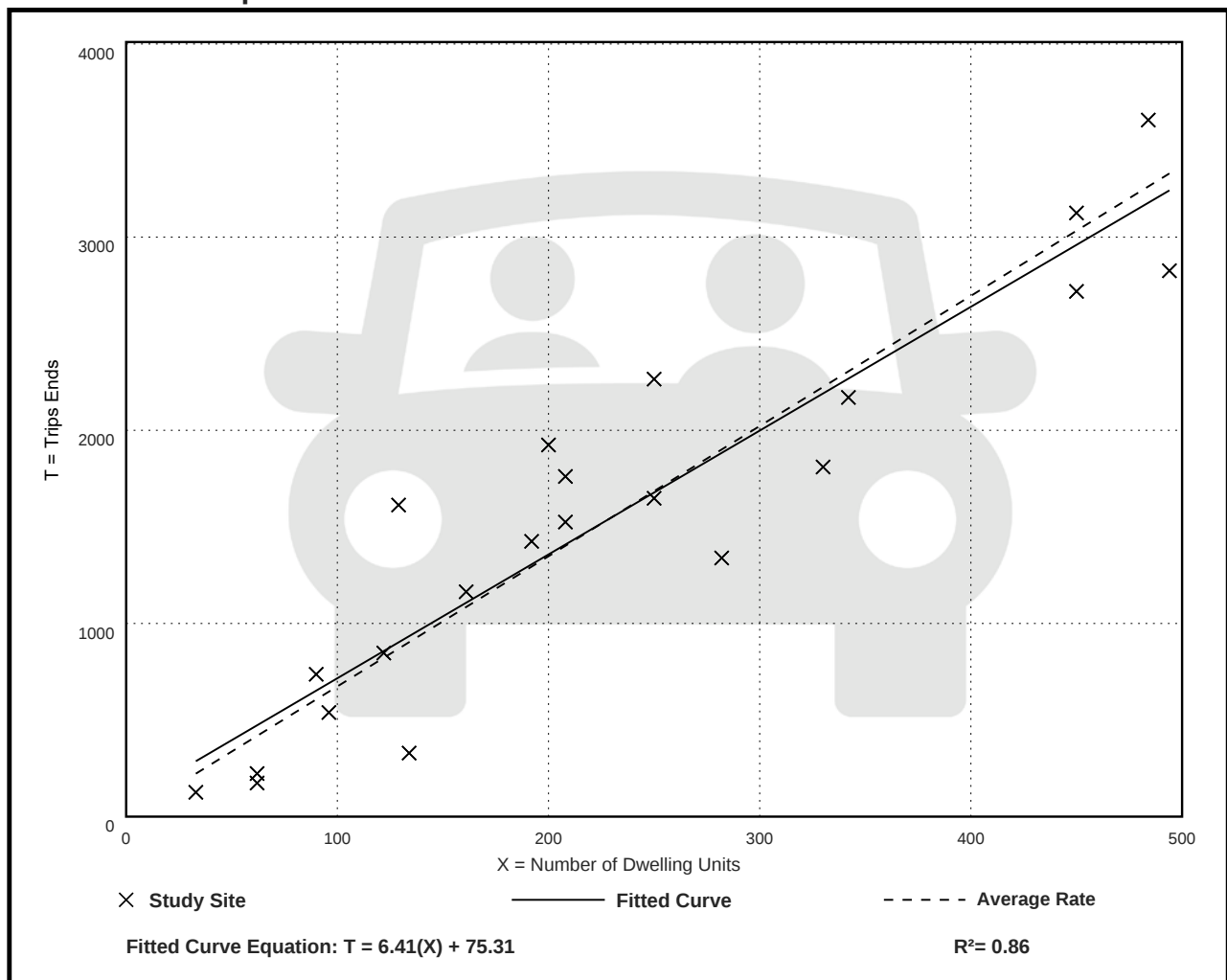
Avg. Num. of Dwelling Units: 229

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.74	2.46 - 12.50	1.79

Data Plot and Equation



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

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

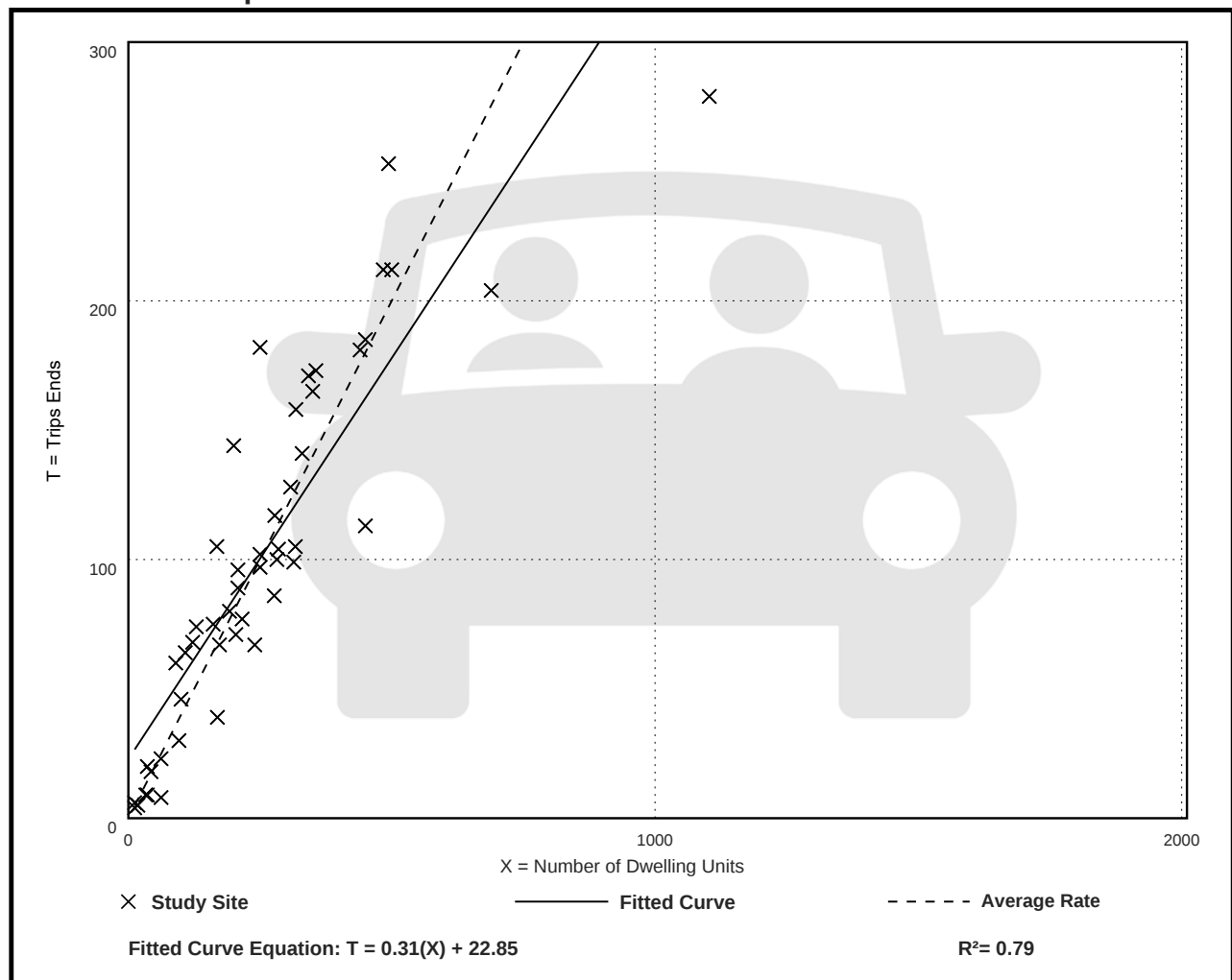
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



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

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

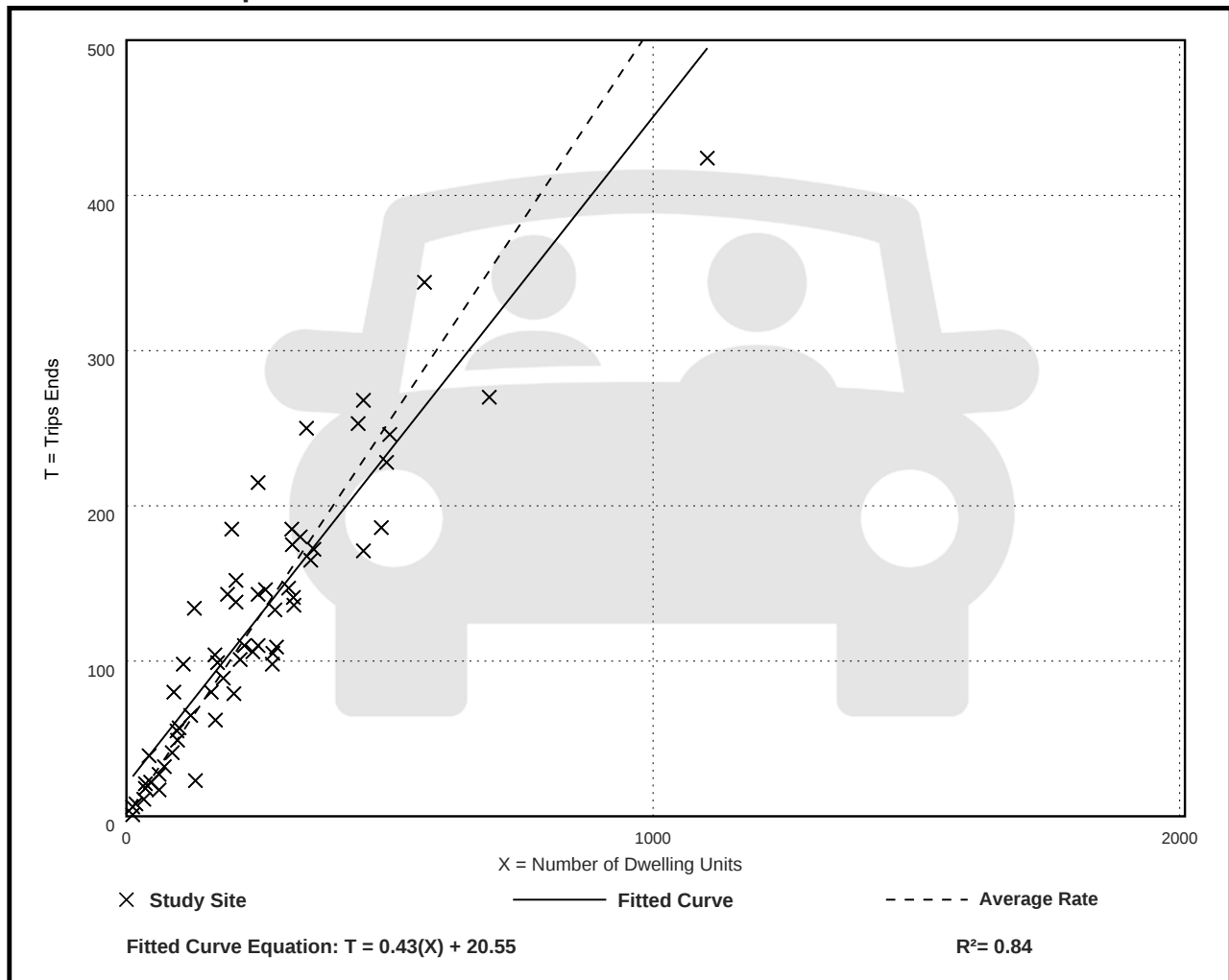
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation

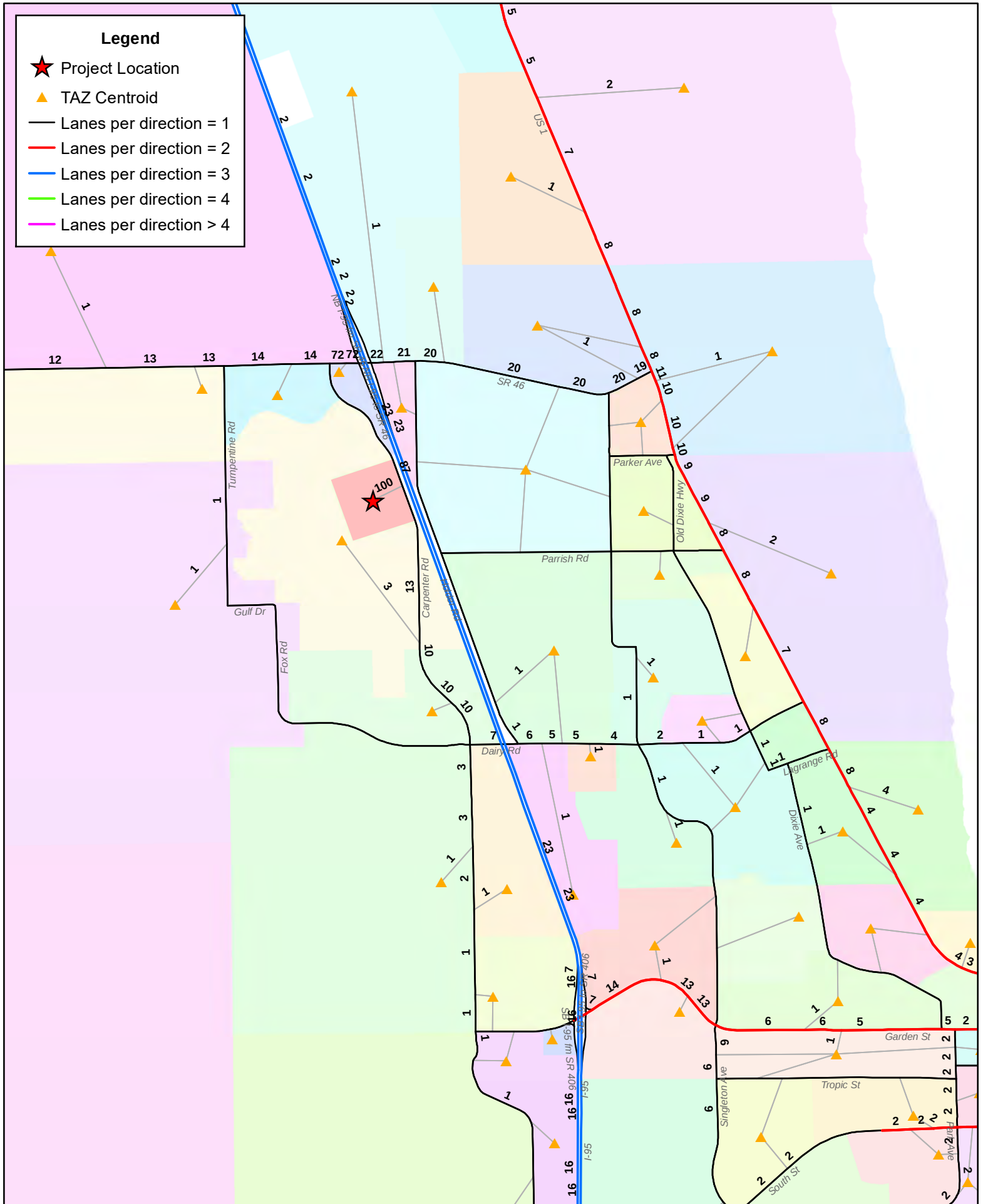


APPENDIX J

CFRPM Model Plot

Legend

- ★ Project Location
- ▲ TAZ Centroid
- Lanes per direction = 1
- Lanes per direction = 2
- Lanes per direction = 3
- Lanes per direction = 4
- Lanes per direction > 4



Project Trip Distribution - Sherwood Golf PUD
CFRPMv7 - 2025 - 12/13/2022



APPENDIX K

NCHRP Warrant Worksheets

Int #1
AM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

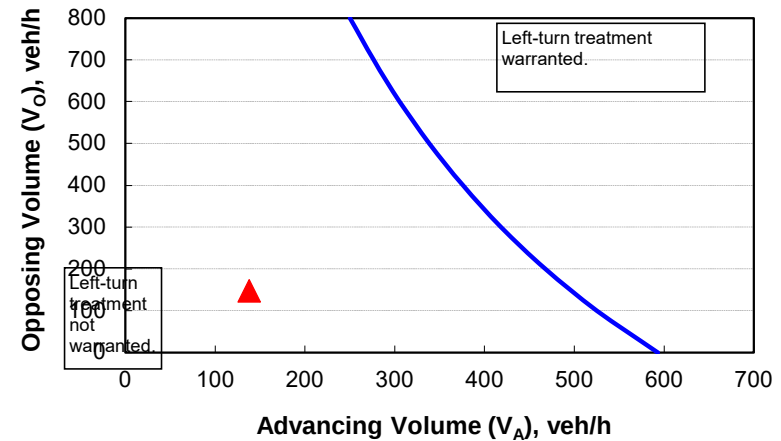
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	10%
Advancing volume (V_A), veh/h:	138
Opposing volume (V_O), veh/h:	147

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	497
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

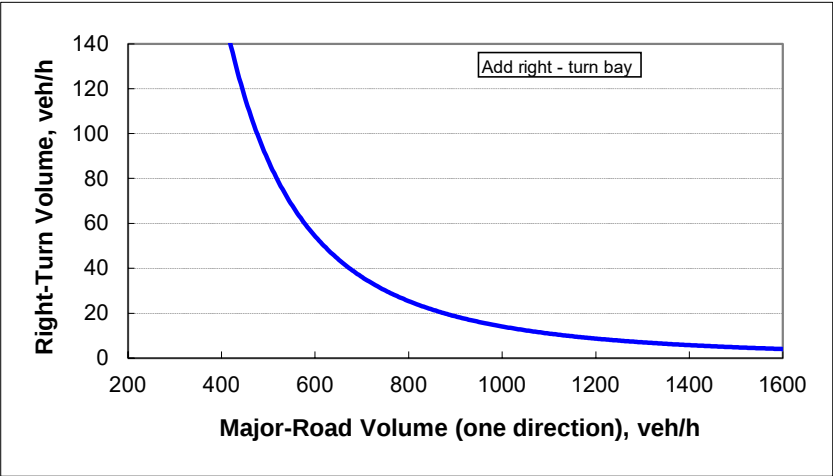
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Int #1
AM Peak Hour
Right-Turn Lane Analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT	
Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	147
Right-turn volume, veh/h:	53

OUTPUT	
Variable	Value
Limiting right-turn volume, veh/h:	2229
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Int #1
PM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

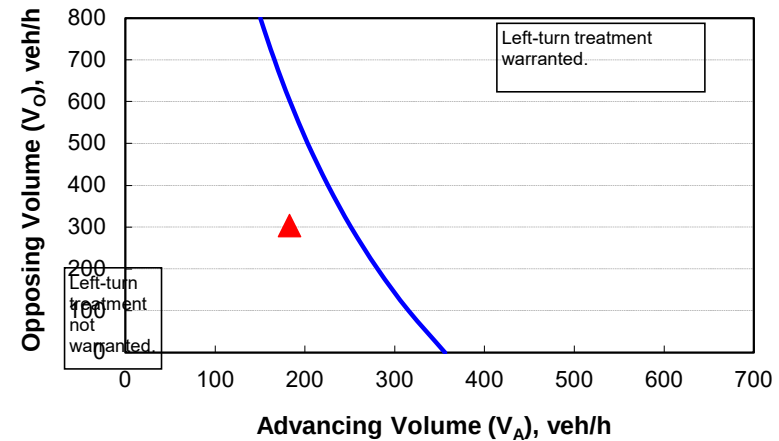
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	61%
Advancing volume (V_A), veh/h:	183
Opposing volume (V_O), veh/h:	303

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	251
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Int #1
PM Peak Hour
Right-Turn Lane Analysis

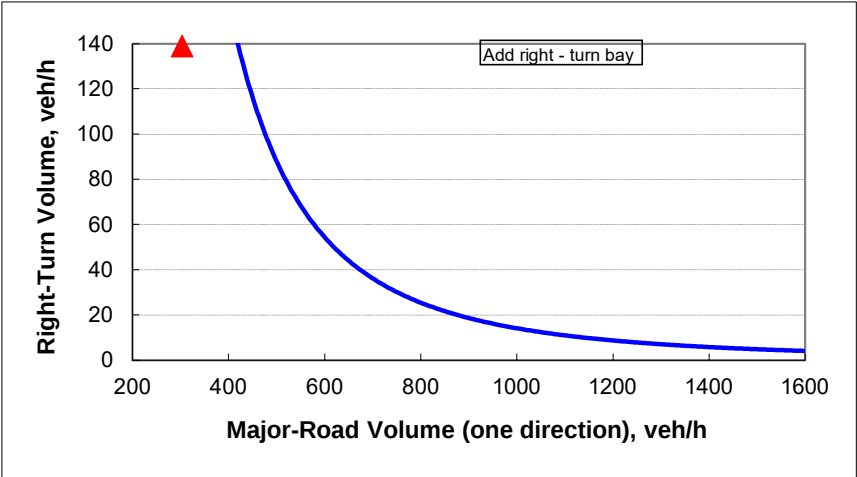
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	303
Right-turn volume, veh/h:	139

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	330
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #1
AM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

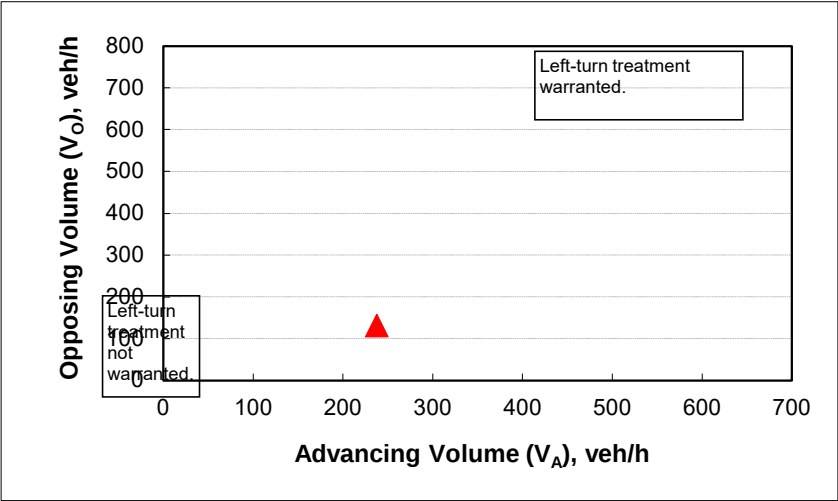
Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	238
Opposing volume (V_O), veh/h:	131

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1494
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Driveway #1
AM Peak Hour
Right-Turn Lane Analysis

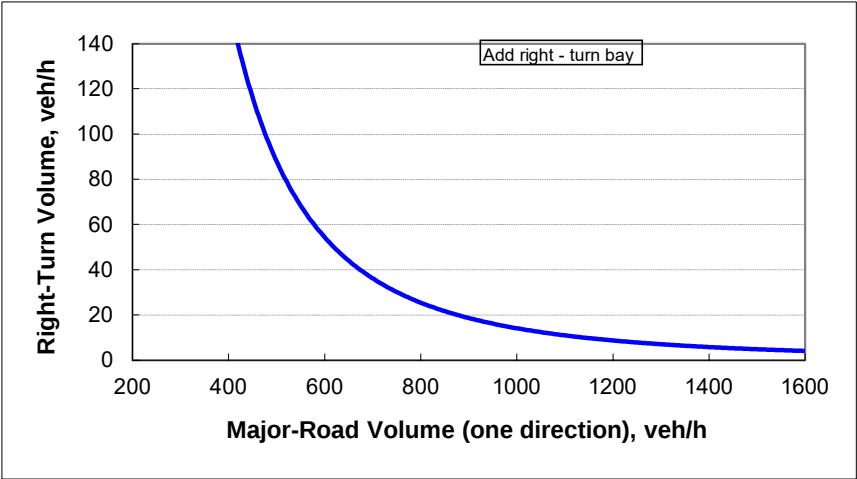
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	131
Right-turn volume, veh/h:	10

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	3021
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #1
PM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

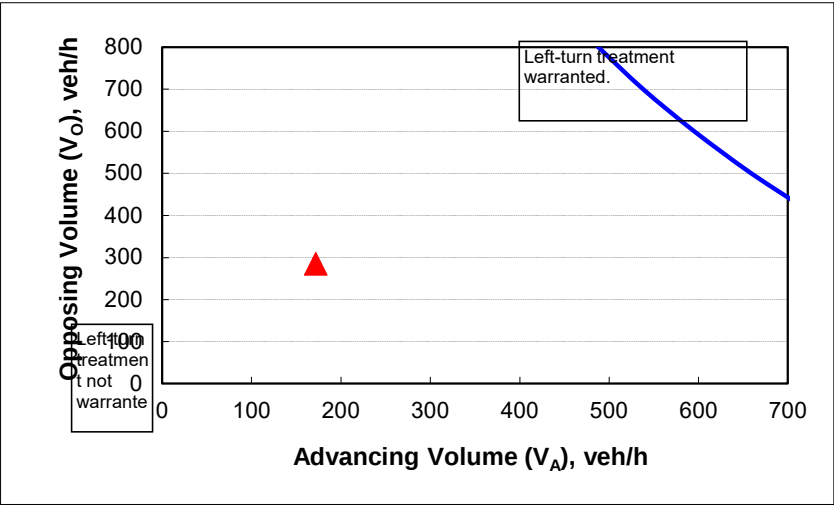
Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	172
Opposing volume (V_O), veh/h:	285

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	829
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Driveway #1
PM Peak Hour
Right-Turn Lane Analysis

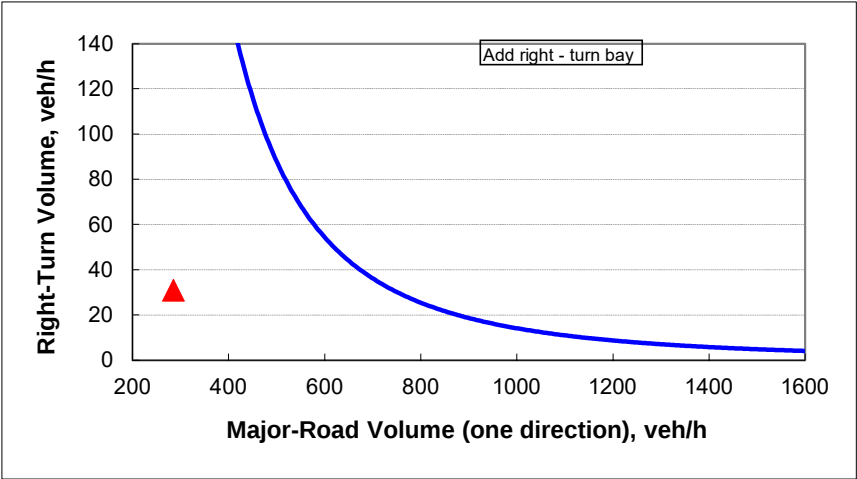
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	285
Right-turn volume, veh/h:	31

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	388
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #2
AM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

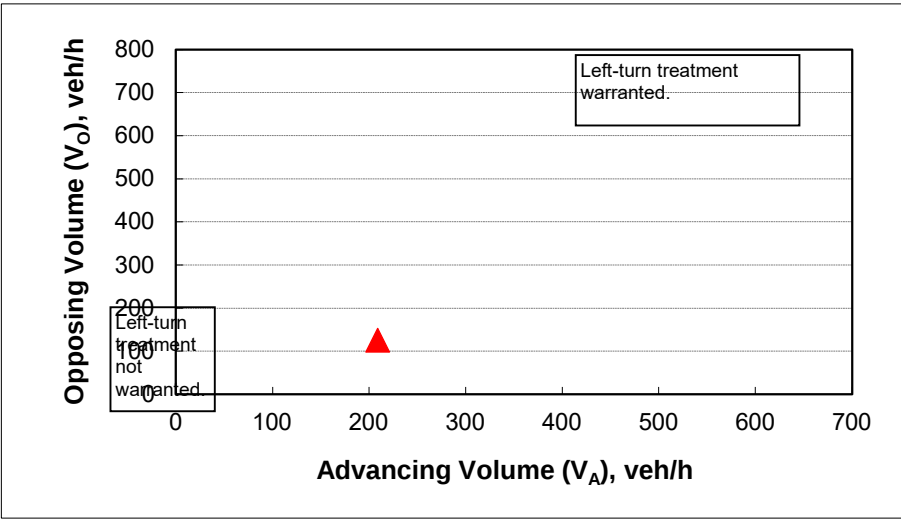
Variable	Value
85 th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	209
Opposing volume (V_O), veh/h:	125

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1719
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Driveway #2
AM Peak Hour
Right-Turn Lane Analysis

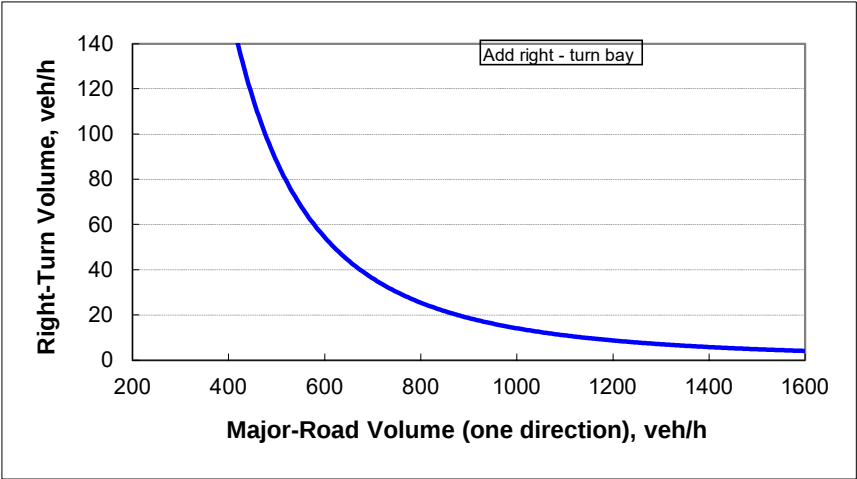
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	125
Right-turn volume, veh/h:	10

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	3419
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #2
PM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

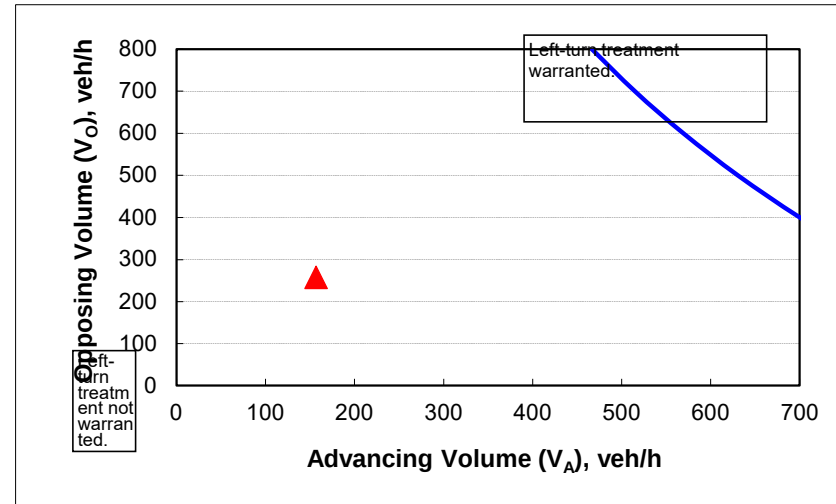
Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	157
Opposing volume (V_O), veh/h:	257

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	818
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Driveway #2
PM Peak Hour
Right-Turn Lane Analysis

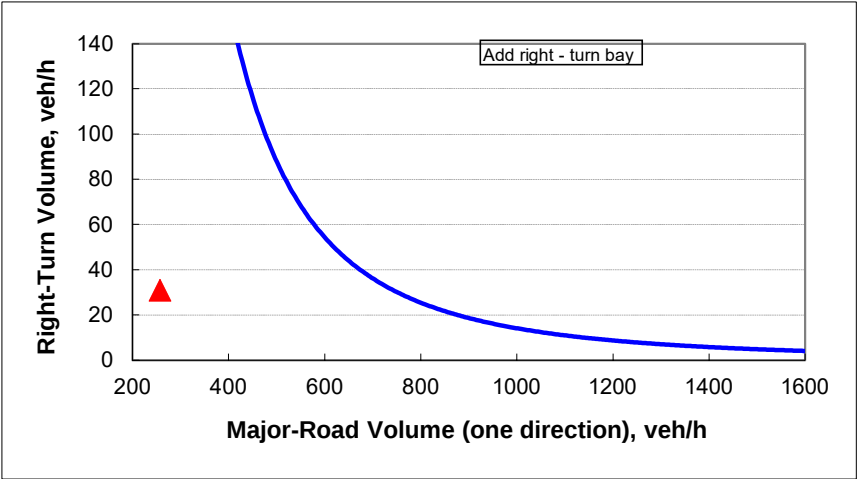
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	257
Right-turn volume, veh/h:	31

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	510
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #4
AM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

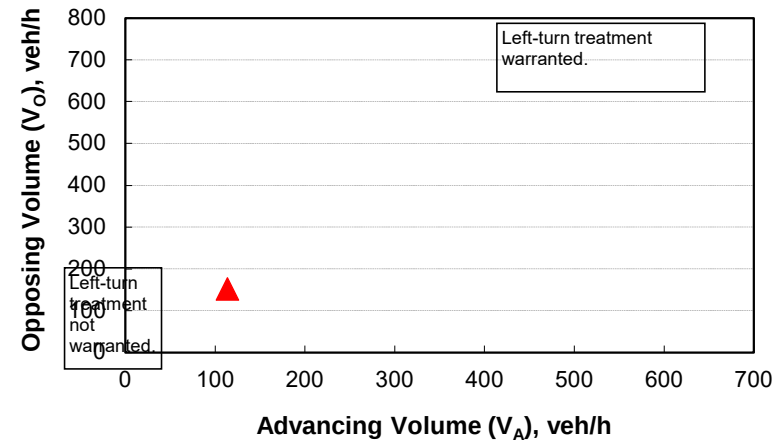
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	114
Opposing volume (V_O), veh/h:	152

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1556
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Driveway #4
AM Peak Hour
Right-Turn Lane Analysis

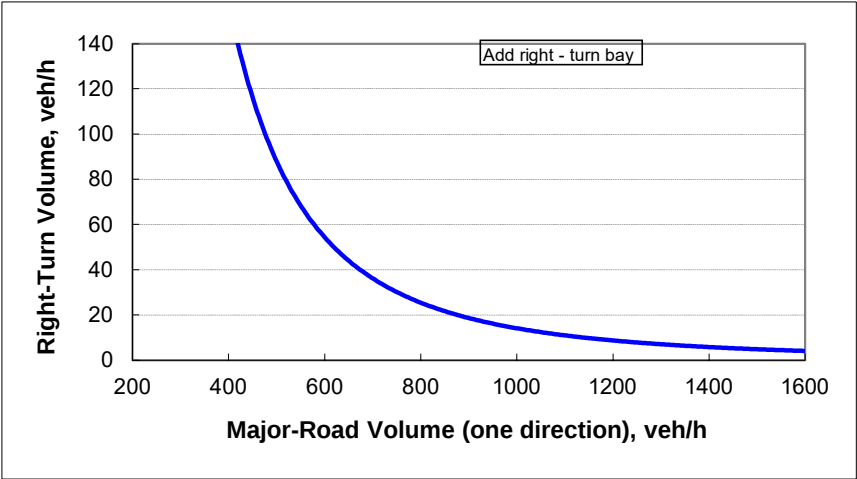
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	152
Right-turn volume, veh/h:	9

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	2040
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Driveway #4
PM Peak Hour
Left-Turn Lane Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

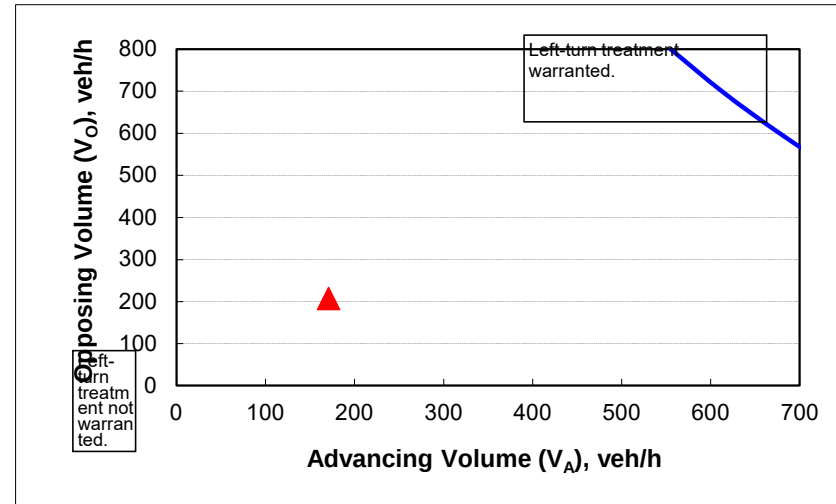
Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	171
Opposing volume (V_O), veh/h:	207

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1029
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Driveway #4
PM Peak Hour
Right-Turn Lane Analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	40
Major-road volume (one direction), veh/h:	207
Right-turn volume, veh/h:	23

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	903
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

