

Route 20 Transportation & Land Use Study
Windsor Locks, CT

Future Conditions Technical Memorandum

Capitol Region Council of Governments
(CRCOG) & Town of Windsor Locks

June 2023



Tighe & Bond

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Section 1

Introduction

Tighe & Bond has been retained to conduct the Route 20 Transportation and Land Study (Study) by the Capitol Region Council of Governments (CRCOG) on behalf of the Town of Windsor Locks (Town). The *Route 20 Transportation & Land Use Study Existing Conditions Technical Memorandum* was completed in May 2022. Following completion of the Existing Conditions Assessment, Tighe & Bond then began a Future Conditions Assessment, the results of which are included in this memorandum.

A Study Vision Statement was developed during the Existing Conditions Assessment to outline the goals and objectives for the Study and provide a basis for subsequent phases. The Study Vision Statement has been refined based on feedback from the Technical Advisory Committee (TAC) and is as follows:

- ***Develop feasible and community supported transportation solutions that address identified safety concerns, maintain traffic flow, and provide guidance on access management issues while accommodating future land use development opportunities.***
- ***Improve transportation system access and mobility for alternative travel modes including sidewalk, bicycle, and transit infrastructure and amenities to provide a complete transportation system.***
- ***Develop a comprehensive transportation and development management plan that prioritizes and defines implementation timelines to enable the programming, funding, and construction of improvements.***

The Assessment of Future Conditions conducts an analysis of the Route 20 study area under existing geometric and operational conditions utilizing projected 2050 Future Traffic volumes both with and without potential future development and redevelopment. This process identifies any operational concerns as compared to existing conditions and areas of concern that are expected to develop in the future if no improvements are made to the transportation system. In addition, potential pedestrian, bicycle, and transit infrastructure concerns and considerations under the future condition were reviewed in detail.

The existing and future operational and access concerns, safety concerns, and bicycle, pedestrian, and transit opportunities in the Route 20 study area outlined in this memorandum and the Existing Conditions Technical Memorandum will serve as the basis for the Analysis of Alternatives and the development of Transportation Improvement and Development Management Plan.

Section 2

2050 Future Conditions

A future year of 2050 was used as a basis of the future conditions traffic assessment. The future traffic volumes were developed using general background growth based on the CTDOT transportation model and any developments that are approved or currently under construction. Based on this methodology, the 2022 Existing Conditions traffic volumes were projected out to 2050 to develop the 2050 Future Conditions traffic volumes.

2.1 Traffic Volumes

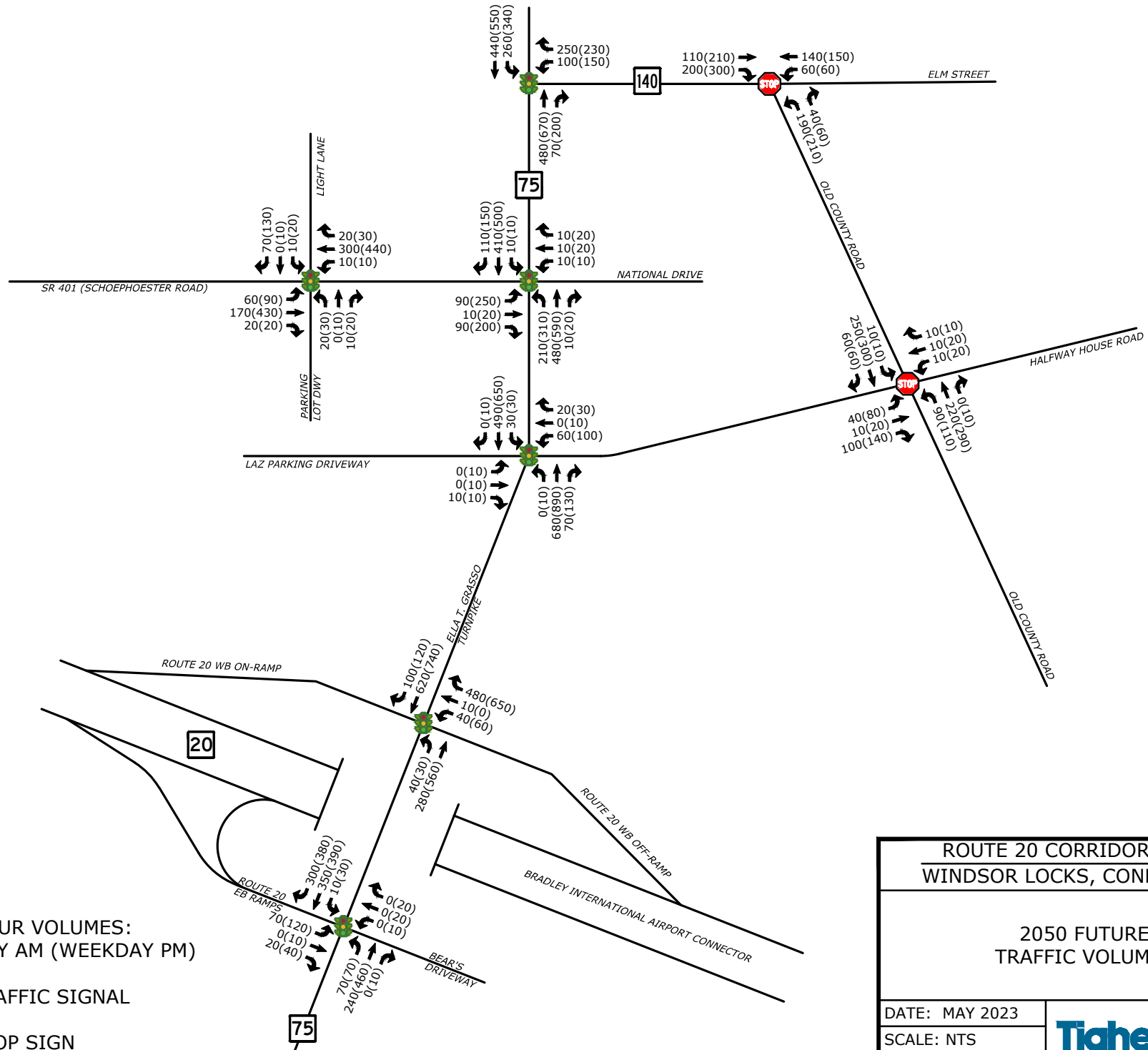
The 2022 Existing Conditions intersection turning movement traffic volumes were projected to the 2050 Future Conditions based on a general background growth rate and any approved but not yet constructed developments. The background growth rate from the CTDOT transportation model includes traffic volume growth due to population and employment growth in Windsor Locks. Traffic volumes estimated to be generated by the previously approved Governor's Station Mixed-Use development were also included in the 2050 Future Conditions traffic volumes. These two components of traffic volume growth were applied to the 2022 Existing Condition to develop the 2050 Future Conditions traffic volumes, which were then approved by CTDOT. The 2050 Future Conditions intersection turning movement traffic volumes for the peak hours at each of the study intersections are shown in Figure 2-1.

The estimated peak hour traffic volume growth in the study area from the 2022 Existing Conditions and the 2050 Future Conditions was reviewed along study area roadways. Route 75 is estimated to experience bi-directional traffic volume growth of between approximately 22% and 32% during the weekday morning peak hour and between 23% and 29% during the weekday afternoon peak hour. Route 140, Halfway House Road, and Old County Road are projected to experience slightly lower overall growth of between approximately 16% and 21% during the weekday morning peak hour and between 14% and 17% during the weekday afternoon peak hour. The bi-directional traffic volume comparison between the 2022 Existing and 2050 Future Conditions for the weekday morning and weekday afternoon peak hours are shown in Tables 2-1 and 2-2, respectively.

TABLE 2-1



Future Conditions Traffic Volume Summary – Weekday Morning Peak Hour

Location	2022 Existing	2050 Future	Approx. Change (Existing to Future)	
			Net Vol.	Percent
Route 75				
South of Route 20 WB Ramps	543	680	137	25.2%
Route 20 EB Ramps to Route 20 WB Ramps	737	975	238	32.3%
Route 20 WB Ramps to Halfway House Rd	1,091	1,395	305	27.9%
Halfway House Rd to Schoephoester Rd	982	1,215	233	23.7%
Schoephoester Rd to Route 140	885	1,100	216	24.4%



LEGEND

PEAK HOUR VOLUMES:
 WEEKDAY AM (WEEKDAY PM)

-  TRAFFIC SIGNAL
-  STOP SIGN

**ROUTE 20 CORRIDOR STUDY
 WINDSOR LOCKS, CONNECTICUT**

2050 FUTURE
 TRAFFIC VOLUMES

DATE: MAY 2023

SCALE: NTS

FIGURE 2-1



TABLE 2-1 (CONTINUED)

Future Conditions Traffic Volume Summary – Weekday Morning Peak Hour

Location	2022 Existing	2050 Future	Approx. Change (Existing to Future)	
			Net Vol.	Percent
Route 75				
North of Route 140	1,173	1,430	257	21.9%
Route 140				
Route 75 to Old County Rd	568	660	93	16.3%
East of Old County Rd	297	350	53	17.8%
Halfway House Road				
Route 75 to Old County Rd	202	245	43	21.3%
Old County Road				
Route 140 to Halfway House Rd	456	540	84	18.4%
South of Halfway House Rd	569	670	101	17.8%

TABLE 2-2

Future Conditions Traffic Volume Summary – Weekday Afternoon Peak Hour

Location	2022 Existing	2050 Future	Approx. Change (Existing to Future)	
			Net Vol.	Percent
Route 75				
South of Route 20 WB Ramps	785	970	185	23.6%
Route 20 EB Ramps to Route 20 WB Ramps	1,080	1,395	315	29.2%
Route 20 WB Ramps to Halfway House Rd	1,508	1,930	422	28.0%
Halfway House Rd to Schoephoester Rd	1,310	1,625	316	24.1%
Schoephoester Rd to Route 140	1,245	1,545	301	24.1%
North of Route 140	1,454	1,790	336	23.1%
Route 140				
Route 75 to Old County Rd	769	895	127	16.5%
East of Old County Rd	422	480	58	13.7%
Halfway House Road				
Route 75 to Old County Rd	317	370	53	16.7%
Old County Road				
Route 140 to Halfway House Rd	593	690	98	16.5%
South of Halfway House Rd	747	870	123	16.5%

2.2 Traffic Operations

Utilizing the existing geometry and traffic signal settings established under the 2022 Existing Conditions traffic analyses, traffic operations for the 2050 Future Conditions traffic volumes were evaluated for the study area intersections using Trafficware's Synchro plus SimTraffic 11 – Traffic Signal Coordination Software, based on the *Highway Capacity Manual (HCM)*, 6th Edition methodology.

An intersection's qualitative operational condition is described by the HCM in terms of average control delay per vehicle and volume to capacity (v/c) ratio. Average control delay is measured in seconds of delay that occurs at an intersection, per vehicle, due to the traffic control. The v/c ratio is a measurement of the volume of a particular traffic movement or approach in comparison to the capacity of the movement/approach. Volume to capacity ratios closer to zero represent that the approach has significant capacity remaining while approaches with v/c ratio values approaching or exceeding 1.0 indicates that the approach is near or at capacity and not able to accommodate the traffic flow.

Together the average control delay and v/c ratio are combined to assign a Level of Service (LOS) to a particular intersection or intersection approach movement. LOS is defined by HCM, using average control delay and v/c, to assign letter grades A through F to indicate the efficiency of the traffic control at an intersection. The definitions of the letter grades in terms of average control delay and v/c are provided in the table below.

In general intersections that exhibit a LOS A or B are considered to have excellent to good operating conditions with little congestion or delay. LOS C indicates an intersection with acceptable operations. LOS D indicates an intersection that has tolerable operations with average delays approaching one minute. Intersections with Levels of Service E and F are operating with poor or failing conditions and typically warrant a more thorough review and possible improvement to mitigate the capacity issues. Improvements can include geometric, lane use, timing modifications, or different form of traffic control to mitigate the operational issues and reduce average delay. In the context of this planning process, during the analysis of both existing and future conditions, intersections exhibiting LOS E and F will be identified for further analysis and potential improvements.

Level of Service	Signalized Intersection Criteria	Unsignalized Intersection Criteria	V/C Ratio >1.00 ^a
	Average Control Delay (Seconds per Vehicle)	Average Control Delay (Seconds per Vehicle)	
A	≤10	≤10	F
B	>10 and ≤20	>10 and ≤15	F
C	>20 and ≤35	>15 and ≤25	F
D	>35 and ≤55	>25 and ≤35	F
E	>55 and ≤80	>35 and ≤50	F
F	>80	>50	F

Note: ^aFor approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Source: *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis*. Washington, D.C.: Transportation Research Board, 2016. Exhibit 19-8, Pg. 19-16 & Exhibit 21-8. Pg. 21-9.

In addition to LOS, the HCM methodology also allows for the calculation of queues. Queues are the expected length of vehicles waiting at an intersection due to the delay incurred by the traffic control. The 50th percentile queues, or average queues, are the average number of vehicles expected on an approach at any given time. The 95th percentile, or design queues, are the maximum expected queues on a given approach.

Tables 2-3 and 2-4 summarize the estimated traffic operations at the study area intersections during each peak period in terms of LOS and queues, respectively. Figure 2-2 presents a visual representation of the overall LOS results at each study area intersection with the LOS color coded by letter. Within Table 2-3, intersections, approaches and/or movements with significant delays (LOS E) and failing operations (LOS F) have been highlighted yellow and red, respectively. Within Table 2-4, approaches or movements with average and/ or design queues that exceed the available storage are highlighted in red. Capacity analysis worksheets for the 2050 Future Conditions traffic operations are included in Appendix A.

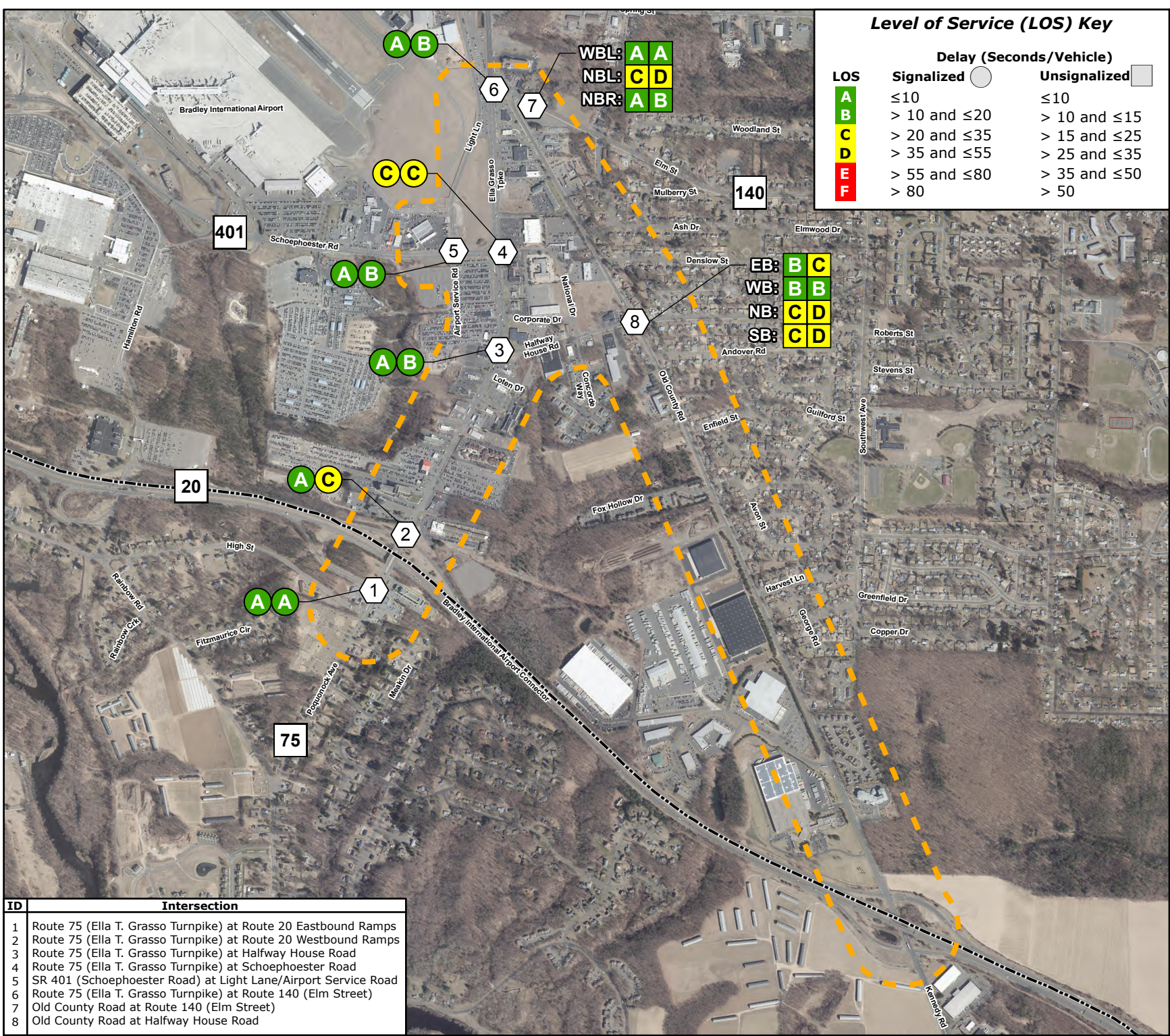
The study area intersections and movements continue to operate acceptably at LOS D or better in the 2050 Future Conditions during both peak hours with the exception of the intersection of Route 75 at the Route 20 westbound off-ramp. However, with minor timing adjustments, the westbound right movement improves to LOS C operation and an overall V/C ratio under 1.0. All average and design queues continue to be accommodated within available storage at each study area intersection.

TABLE 2-3
Intersection Operation Summary - Capacity

Lane Use	Weekday Morning Peak Hour									Weekday Afternoon Peak Hour									
	2022			2050			2050			2022			2050			2050			
	Existing			Future			Future with Development			Existing			Future			Future with Development			
	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 20 EB Ramps																			
Overall	A	3.9	0.27	A	5.1	0.44	C	25.0	0.48	C	27.5	0.50	C	30.8	0.63	B	10.6	0.65	
Route 20 EB Off-Ramp	EB	B	18.4	0.27	C	23.8	0.44	C	25.0	0.48	C	27.5	0.50	C	30.8	0.63	C	31.3	0.65
	NBL	A	4.6	0.09	A	5.1	0.12	A	5.3	0.12	A	3.8	0.11	A	5.3	0.14	A	5.6	0.14
Route 75 (Ella Grasso Turnpike)	NBT	A	3.7	0.08	A	3.9	0.11	A	4.1	0.11	A	3.1	0.14	A	4.6	0.20	A	4.8	0.21
	SBT	A	2.7	0.09	A	3.0	0.17	A	3.1	0.17	A	2.4	0.10	A	6.0	0.20	A	8.9	0.20
	SBR	A	0.8	0.21	A	1.1	0.29	A	1.3	0.33	A	1.1	0.31	A	6.3	0.44	A	9.6	0.51
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 20 WB Ramps																			
Overall	A	7.2	0.75	A	9.4	0.83	B	13.3	0.91	B	10.9	0.86	C	21.3	0.92	C	24.2	0.93	
Route 20 WB Off-Ramp	WBTL	C	27.7	0.24	C	27.0	0.34	C	22.9	0.27	C	23.8	0.24	B	10.5	0.11	A	8.7	0.09
	WBR	B	11.7	0.75	B	16.5	0.83	C	26.4	0.91	C	22.2	0.86	C	34.6	0.92	C	33.9	0.93
	NBL	A	3.9	0.08	A	5.0	0.10	A	6.4	0.12	A	5.0	0.06	B	16.7	0.18	C	23.8	0.27
Route 75 (Ella Grasso Turnpike)	NBT	A	3.3	0.11	A	4.1	0.15	A	5.4	0.17	A	4.4	0.19	B	15.9	0.41	B	19.5	0.48
	SBT	A	4.4	0.22	A	5.8	0.31	A	7.4	0.35	A	6.1	0.27	B	18.8	0.56	C	24.7	0.71
	SBR	A	1.7	0.08	A	1.8	0.12	A	1.9	0.14	A	1.9	0.11	A	4.6	0.25	A	7.0	0.32
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Halfway House Road/LAZ Parking Driveway																			
Overall	A	4.2	0.47	A	4.5	0.54	A	8.5	0.60	A	9.7	0.71	B	11.6	0.71	B	14.7	0.81	
LAZ Parking Driveway	EB	A	0.0	0.01	A	0.5	0.10	B	11.0	0.21	C	20.1	0.11	C	20.4	0.26	B	16.1	0.36
Halfway House Road	WB	B	15.3	0.47	B	19.3	0.54	D	38.8	0.60	D	43.7	0.71	D	41.7	0.71	D	49.9	0.81
	NB	A	3.8	0.27	A	5.1	0.35	A	8.5	0.46	A	8.0	0.43	B	12.4	0.60	B	16.5	0.70
Route 75 (Ella Grasso Turnpike)	SBL	A	1.7	0.05	A	1.0	0.08	A	2.2	0.10	A	2.2	0.07	A	2.6	0.10	A	3.2	0.11
	SBTR	A	2.7	0.17	A	1.2	0.20	A	1.9	0.24	A	2.2	0.23	A	1.8	0.31	A	2.6	0.35
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 401 (Schoephoester Road)/National Drive																			
Overall	B	18.5	0.69	C	21.0	0.69	C	21.1	0.69	C	21.1	0.69	C	23.5	0.71	C	24.8	0.76	
Route 401 (Schoephoester Road)	EBL	D	39.6	0.34	D	40.9	0.43	D	41.2	0.44	D	42.2	0.59	D	44.3	0.66	D	44.3	0.66
	EBLT	D	39.3	0.34	D	39.8	0.41	D	39.9	0.42	D	41.7	0.58	D	43.5	0.65	D	44.4	0.66
	EBR	A	3.9	0.21	A	3.7	0.22	A	3.7	0.22	A	3.0	0.27	A	3.7	0.31	A	4.6	0.32
National Drive	WBL	D	36.0	0.09	D	38.4	0.20	D	41.0	0.22	C	34.0	0.07	D	36.5	0.10	D	36.4	0.10
	WBTR	C	24.6	0.21	C	24.9	0.25	C	26.6	0.34	C	26.3	0.31	C	31.7	0.42	C	32.9	0.49
	NBL	D	36.3	0.69	C	34.3	0.69	C	31.4	0.69	C	32.4	0.69	C	32.3	0.71	D	36.2	0.76
Route 75 (Ella Grasso Turnpike)	NBTR	A	6.6	0.18	B	10.9	0.25	B	12.9	0.31	A	8.7	0.26	B	10.0	0.35	B	12.0	0.41
	SBL	C	34.6	0.15	D	36.7	0.27	D	39.5	0.44	C	34.8	0.07	C	35.0	0.16	D	37.3	0.35
	SBT	C	23.0	0.26	C	26.8	0.38	C	25.3	0.41	C	31.8	0.41	D	37.7	0.67	D	36.4	0.71
	SBR	A	0.1	0.07	A	0.1	0.08	A	0.1	0.08	A	0.1	0.11	A	0.2	0.13	A	0.2	0.13
Traffic Signal - Route 401 (Schoephoester Road) at Light Lane/Airport Service Road																			
Overall	A	5.8	0.41	A	6.1	0.45	A	6.0	0.45	A	8.6	0.53	B	11.5	0.58	B	11.5	0.58	
Route 401 (Schoephoester Road)	EBL	A	1.9	0.08	A	2.0	0.10	A	2.0	0.10	A	2.4	0.14	A	3.3	0.17	A	3.3	0.17
	EBTR	A	4.5	0.09	A	4.5	0.11	A	4.5	0.11	A	5.6	0.19	A	7.5	0.25	A	7.5	0.25
	WBL	A	1.8	0.02	A	1.8	0.02	A	1.8	0.02	A	2.0	0.02	A	2.9	0.04	A	2.9	0.04
	WBTR	A	4.6	0.13	A	4.8	0.15	A	4.8	0.15	A	5.5	0.20	A	7.4	0.25	A	7.4	0.25
Airport Service Road	NB	A	0.8	0.08	A	3.5	0.22	A	3.5	0.22	C	32.8	0.41	D	40.9	0.58	D	40.9	0.58
Light Lane	SBLT	D	39.2	0.07	D	41.0	0.15	D	41.0	0.15	D	41.8	0.24	D	44.7	0.43	D	44.7	0.43
	SBR	B	14.7	0.41	B	14.4	0.45	B	14.4	0.45	B	13.6	0.53	B	11.0	0.52	B	11.0	0.52
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 140 (Elm Street)																			
Overall	A	7.9	0.45	A	8.6	0.50	A	8.8	0.55	B	13.4	0.68	B	18.9	0.77	B	19.4	0.83	
Route 140 (Elm Street)	WBL	D	37.6	0.45	D	36.7	0.48	C	34.6	0.46	D	38.2	0.53	D	38.1	0.58	D	37.7	0.58
	WBR	A	5.2	0.43	B	10.1	0.50	B	12.3	0.52	A	7.4	0.35	B	10.4	0.35	B	11.5	0.37
Route 75 (Ella Grasso Turnpike)	NB	A	8.6	0.26	A	7.1	0.34	A	6.3	0.39	B	16.3	0.50	C	22.4	0.74	C	20.9	0.78
	SBL	A	4.9	0.38	A	7.0	0.50	A	8.5	0.55	B	12.9	0.68	C	29.3	0.77	D	37.3	0.83
	SBT	A	2.9	0.16	A	3.6	0.21	A	4.1	0.23	A	3.4	0.18	A	4.2	0.25	A	4.5	0.28
Unsignalized TWSC - Route 140 (Elm Street) at Old County Road																			
Route 140 (Elm Street)	WBL	A	8.0	0.06	A	8.2	0.08	A	8.2	0.08	A	8.5	0.07	A	8.8	0.09	A	8.9	0.10
Old County Road	NBL	C	15.6	0.36	C	19.2	0.47	C	20.6	0.50	C	21.3	0.48	D	31.4	0.65	E	36.5	0.70
	NBR	A	9.6	0.06	A	9.9	0.09	B	10.0	0.09	B	10.6	0.10	B	11.1	0.11	B	11.3	0.12
Unsignalized AWSC - Old County Road at Halfway House Road																			
Overall	B	11.1	0.45	C	15.2	0.61	C	20.5	0.71	B	14.9	0.58	C	24.9	0.79	F	60.5	1.03	
Halfway House Road	EB	A	9.9	0.24	B	12.5	0.38	C	17.3	0.55	B	13.0	0.43	C	18.1	0.57	E	45.0	0.88
	WB	A	9.2	0.05	B	10.8	0.14	B	13.0	0.26	B	10.3	0.09	B	12.7	0.20	C	19.2	0.43
	NB	B	11.9	0.45	C	16.4	0.59	C	22.7	0.69	C	16.1	0.58	D	28.8	0.78	F	75.9	1.03
Old County Road	SB	B	11.2	0.42	C	16.4	0.61	C	22.9	0.71	C	15.6	0.58	D	28.3	0.79	F	72.7	1.02

TABLE 2-4
Intersection Operation Summary - Queues (In Feet)

			Weekday Morning Peak Hour						Weekday Afternoon Peak Hour					
Lane Use	Available Storage	2022		2050		2050		2022		2050		2050		
		Existing		Future		Future with Development		Existing		Future		Future with Development		
		50 th	95 th	50 th	95 th	50 th	95 th	50 th	95 th	50 th	95 th	50 th	95 th	
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 20 EB Ramps														
Route 20 EB Off-Ramp	EB	>1000	17	43	40	73	48	83	43	87	73	126	79	134
	NBL	70	6	28	8	33	8	33	7	20	10	28	11	28
Route 75 (Ella Grasso Turnpike)	NBT	215	9	31	14	39	15	40	20	40	32	62	33	64
	SBT	535	9	21	19	35	19	35	12	18	28	74	57	97
	SBR	300	0	6	0	9	2	15	0	2	24	64	126	133
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 20 WB Ramps														
Route 20 WB Off-Ramp	WBLT	190	22	11	38	17	32	17	28	55	17	39	16	34
	WBR	>1000	0	62	23	107	56	238	48	152	201	423	228	468
	NBL	75	3	15	3	18	8	19	3	13	12	34	13	37
Route 75 (Ella Grasso Turnpike)	NBT	565	10	27	13	39	35	43	28	50	110	157	121	171
	SBT	>1000	24	71	40	106	70	115	45	93	140	196	172	240
	SBR	90	0	12	0	16	0	16	0	9	4	18	13	29
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Halfway House Road/LAZ Parking Driveway														
LAZ Parking Driveway	EB	165	0	0	0	1	31		7	8	23	15	30	12
Halfway House Road	WB	785	0	40	5	51	56	104	75	25	90	29	104	32
Route 75 (Ella Grasso Turnpike)	NB	>1000	32	93	80	127	118	192	75	196	181	302	225	427
	SBL	415	6	1	1	1	2		1	4	1	4	1	3
	SBTR	915	81	5	3	6	5	10	10	18	14	24	16	26
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 401 (Schoephoester Road)/National Drive														
Route 401	EBL	375	25	49	33	60	35	63	67	110	80	129	81	130
(Schoephoester Road)	EBLT	375	25	30	33	37	35	40	67	86	80	100	83	103
	EBR	220	0	12	0	13	0	13	0	23	5	31	11	37
National Drive	WBL	200	4	9	10	16	10	17	4	16	5	21	5	21
	WBTR	150	4	21	6	25	7	29	12	22	16	29	19	32
	NBL	450	107	143	121	176	115	181	135	313	132	367	126	368
Route 75 (Ella Grasso Turnpike)	NBTR	920	31	121	68	174	114	206	76	173	53	218	154	247
	SBL	>1000	7	9	16	14	32	23	4	10	10	18	26	32
	SBT	>1000	71	130	116	154	128	155	106	144	154	176	161	200
	SBR	400	0	0	0	0	0	0	0	0	0	0	0	0
Traffic Signal - Route 401 (Schoephoester Road) at Light Lane/Airport Service Road														
Route 401	EBL	170	6	11	6	12	6	12	8	16	12	24	12	24
(Schoephoester Road)	EBTR	>1000	18	25	22	29	22	30	44	65	61	91	62	93
	WBL	120	1	3	1	3	1	3	1	2	2	4	2	4
	WBTR	350	26	44	32	53	33	54	42	73	57	101	58	102
Airport Service Road	NB	470	0	0	0	5	0	5	22	6	54	18	54	18
Light Lane	SBLT	>1000	4	18	9	28	9	28	20	22	36	32	36	32
	SBR	200	0	19	0	19	0	19	0	23	0	22	0	22
Traffic Signal - Route 75 (Ella Grasso Turnpike) at Route 140 (Elm Street)														
Route 140 (Elm Street)	WBL	155	49	80	59	88	60	89	66	112	79	127	82	129
	WBR	400	0	41	37	74	55	91	25	59	49	99	56	109
Route 75 (Ella Grasso Turnpike)	NB	>1000	89	38	120	45	37	50	194	103	272	125	290	128
	SBL	675	24	54	31	77	35	83	41	109	114	294	134	335
	SBT	880	20	39	28	59	34	68	26	51	40	78	47	93
Unsignalized TWSC - Route 140 (Elm Street) at Old County Road														
Route 140 (Elm Street)	WBL	>1000	--	5	--	5	--	8	--	5	--	8	--	8
Old County Road	NBL	>1000	--	40	--	60	--	68	--	65	--	108	--	125
	NBR	50	--	5	--	8	--	8	--	8	--	10	--	10
Unsignalized AWSC - Old County Road at Halfway House Road														
Halfway House Road	EB	565	--	23	--	45	--	83	--	53	--	88	--	225
	WB	355	--	3	--	13	--	25	--	8	--	20	--	50
Old County Road	NB	385	--	57	--	95	--	135	--	95	--	183	--	340
	SB	680	--	53	--	102	--	145	--	93	--	185	--	335



Level of Service (LOS) Key

LOS	Delay (Seconds/Vehicle)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

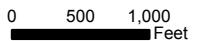
CRCOG CAPITAL REGION COUNCIL OF GOVERNMENTS
Working together for a better region.

Tighe & Bond

RKG ASSOCIATES INC. **vhb**

LEGEND

- Intersection ID Number
- Signalized LOS
- Unsignalized LOS
- Study Area
- Town Line



NOTES

**ROUTE 20
TRANSPORTATION &
LAND USE STUDY
WINDSOR LOCKS,
CONNECTICUT**

**2050 FUTURE TRAFFIC
OPERATIONS**

FIGURE 2-2

ID	Intersection
1	Route 75 (Ella T. Grasso Turnpike) at Route 20 Eastbound Ramps
2	Route 75 (Ella T. Grasso Turnpike) at Route 20 Westbound Ramps
3	Route 75 (Ella T. Grasso Turnpike) at Halfway House Road
4	Route 75 (Ella T. Grasso Turnpike) at Schoephoester Road
5	SR 401 (Schoephoester Road) at Light Lane/Airport Service Road
6	Route 75 (Ella T. Grasso Turnpike) at Route 140 (Elm Street)
7	Old County Road at Route 140 (Elm Street)
8	Old County Road at Halfway House Road

Section 3

2050 Future Conditions with Development

The Route 20 study area offers significant development potential anchored by Bradley Airport and facilitated by the transportation system infrastructure and surrounding communities. The study team developed a future potential development scenario based on the following:

- Market analysis conducted during the Existing Conditions Assessment
- Discussions with the Town, TAC, and stakeholders
- Review of the public survey results
- Review of vacant or underutilized sites
- Review of current zoning regulations

Potential developments were then translated into projected site traffic volumes and added to the 2050 Future Conditions traffic volumes to develop the 2050 Future Conditions with Development traffic volumes. Further information on the potential development scenario and the resulting traffic volumes and analyses are provided in the following sections.

3.1 Potential Development

The following sections detail the market analysis and outreach efforts undertaken by the study team that informed the development the potential development scenario. The development scenario and associated traffic volumes are then presented.

3.1.1 Market Analysis

The land use and market analysis completed during the Existing Conditions Assessment provided important data that was reviewed to guide the potential development program. Projected future trends in housing and employment within Windsor Locks were reviewed to determine potential size and type of potential future development that the market can support. Projected employment growth within the Town of Windsor Locks and Hartford County is expected to translate into potential growth for sectors within the study area. The estimated square foot demand by industry sector based on the projected 10-year employment change is summarized in Table 3-1.

Based on results of market analysis and discussions with area brokers and active developers, demand for future development includes the following uses (other than residential):

- Large-scale distribution use
- Small industrial uses, such as an industrial park with independent uses
- Small medical, clinic, or outpatient service space
- Professional and personal service office space
- Scattered retail and restaurant opportunities

TABLE 3-1

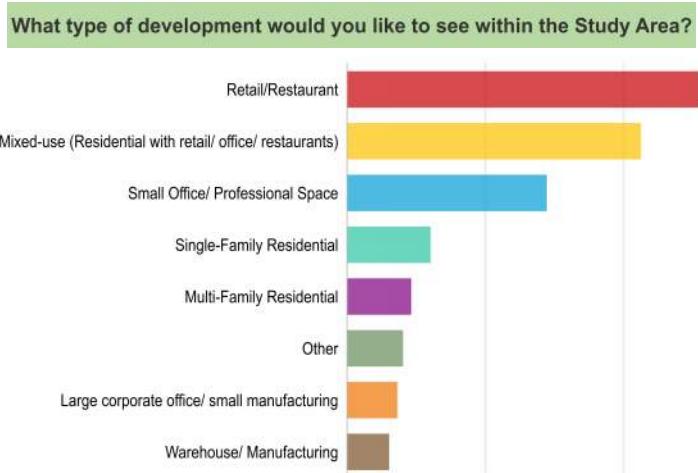
Estimated Demand (SF) from 10-Year Employment Change

Employment Projections by NAICS Industry Sectors		Average SF per FTE Employee	Estimated SF Demand (10 year employment change)	
			Windsor Locks	County
22	Utilities	N/A	N/A	N/A
23	Construction	150	4,050	126,600
31	Manufacturing	750	52,500	1,898,250
42	Wholesale Trade	525	N/A	N/A
44	Retail Trade	200	N/A	N/A
48	Transportation/Warehousing	495	285,615	3,136,815
51	Information	175	175	8,400
52	Finance/Insurance	275	N/A	N/A
53	Real Estate	200	N/A	18,600
54	Professional Services	195	4,680	660,855
55	Management	200	N/A	498,400
56	Administrative Services	200	6,400	437,200
61	Education	N/A	N/A	N/A
62	Health Care/Services	150	182,100	2,817,750
71	Arts, Entertainment, & Recreation	150	1,500	205,050
72	Accommodation & Food Services	400	N/A	2,006,400
81	Other (not government)	300	N/A	504,000
Total All Sectors		N/A	537,020	12,318,320
Source: EMSI and RKG (2023)		Office/Flex	Whse/Ind	Medical

3.1.2 Outreach Efforts

In order to gain insight on the Town’s desired future development scenario, outreach efforts included an online public survey and discussions with the Town. The online public survey was conducted to gather feedback on existing conditions, opportunities for improvements, and insights on future development within the study area to inform the Study recommendations. The following key themes were noted as they relate to land use and development:

- Desire for retail, restaurant, office, professional space, and mixed-use development.
- Increase utilization of parcels along Route 75.
- Protect existing open space including Waterworks Conservation Area.
- Limit commercial development in residential areas.



In addition to the general public survey, interviews with active developers within the study area were conducted to gather information on current development activities and future development plans. Because Bradley Airport is located adjacent to the study area, a meeting was also held with the Connecticut Airport Authority (CAA) to understand future potential development plans on parcels currently owned by the airport. Finally, discussions with Town staff further refined the potential future development scenario to align with the Town's development vision.

3.1.3 Future Development Scenario

The market data and input gathered from the Town and stakeholders assisted in the selection of the following preferred future potential development scenario:

- Residential/ Assisted Living: 165 units
- Hotel: 80 rooms
- Warehouse/ Industrial/ Business Park: 225,000 square feet
- Retail/ Medical/ Service: 37,000 square feet

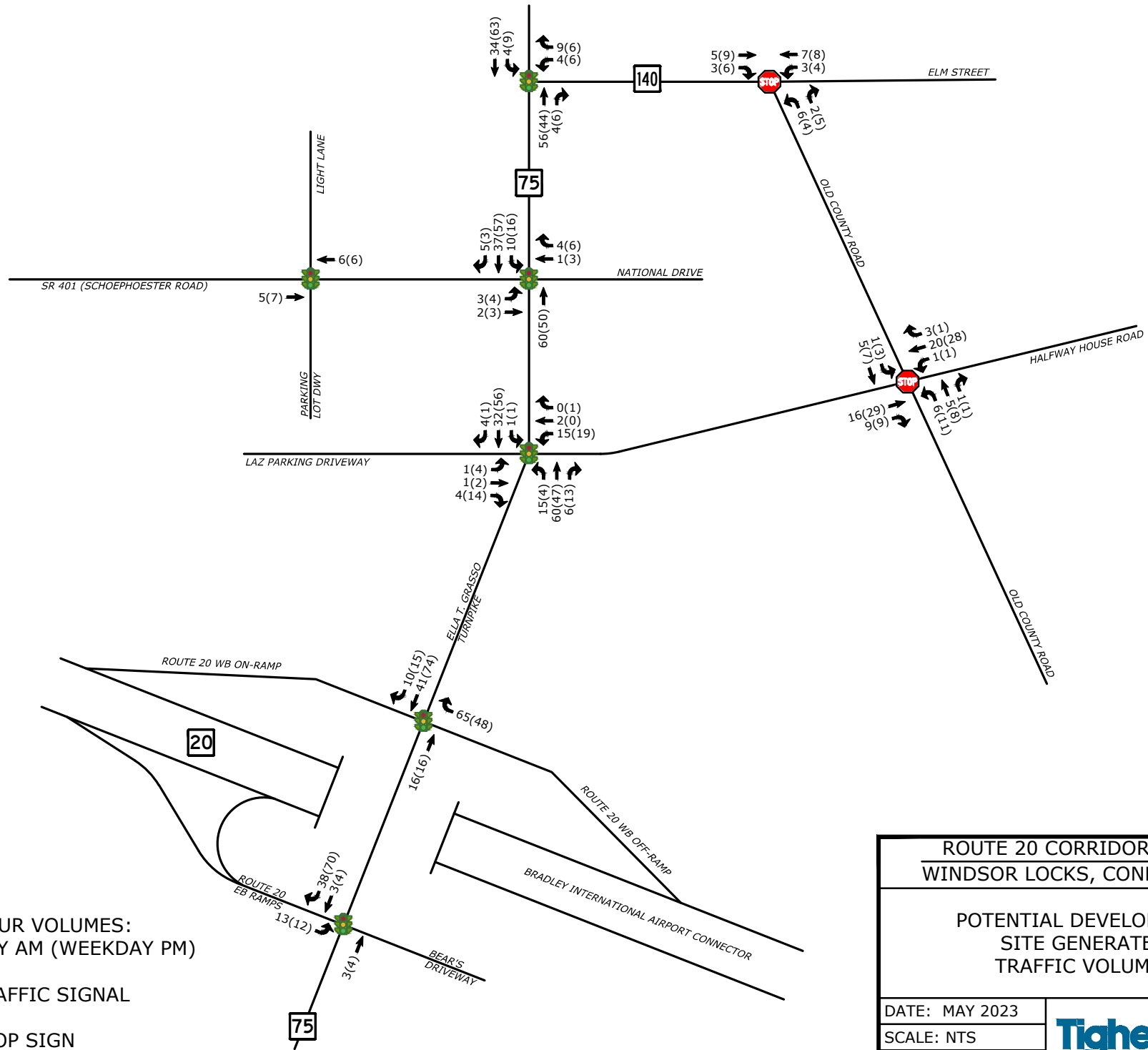
While the potential development scenario encompasses parcels marketed for redevelopment, vacant, and underutilized parcels throughout the study area, it is important to note that specific parcels for potential development have not been identified at this time. The exact location of the development can vary based on property owner desires, the Town approval process, and public input. The following approximate location considerations were incorporated based on previous input received:

- Warehouse/ industrial uses are anticipated in proximity to the airport to support air cargo uses.
- Mixed-use development in the transition area between Route 75 and Old County Road.
- Residential development along Old County Road.

The potential development traffic volumes were estimated using rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, 2021 based on the development scenario described above. In total, the development scenario has the potential to generate approximately 300 weekday morning and 400 weekday afternoon vehicle trips to the study area. These potential development traffic volumes were then distributed to the study area intersections based on existing travel patterns and approximate desired locations detailed above. The projected development traffic volumes for the weekday morning and weekday afternoon peak hours are shown in Figure 3-1. The ITE site generated traffic calculations are provided in Appendix B.



3.2 2050 Future Traffic Volumes with Development

The 2050 Future Conditions with Development traffic volumes were developed by adding the potential development scenario traffic volumes to the 2050 Future Conditions traffic volumes. The potential development scenario estimates an increase in bi-directional traffic volumes of approximately 6% to 10% along much of Route 75 during both peak periods and lower growth of 3 to 5% on Route 140 and Old County Road during both peak periods as compared to the 2050 Future Conditions traffic volumes. Halfway House Road is



LEGEND

PEAK HOUR VOLUMES:
 WEEKDAY AM (WEEKDAY PM)

-  TRAFFIC SIGNAL
-  STOP SIGN

**ROUTE 20 CORRIDOR STUDY
 WINDSOR LOCKS, CONNECTICUT**

POTENTIAL DEVELOPMENT
 SITE GENERATED
 TRAFFIC VOLUMES

DATE: MAY 2023

SCALE: NTS

FIGURE 3-1



estimated to experience higher growth of approximately 15% as compared to the 2050 Future Conditions traffic volumes during both peak periods. A comparison between the 2022 Existing Conditions, 2050 Future Conditions, and 2050 Future Conditions with Development traffic volumes are shown in Tables 3-2 and 3-3 for the weekday morning and weekday afternoon peak hours, respectively.

The projected development traffic volumes were added to the 2050 Future Conditions traffic volumes to develop the 2050 Future with Development scenario traffic volumes for each study area intersection. The 2050 Future Conditions with Development traffic volumes at each study intersection are shown in Figure 3-2.

TABLE 3-2

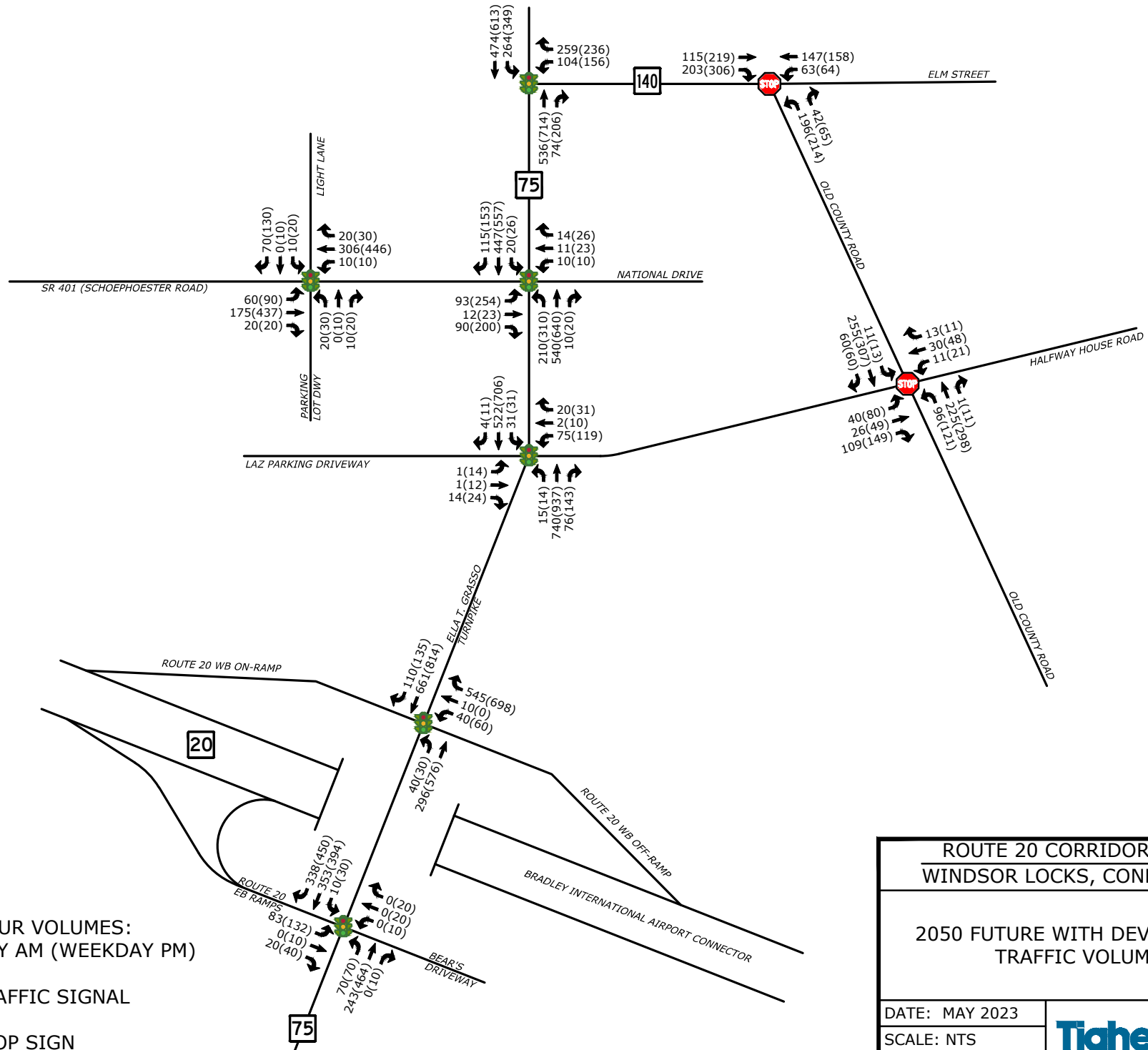
Future Conditions with Development Traffic Volume Summary – Weekday Morning Peak Hour

Location	2022 Existing	2050 Future	2050 Future w/ Development	Approx. Change (Existing to Future with Development)		Approx. Change (Future to Future with Development)	
				Net Vol.	Percent	Net Vol.	Percent
Route 75							
South of Route 20 WB Ramps	543	680	686	143	21.0%	6	0.9%
Route 20 EB Ramps to Route 20 WB Ramps	737	975	1,032	295	30.3%	57	5.8%
Route 20 WB Ramps to Halfway House Rd	1,091	1,395	1,527	437	31.3%	132	9.5%
Halfway House Rd to Schoephoester Rd	982	1,215	1,313	331	27.2%	98	8.0%
Schoephoester Rd to Route 140	885	1,100	1,209	324	29.5%	109	9.9%
North of Route 140	1,173	1,430	1,533	360	25.2%	103	7.2%
Route 140							
Route 75 to Old County Rd	568	660	681	114	17.2%	21	3.2%
East of Old County Rd	297	350	367	70	20.0%	17	4.9%
Halfway House Road							
Route 75 to Old County Rd	202	245	283	81	33.1%	38	15.5%
Old County Road							
Route 140 to Halfway House Rd	456	540	554	98	18.1%	14	2.6%
South of Halfway House Rd	569	670	697	128	19.1%	27	4.0%

TABLE 3-3



Future Conditions with Development Traffic Volume Summary – Weekday Afternoon Peak Hour


Location	2022 Existing	2050 Future	2050 Future w/ Development	Approx. Change (Existing to Future with Development)		Approx. Change (Future to Future with Development)	
				Net Vol.	Percent	Net Vol.	Percent
Route 75							
South of Route 20 WB Ramps	785	970	978	193	19.9%	8	0.8%
Route 20 EB Ramps to Route 20 WB Ramps	1,080	1,395	1,475	395	28.3%	80	5.7%
Route 20 WB Ramps to Halfway House Rd	1,508	1,930	2,083	575	29.8%	153	7.9%
Halfway House Rd to Schoephoester Rd	1,310	1,625	1,734	424	26.1%	109	6.7%
Schoephoester Rd to Route 140	1,245	1,545	1,673	428	27.7%	128	8.3%
North of Route 140	1,454	1,790	1,912	458	25.6%	122	6.8%
Route 140							
Route 75 to Old County Rd	769	895	922	154	17.2%	27	3.0%
East of Old County Rd	422	480	506	84	17.5%	26	5.4%
Halfway House Road							
Route 75 to Old County Rd	317	370	427	110	29.6%	57	15.3%
Old County Road							
Route 140 to Halfway House Rd	593	690	709	117	16.9%	19	2.8%
South of Halfway House Rd	747	870	907	160	18.4%	37	4.3%



LEGEND

PEAK HOUR VOLUMES:
 WEEKDAY AM (WEEKDAY PM)

-  TRAFFIC SIGNAL
-  STOP SIGN

ROUTE 20 CORRIDOR STUDY	
WINDSOR LOCKS, CONNECTICUT	
2050 FUTURE WITH DEVELOPMENT	
TRAFFIC VOLUMES	
DATE: MAY 2023	
SCALE: NTS	
FIGURE 3-2	

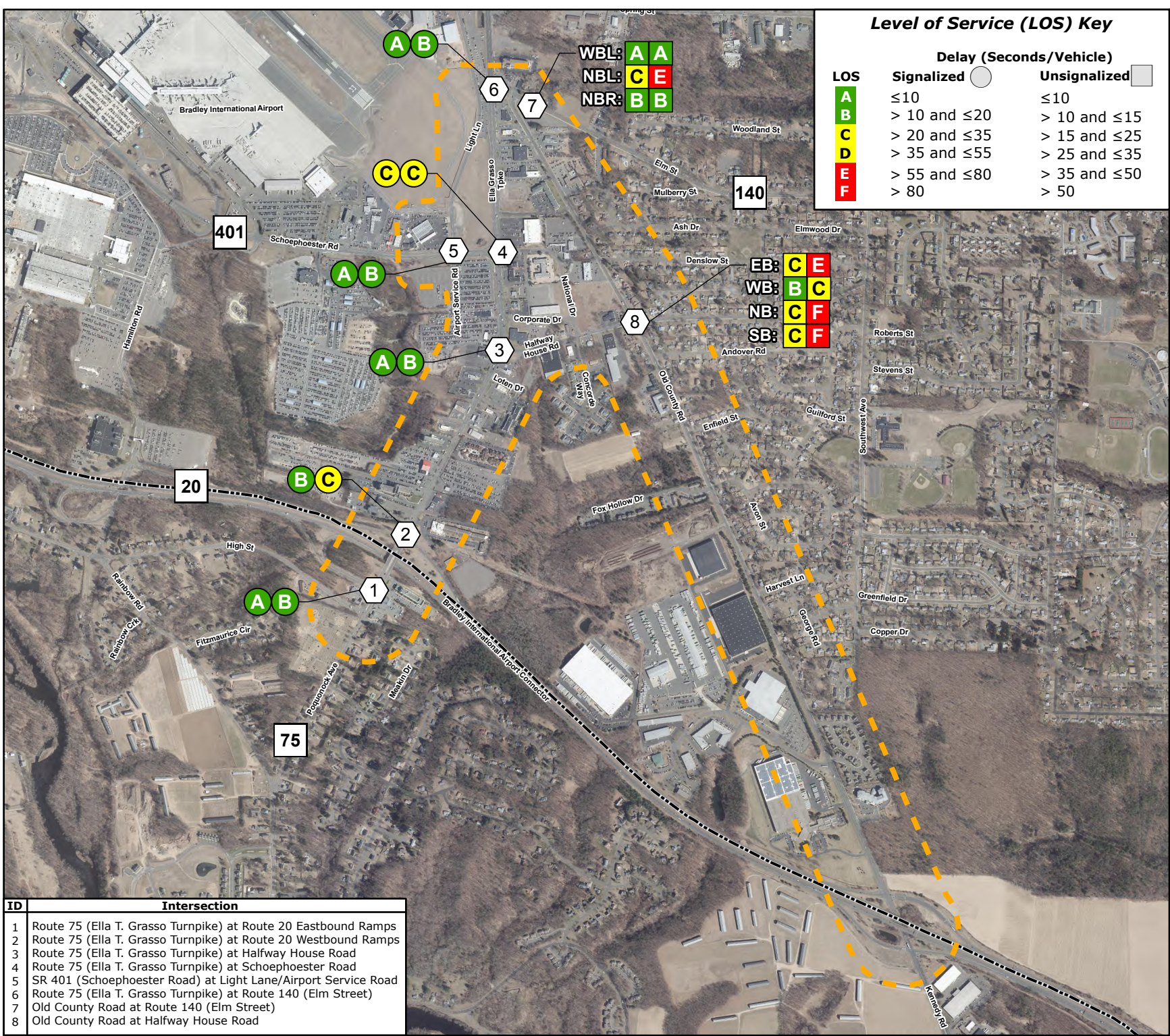
3.3 2050 Future with Development Traffic Operations

Traffic operations at each study area intersections were analyzed for the 2050 Future with Development scenario based on the methodology as described in Section 2.2. Tables 2-3 and 2-4 summarize the estimated traffic operations at the study area intersections during each peak period in terms of LOS and queues. Figure 3-3 presents a visual representation of the overall LOS results at each study area intersection with the LOS color coded by letter. Capacity analysis worksheets for the 2050 Future Conditions traffic operations are included in Appendix A.

A majority of study intersections experience minor increases in delay as compared to the 2050 Future Conditions. Traffic signal timing splits were optimized where they were advantageous and resulted in all signalized intersections and approaches operating at LOS D or better. However, failing operations are experienced at the unsignalized intersections as follows:

- The northbound left movement at the intersection of Route 140 at Old County Road experiences a degradation in LOS from D to E as compared to the 2050 Future Conditions during the weekday afternoon peak hour.
- At the all-way stop-controlled intersection of Old County Road at Halfway House Road intersection degrades to overall LOS F operations during the weekday afternoon peak hour with the eastbound approach degrading from LOS C to E, and the northbound and southbound approaches each degrading from LOS D to F.

The average and design queues continue to be accommodated within available storage at each study area intersection.



Level of Service (LOS) Key

LOS	Delay (Seconds/Vehicle)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

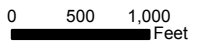
WBL: A A
 NBL: C E
 NBR: B B

EB: C E
 WB: B C
 NB: C F
 SB: C F



LEGEND

- Intersection ID Number
- Signalized LOS
- Unsignalized LOS
- Study Area
- Town Line



NOTES

**ROUTE 20
 TRANSPORTATION &
 LAND USE STUDY
 WINDSOR LOCKS,
 CONNECTICUT**

**2050 FUTURE
 WITH DEVELOPMENT
 TRAFFIC OPERATIONS**

FIGURE 3-3

ID	Intersection
1	Route 75 (Ella T. Grasso Turnpike) at Route 20 Eastbound Ramps
2	Route 75 (Ella T. Grasso Turnpike) at Route 20 Westbound Ramps
3	Route 75 (Ella T. Grasso Turnpike) at Halfway House Road
4	Route 75 (Ella T. Grasso Turnpike) at Schoephoester Road
5	SR 401 (Schoephoester Road) at Light Lane/Airport Service Road
6	Route 75 (Ella T. Grasso Turnpike) at Route 140 (Elm Street)
7	Old County Road at Route 140 (Elm Street)
8	Old County Road at Halfway House Road

Section 4

Pedestrians, Bicycles & Transit

This section reviews future concerns and potential future opportunities for pedestrians, bicyclists, and transit users within the study area. As noted in the Existing Conditions Technical Memorandum, while improvements have been implemented in recent years, a number of existing facilities are not conducive to alternative modes of travel. Current future plans as well as recommendations developed during the remainder of this study seek to improve safety and mobility for pedestrians, bicyclists, and transit users.

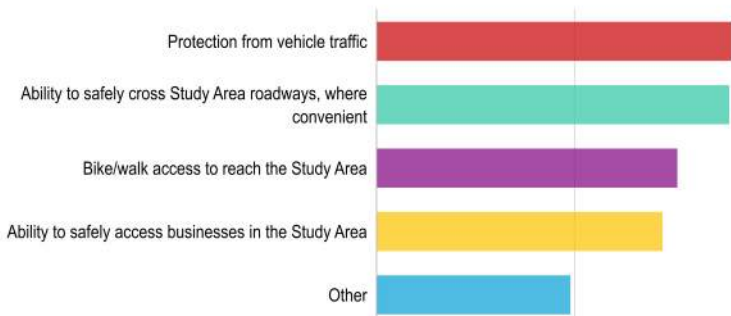
4.1 Pedestrians

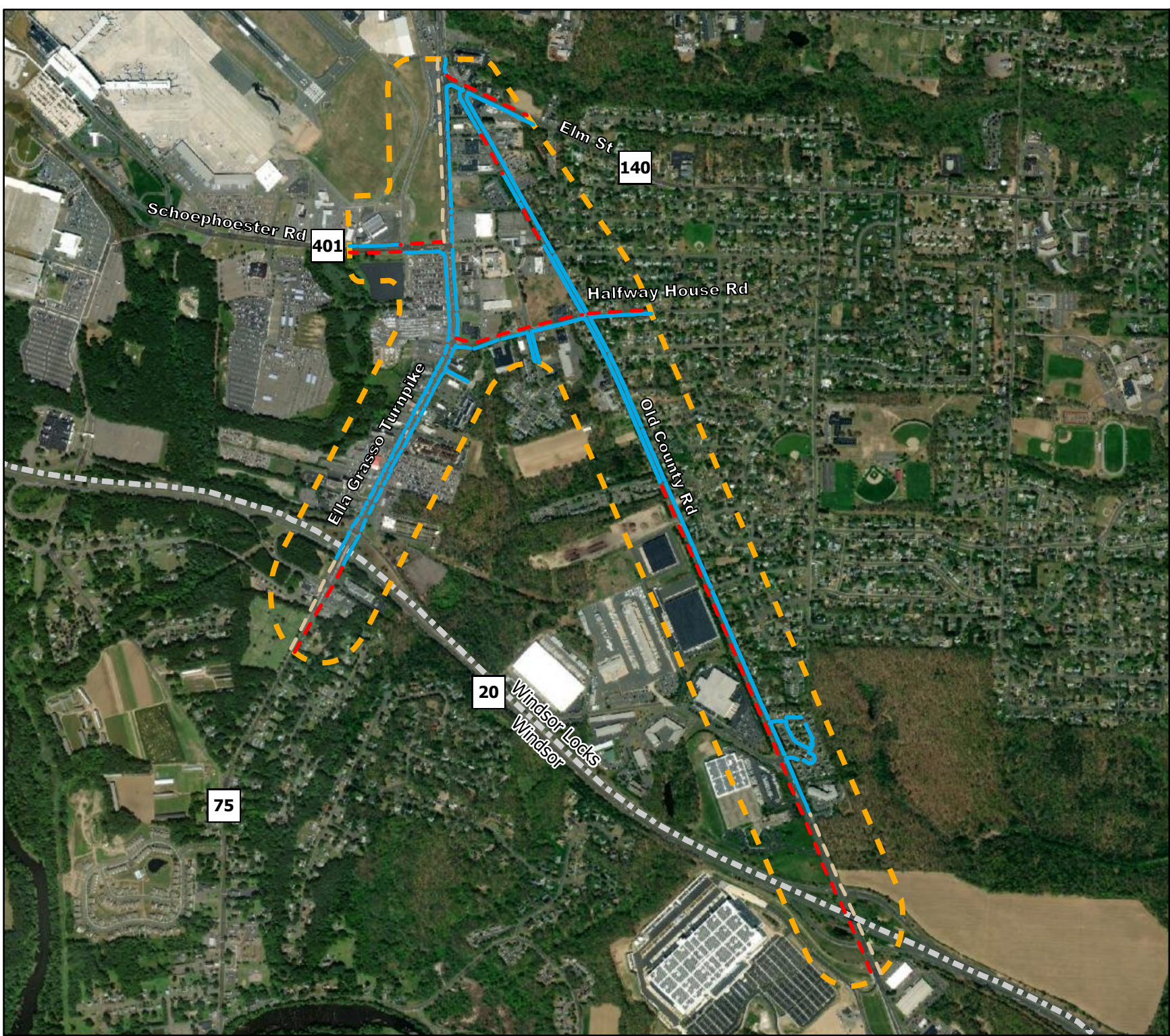
As noted in the Existing Conditions Technical Memorandum, pedestrian facilities in the study area have been significantly improved with the completion of LOTCIP Project #L165-0001 in 2019. However, gaps in the sidewalk network, sidewalk ramp deficiencies, and crossing deficiencies persist. A continuous sidewalk network along Old County Road and Halfway House Road will improve pedestrian safety and connectivity. Evidence of pedestrian desire path on the south side of Schoephoester Road indicates the need for sidewalk along this segment. A sidewalk on the east side of Route 75 south of Route 20 would provide pedestrian access to a hotel, restaurant, and bank in Windsor. Implementing traffic calming measures along study area roadways will improve pedestrian comfort at crossings at locations where pedestrians utilize the roadway shoulder. Potential locations for sidewalk infill and extensions were reviewed and grouped by priority based on adjacent land use, connectivity to nearby sidewalk networks, and evidence of current pedestrian activity. Figure 4-1 shows the priority areas for potential future sidewalk.

The previously completed online public survey completed during the Existing Conditions Assessment indicates the following related to pedestrian facilities within the study area:

- 28% of respondents currently walk through the study area some of the time.
- 60% of respondents are concerned with high vehicle speeds, 48% with general safety issues, and 33% with pedestrian and bicycle access.
- The most important issues for pedestrians were protection from vehicle traffic and the ability to safely cross study area roadways.
- Several comments mentioned pedestrian safety at the Old County and Halfway House Road intersection.
- There were also several comments about high vehicle speeds and truck traffic, both of which can discourage walking due to concerns about perception of safety and potential for severe crashes.

If you travel the Study Area by walking or biking, please rank the importance of the following.





LEGEND

- - - Study Area
- Existing Sidewalks
- - - Higher Priority Sidewalk Gaps
- - - Lower Priority Sidewalk Gaps

N

0 500 1,000 Feet

NOTES

**ROUTE 20
TRANSPORTATION &
LAND USE STUDY
WINDSOR LOCKS,
CONNECTICUT**

**PRIORITY SIDEWALK
GAPS**

FIGURE 4-1

Pedestrian safety and mobility are limited along Route 75 due to the high number of driveways, high traffic speeds, and limited crossing locations. There are multiple businesses on both sides of the roadway that attract pedestrians. Pedestrians are more likely to cross mid-block at unmarked crossings than traveling to a traffic signal that may be a quarter mile or more away. Therefore, creating more opportunities for pedestrians to safely cross Route 75 is critical for the future.

The following opportunities to improve conditions for pedestrians will be considered:

- Extend and infill sidewalk where gaps currently exist (see Figure 4-2).
- Upgrade non-compliant curb ramps on Old County Road.
- Install more safe dedicated crossings along Route 75, Old County Road, and Halfway House Road to increase crossing opportunities in conjunction with pedestrian refuge islands, a road diet, flashing beacons, or other measures to improve access and safety.



FIGURE 4-2

Existing Sidewalk Gap on Old County Road

- Connect sidewalks to future trail facilities.
- Install pedestrian facilities on private roads including National Drive and Corporate Drive.
- Implement traffic calming measures such as a road diet or curb extensions to create a more comfortable pedestrian experience.
- Require accessible pedestrian paths to connect streetside sidewalks to developments and allow for circulation within the site for all new developments and redevelopments as part of Town Zoning Regulations.
- Encourage development with a mix of uses on a single site to facilitate safe pedestrian access between businesses and residential areas, potentially reducing the frequency of crossing at unmarked locations.

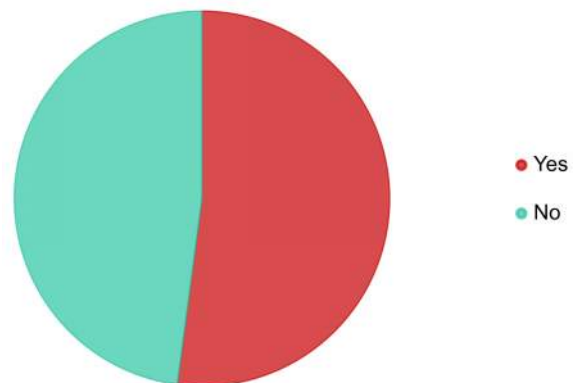
4.2 Bicycles

There are currently no dedicated bicycle facilities in the study area. Although bicyclists may ride on the same roads as automobiles except where expressly prohibited, less-confident cyclists will avoid situations with high traffic stress where vehicle speeds and volumes are high and mixing with traffic is necessary. The count data summarized in the Existing Conditions Assessment indicates limited bicycle usage, evidence that most residents are not willing to ride a bicycle on the study area roadways. Increased future bicycle activity may be encouraged by installing dedicated bicycle facilities to increase comfort and create greater access for cyclists of all levels. The Federal Highway Administration (FHWA) Bikeway Selection Guide and Town/CTDOT standards will be utilized during the development of potential improvements to determine what types of facilities should be considered depending on roadway characteristics to reach the greatest number of potential users.

The online public survey indicates the following as they relate to bicycle facilities within the study area:

- 20% of respondents sometimes bike within the study area.
- 60% of survey responders are concerned about high vehicle speeds, 48% about general safety issues, and 33% about pedestrian and bicycle access.
- Protection from vehicular traffic, ability to safely cross, and bicycle/pedestrian access were the top-3 highest ranked issues for biking and walking.
- 55% would like to see improved bicycle accommodations in the area; 30% are unsure.
- 52% would ride a bicycle in the study area if there were more and safer ways to do so.
- Open-ended comments indicated a need for more bicycle-friendly facilities and concerns with high speeds, traffic volumes, and truck traffic.

Would you ride a bicycle more if there were more and safer ways to do so?



The following opportunities to improve conditions for bicycle users will be considered:

- Improve safety and comfort for bicyclists on Old Country Road, Route 75, and Route 140, which are all part of the CRCOG on-road bike network, by providing dedicated and safe facilities.
- Enhance safety and comfort of existing 5-foot shoulder on Old County Road by providing protection from high-speed and heavy traffic and/or reduce speeds and heavy vehicle traffic on Old County Road via traffic calming.

- Widen shoulder or provide dedicated bike lanes on Route 75 and Schoephoester Road through the implementation of a road diet or roadway widening.
- Review the FHWA Bikeway Selection Guide (see Figure 4-3) to determine the most appropriate bicycle facility to reach the most potential users; due to the amount of traffic and speeds, a separated/protected bike lane would likely be needed on Route 75.
- Consider requiring bicycle parking for all new developments through Town Zoning regulations.
- Connect new bike facilities to future multi-use trails.
- Encourage stakeholders to make adding bicycle facilities on Route 75 a high priority.
- Ensure traffic signals can be adequately actuated by bicycle users when riding on the road or in future bike facilities.

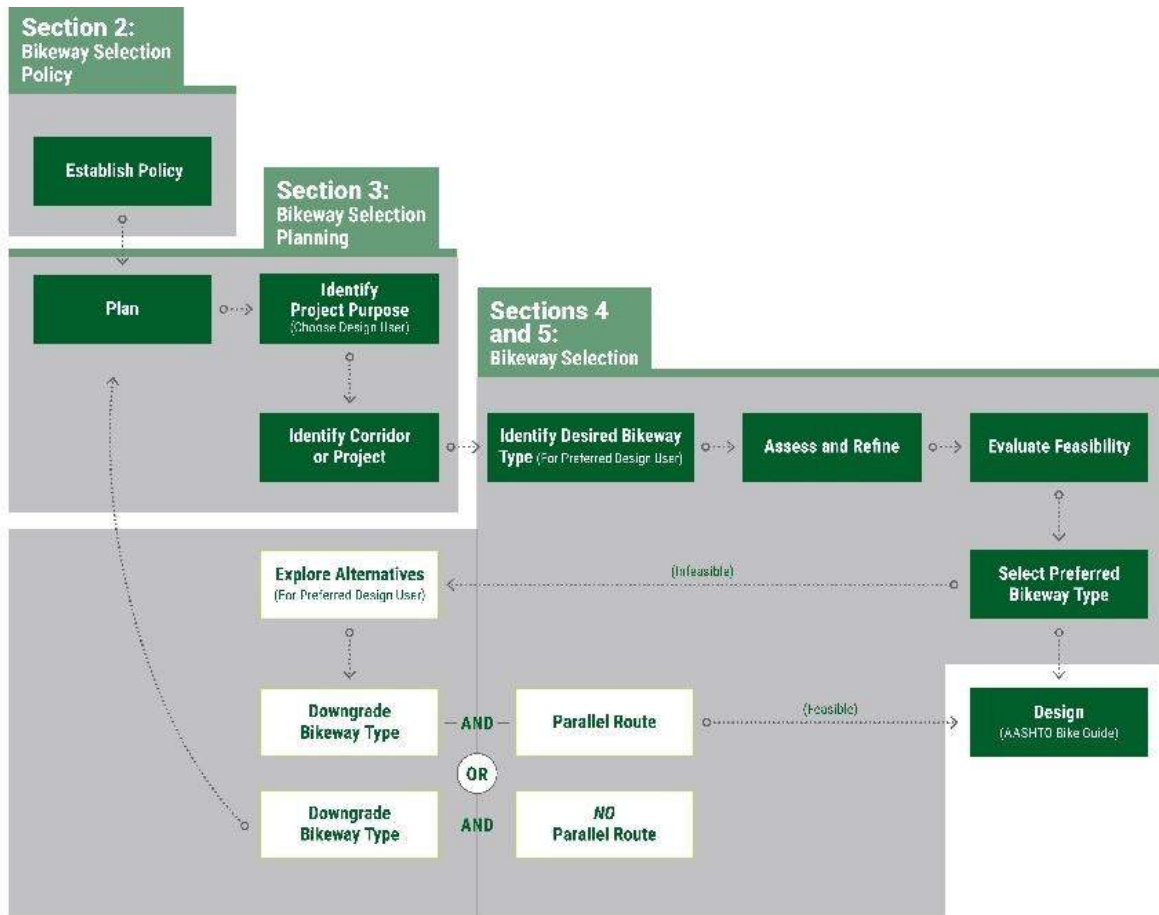


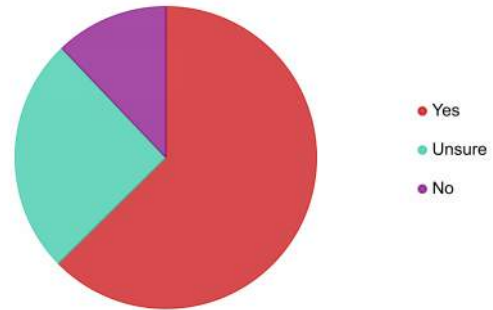
FIGURE 4-3
FHWA Bikeway Selection Process & Guide Outline

4.3 Trails

There is potential to better connect the study area with multi-use trails and paths to provide better transportation options to the area and recreational activities for local residents.

The following public survey questions include responses relevant to trails:

- 62% of responders support a shared path connecting the study area to points east, such as Town Center and the new train station.
- Several comments in the survey support better access to existing trails and the need for more trails, parks, and open space areas.



Would you like to see a shared pedestrian-bicycle path connecting the Study Area to points east, such as local parking, Town Center, and/or the new train station?

The following opportunities for future trail development will be considered:

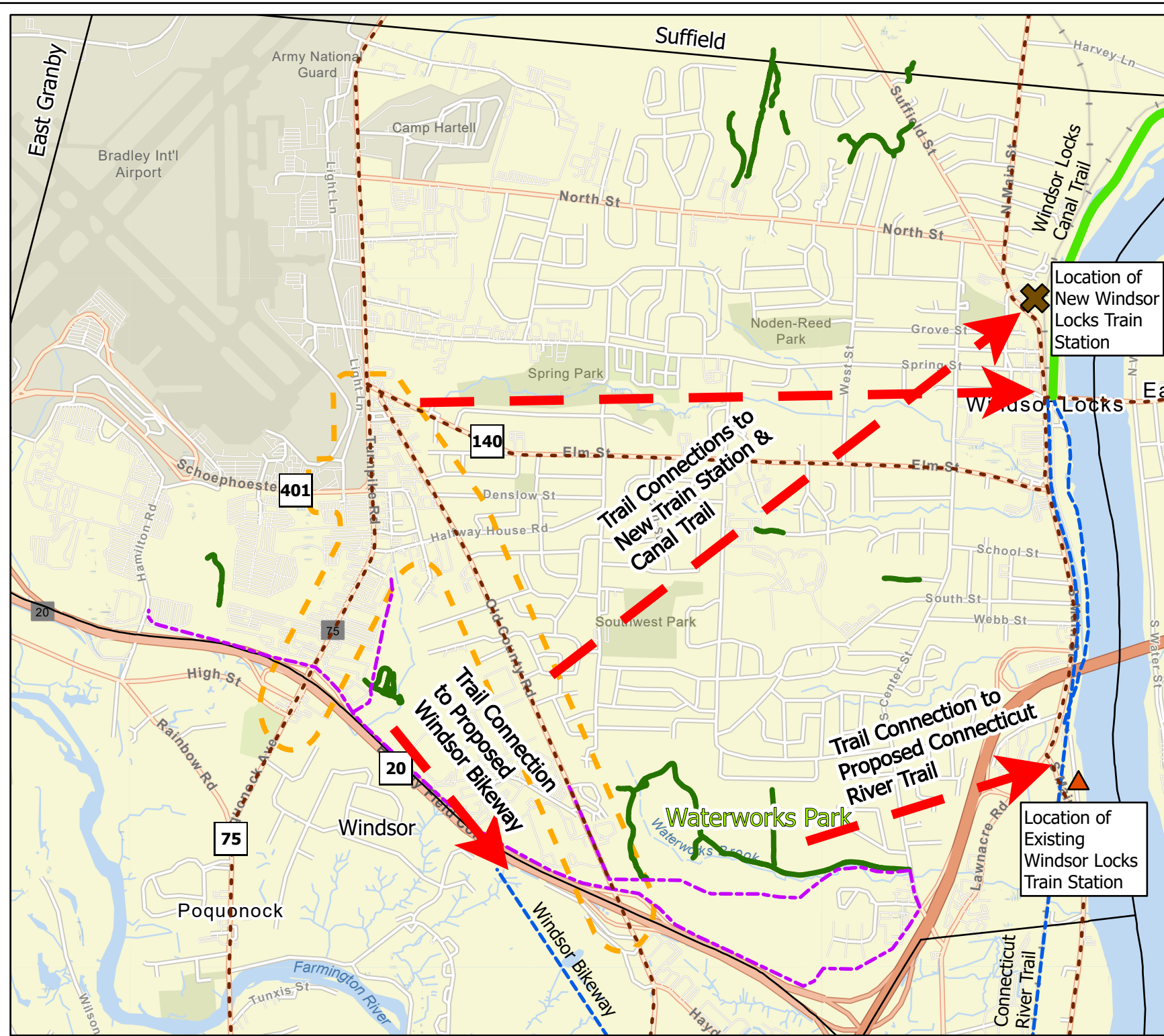
- Potential for trail alignment within the Route 20 right-of-way to connect from the study area to the Waterworks Park trails.
- Connect future trails to existing bicycle, pedestrian, and trail facilities including existing Town park trails and the Windsor Locks Canal Trail.
- Potential trail alignments or spurs should connect to conceptual future trails such as the Windsor Bikeway and Connecticut River Trail.
- Potential trails to connect to the Town Center and future Windsor Locks Train Station.



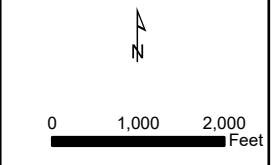
FIGURE 4-4

Existing Waterworks Park & Open Trail

Potential trail alignments and connections to existing and planned trails and points of interest are shown on Figure 4-5.



- LEGEND**
- Study Area
 - - - CRCOG Recommended Bike Routes
 - Town of Windsor Locks Trails
 - - - CRCOG RFP Potential Trails
 - - - CRCOG Regional Trails
 - Conceptual
 - Constructed



NOTES

ROUTE 20 TRANSPORTATION & LAND USE STUDY WINDSOR LOCKS, CONNECTICUT

POTENTIAL FUTURE LOCAL & REGIONAL TRAIL CONNECTIONS

FIGURE 4-5

4.4 Transit

Local and regional express transit service is currently provided by CTtransit via three distinct routes within the study area. Transit services provide residents access to employment, retail, and leisure. However, bus service is generally infrequent and many bus stops lack proper amenities or even sidewalks to safely support transit usage.

The results from the public survey include information relevant to transit concerns and user habits:

- 3% of responders sometimes travel through the area by bus.
- Lack of or infrequency of bus service is a concern for 10% of respondents.
- Approximately 23% of respondents would ride the bus more if there were expanded routes, more frequent routes/stops, or improved bus stop amenities.
- Multiple comments support enhancing transit through increasing service to adjacent towns and/ or improving amenities such as shelters or sidewalks.

Recent CTtransit bus route changes within the study area include modification of the Routes 30 and 34 and the creation of Route 24 to replace service previously provided by Routes 34 & 905. The most recent transit data shows that ridership decreased significantly during the COVID-19 pandemic but has since shown signs of returning to pre-pandemic ridership numbers.

The Windsor Locks Train station is proposed to be relocated from its current location on South Main Street to Main Street in the Windsor Locks Town Center. The future station will be located approximately one mile north of the current train station and will be close to a number of local businesses and commercial areas downtown. A loading/unloading area for connecting bus service to Bradley International Airport is included, as well as a multiuse path to connect to the Windsor Locks Canal Trail which is just across the train tracks and canal. The new station is expected to be completed in 2024. As noted in the existing conditions assessment, CTtransit is considering expanding service on Bus Route 24 to include weekend service and to connect with all trains in both directions with the new train station.



FIGURE 4-6

Future Windsor Locks Train Station

The following opportunities to improve transit in the study area will be considered:

- Support the recent changes to the transit network implemented by CTtransit by continuing to monitor ridership levels and seek opportunities to improve services.
- Install more transit amenities including shelters, benches, trash cans, transit information at transit stops within the study area.
- Install sidewalks at bus stops where none currently exist along Old County Road, Schoephoester Road, and Halfway House Road.
- Ensure transit connection with regular service to the future new train station.
- Transit-oriented development should be considered as part of future development opportunities within the study area.

In addition to the improvements within the study area, the CRCOG Connect 2045 MTP also recommends moving transit faster in the region and extending the CTfastrak service to Bradley International Airport. This will allow more people to get to the study area quickly via transit.

Section 5

Conclusions & Next Steps

This technical memorandum has reviewed future conditions within the study area. The traffic operations analysis included an assessment of traffic operations in the 2050 Future year both with and without a potential development scenario and without any changes to roadway geometry and intersection control. In addition, pedestrian, bicycle, transit concerns in the future were reviewed. The future concerns and deficiencies noted in this memorandum will serve as the basis for future recommendations.

Additional feedback will be gathered during the upcoming Technical Advisor Committee and Public Information Meetings to be held in late May and June, respectively. Feedback solicited during these meetings as well as the previous work completed will set the stage for the Analysis of Alternatives phase of the Study. During this phase, conceptual improvements will be developed to address existing and future concerns and deficiencies. Following the Analysis of Alternatives, the Study will culminate with a Transportation Improvement and Development Management Plan that will summarize the work completed during the study and prioritize the recommended improvements.

APPENDIX A
Capacity Analysis Worksheets

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↗	↕		↗	↕	↗
Traffic Volume (vph)	70	0	20	0	0	0	70	240	0	0	360	300
Future Volume (vph)	70	0	20	0	0	0	70	240	0	0	360	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		0	70		0	80		300
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			45			55		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t		0.966										0.850
Fl _t Protected		0.964					0.950					
Satd. Flow (prot)	0	1878	0	0	0	0	1662	3438	0	1717	3292	1346
Fl _t Permitted		0.964					0.509					
Satd. Flow (perm)	0	1878	0	0	0	0	890	3438	0	1717	3292	1346
Right Turn on Red			Yes				Yes		Yes			Yes
Satd. Flow (RTOR)		33										319
Link Speed (mph)		35			25			35				35
Link Distance (ft)		394			120			257				652
Travel Time (s)		7.7			3.3			5.0				12.7
Peak Hour Factor	0.71	0.92	0.60	0.92	0.92	0.92	0.88	0.85	0.92	0.92	0.87	0.94
Heavy Vehicles (%)	9%	7%	0%	7%	7%	7%	5%	5%	7%	7%	6%	16%
Adj. Flow (vph)	99	0	33	0	0	0	80	282	0	0	414	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	0	0	80	282	0	0	414	319
Turn Type	Split	NA					Perm	NA		Perm	NA	Perm
Protected Phases	4	4						2				2
Permitted Phases							2			2		2
Detector Phase	4	4					2	2		2	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0		15.0	15.0	15.0
Minimum Split (s)	24.2	24.2					20.4	20.4		20.4	20.4	20.4
Total Split (s)	25.0	25.0					45.0	45.0		45.0	45.0	45.0
Total Split (%)	35.7%	35.7%					64.3%	64.3%		64.3%	64.3%	64.3%
Yellow Time (s)	3.0	3.0					4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0					0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.2					5.1	5.1		5.1	5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)		10.2					52.9	52.9		52.9	52.9	52.9
Actuated g/C Ratio		0.15					0.76	0.76		0.76	0.76	0.76
v/c Ratio		0.44					0.12	0.11		0.17	0.29	
Control Delay		23.8					5.1	3.9		3.0	1.1	
Queue Delay		0.0					0.0	0.0		0.0	0.0	
Total Delay		23.8					5.1	3.9		3.0	1.1	
LOS		C					A	A		A	A	
Approach Delay		23.8						4.2		2.2		
Approach LOS		C						A		A		

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		40					8	14			19	0
Queue Length 95th (ft)		73					33	39			35	9
Internal Link Dist (ft)		314			40			177			572	
Turn Bay Length (ft)							70					300
Base Capacity (vph)		554					673	2599			2489	1095
Starvation Cap Reductn		0					0	0			0	0
Spillback Cap Reductn		0					0	0			0	0
Storage Cap Reductn		0					0	0			0	0
Reduced v/c Ratio		0.24					0.12	0.11			0.17	0.29

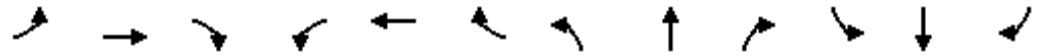
Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	5.1
Intersection LOS:	A
Intersection Capacity Utilization:	43.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 101: Route 75 & Route 20 EB Ramps/Private Driveway

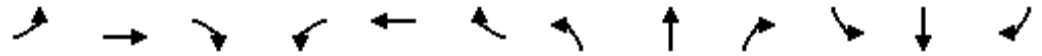


102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↖	↗	↖	↗			↗	↖
Traffic Volume (vph)	0	0	0	40	10	480	40	280	0	0	620	100
Future Volume (vph)	0	0	0	40	10	480	40	280	0	0	620	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	11	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		190	75		0	0		90
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t						0.850						0.850
Fl _t Protected					0.972		0.950					
Satd. Flow (prot)	0	0	0	0	1662	1468	1662	3406	0	0	3144	1382
Fl _t Permitted					0.972		0.401					
Satd. Flow (perm)	0	0	0	0	1662	1468	701	3406	0	0	3144	1382
Right Turn on Red				Yes			Yes		Yes			Yes
Satd. Flow (RTOR)						482						120
Link Speed (mph)		30			30			35				35
Link Distance (ft)		591			524			652				2293
Travel Time (s)		13.4			11.9			12.7				44.7
Peak Hour Factor	0.92	0.92	0.92	0.75	0.25	0.89	0.84	0.78	0.92	0.92	0.94	0.83
Heavy Vehicles (%)	7%	7%	7%	13%	0%	10%	5%	6%	7%	7%	11%	13%
Adj. Flow (vph)	0	0	0	53	40	539	48	359	0	0	660	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	93	539	48	359	0	0	660	120
Turn Type				Split	NA	Prot	Perm	NA			NA	Perm
Protected Phases				4	4	4		2			2	
Permitted Phases							2					2
Detector Phase				4	4	4	2	2			2	2
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0	15.0	15.0			15.0	15.0
Minimum Split (s)				12.1	12.1	12.1	20.4	20.4			20.4	20.4
Total Split (s)				25.0	25.0	25.0	45.0	45.0			45.0	45.0
Total Split (%)				35.7%	35.7%	35.7%	64.3%	64.3%			64.3%	64.3%
Yellow Time (s)				3.0	3.0	3.0	4.4	4.4			4.4	4.4
All-Red Time (s)				2.1	2.1	2.1	1.0	1.0			1.0	1.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.1	5.1	5.4	5.4			5.4	5.4
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	C-Max	C-Max			C-Max	C-Max
Act Effct Green (s)					11.7	11.7	47.8	47.8			47.8	47.8
Actuated g/C Ratio					0.17	0.17	0.68	0.68			0.68	0.68
v/c Ratio					0.34	0.83	0.10	0.15			0.31	0.12
Control Delay					27.0	16.5	5.0	4.1			5.8	1.8
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay					27.0	16.5	5.0	4.1			5.8	1.8
LOS					C	B	A	A			A	A
Approach Delay					18.0			4.2			5.2	
Approach LOS					B			A			A	

102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					38	23	3	13			40	0
Queue Length 95th (ft)					17	107	18	39			106	16
Internal Link Dist (ft)		511			444			572			2213	
Turn Bay Length (ft)						190	75					90
Base Capacity (vph)					472	762	478	2327			2148	982
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.20	0.71	0.10	0.15			0.31	0.12

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	1 (1%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	9.4
Intersection LOS:	A
Intersection Capacity Utilization	51.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp



103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Volume (vph)	0	0	10	60	0	20	0	680	70	30	490	0
Future Volume (vph)	0	0	10	60	0	20	0	680	70	30	490	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	415		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Fr _t		0.865			0.964			0.983				
Fl _t Protected					0.965					0.950		
Satd. Flow (prot)	0	1808	0	0	1959	0	0	3293	0	1597	3282	0
Fl _t Permitted					0.758					0.317		
Satd. Flow (perm)	0	1808	0	0	1539	0	0	3293	0	533	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		293			102			22				
Link Speed (mph)		25			30			35				35
Link Distance (ft)		250			258			2293				1019
Travel Time (s)		6.8			5.9			44.7				19.9
Peak Hour Factor	0.92	0.92	0.25	0.72	0.92	0.67	0.92	0.88	0.70	0.75	0.86	0.92
Heavy Vehicles (%)	7%	7%	0%	2%	7%	3%	7%	8%	6%	13%	10%	0%
Adj. Flow (vph)	0	0	40	83	0	30	0	773	100	40	570	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	113	0	0	873	0	40	570	0
Turn Type		NA		Perm	NA			NA		D.P+P	NA	
Protected Phases		4			4			2		1	12	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4					1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		15.0	15.0		5.0		
Minimum Split (s)	9.5	9.5		9.5	9.5		21.5	21.5		9.0		
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0		9.0		
Total Split (%)	38.8%	38.8%		38.8%	38.8%		50.0%	50.0%		11.3%		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.4	4.4		3.0		
All-Red Time (s)	1.5	1.5		1.5	1.5		2.1	2.1		1.0		
Lost Time Adjust (s)		0.0			0.0			0.0		0.0		
Total Lost Time (s)		4.5			4.5			6.5		4.0		
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None		
Act Effct Green (s)		6.1			6.1			60.7		64.9	68.1	
Actuated g/C Ratio		0.08			0.08			0.76		0.81	0.85	
v/c Ratio		0.10			0.54			0.35		0.08	0.20	
Control Delay		0.5			19.3			5.1		1.0	1.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		0.5			19.3			5.1		1.0	1.2	
LOS		A			B			A		A	A	
Approach Delay		0.5			19.3			5.1			1.2	
Approach LOS		A			B			A			A	

103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		0			5			80		1	3	
Queue Length 95th (ft)		0			51			127		1	6	
Internal Link Dist (ft)		170			178			2213			939	
Turn Bay Length (ft)										415		
Base Capacity (vph)		794			578			2505		498	2795	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.05			0.20			0.35		0.08	0.20	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	57 (71%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	4.5
Intersection LOS:	A
Intersection Capacity Utilization	43.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 103: Route 75 & LAZFly Driveway/Halfway House Road



104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	10	90	10	10	10	210	480	10	10	410	110
Future Volume (vph)	90	10	90	10	10	10	210	480	10	10	410	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	12	12	12	12	12	12	12
Storage Length (ft)	0		220	200		150	450		0	0		400
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.909			0.993				0.850
Flt Protected	0.950	0.966		0.950			0.950			0.950		
Satd. Flow (prot)	1417	1505	1311	1306	1444	0	1671	3216	0	1530	3223	1568
Flt Permitted	0.950	0.966		0.950			0.950			0.950		
Satd. Flow (perm)	1417	1505	1311	1306	1444	0	1671	3216	0	1530	3223	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130		20			6				251
Link Speed (mph)		35			25			35				35
Link Distance (ft)		466			418			1019				1839
Travel Time (s)		9.1			11.4			19.9				35.8
Peak Hour Factor	0.78	0.50	0.69	0.50	0.75	0.50	0.78	0.95	0.44	0.31	0.84	0.93
Heavy Vehicles (%)	17%	0%	15%	29%	11%	12%	8%	12%	0%	18%	12%	3%
Adj. Flow (vph)	115	20	130	20	13	20	269	505	23	32	488	118
Shared Lane Traffic (%)	42%											
Lane Group Flow (vph)	67	68	130	20	33	0	269	528	0	32	488	118
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA		Prot	NA	Free
Protected Phases	8	8	18	4	4		1	6		5	2	
Permitted Phases												Free
Detector Phase	8	8	18	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	12.7	12.7		9.8	9.8		10.1	20.8		9.0	20.6	
Total Split (s)	22.0	22.0		10.0	10.0		18.0	30.0		18.0	30.0	
Total Split (%)	27.5%	27.5%		12.5%	12.5%		22.5%	37.5%		22.5%	37.5%	
Yellow Time (s)	3.0	3.0		3.3	3.3		3.0	4.4		3.0	4.4	
All-Red Time (s)	2.7	2.7		1.5	1.5		2.1	1.4		1.0	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		4.8	4.8		5.1	5.8		4.0	5.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	8.9	8.9	30.7	6.2	6.2		18.6	51.6		6.2	31.5	80.0
Actuated g/C Ratio	0.11	0.11	0.38	0.08	0.08		0.23	0.64		0.08	0.39	1.00
v/c Ratio	0.43	0.41	0.22	0.20	0.25		0.69	0.25		0.27	0.38	0.08
Control Delay	40.9	39.8	3.7	38.4	24.9		34.3	10.9		36.7	26.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.9	39.8	3.7	38.4	24.9		34.3	10.9		36.7	26.8	0.1
LOS	D	D	A	D	C		C	B		D	C	A
Approach Delay		22.4			30.0			18.8			22.4	
Approach LOS		C			C			B			C	

104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future Conditions - Optimized Weekday AM Peak

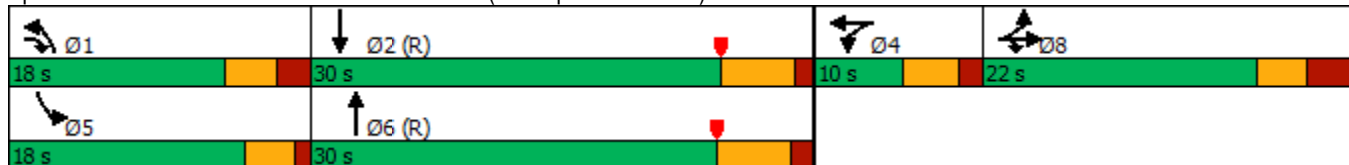


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	33	33	0	10	6		121	68		16	116	0
Queue Length 95th (ft)	60	37	13	16	25		176	174		14	154	0
Internal Link Dist (ft)		386			338			939			1759	
Turn Bay Length (ft)			220	200			450					400
Base Capacity (vph)	288	306	580	102	132		389	2074		267	1320	1568
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.23	0.22	0.22	0.20	0.25		0.69	0.25		0.12	0.37	0.08

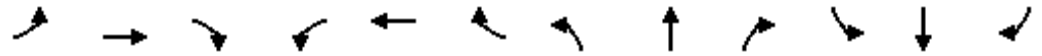
Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	12 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	21.0
Intersection LOS:	C
Intersection Capacity Utilization	47.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 104: Route 75 & Route 401 (Schoephoester Road)/National Road

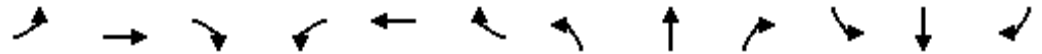


105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	170	20	10	300	20	20	0	10	10	0	70
Future Volume (vph)	60	170	20	10	300	20	20	0	10	10	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	15	12	12	14	14
Storage Length (ft)	170		0	120		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	40			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.988			0.939				0.850
Flt Protected	0.950			0.950				0.973			0.950	
Satd. Flow (prot)	1805	3460	0	1631	3347	0	0	1660	0	0	1735	1706
Flt Permitted	0.531			0.584				0.821			0.728	
Satd. Flow (perm)	1009	3460	0	1002	3347	0	0	1401	0	0	1329	1706
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			15			92				106
Link Speed (mph)		35			35			25				30
Link Distance (ft)		624			466			420				346
Travel Time (s)		12.2			9.1			11.5				7.9
Peak Hour Factor	0.70	0.70	0.69	0.50	0.88	0.67	0.83	0.92	0.50	0.63	0.92	0.66
Heavy Vehicles (%)	0%	3%	0%	7%	3%	3%	0%	100%	33%	11%	7%	1%
Adj. Flow (vph)	86	243	29	20	341	30	24	0	20	16	0	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	272	0	20	371	0	0	44	0	0	16	106
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4				4
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		5	2		4	4		4		4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	9.0	21.6		9.0	21.6		12.1	12.1		12.1	12.1	12.1
Total Split (s)	9.0	53.9		9.0	53.9		27.1	27.1		27.1	27.1	27.1
Total Split (%)	10.0%	59.9%		10.0%	59.9%		30.1%	30.1%		30.1%	30.1%	30.1%
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.2		1.0	2.2		2.1	2.1		2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.6		4.0	6.6			5.1			5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	72.7	66.8		72.5	66.8			7.5			7.5	7.5
Actuated g/C Ratio	0.81	0.74		0.81	0.74			0.08			0.08	0.08
v/c Ratio	0.10	0.11		0.02	0.15			0.22			0.15	0.45
Control Delay	2.0	4.5		1.8	4.8			3.5			41.0	14.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	2.0	4.5		1.8	4.8			3.5			41.0	14.4
LOS	A	A		A	A			A			D	B
Approach Delay		3.9			4.6			3.5			17.9	
Approach LOS		A			A			A			B	

105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	6	22		1	32			0			9	0
Queue Length 95th (ft)	12	29		3	53			5			28	19
Internal Link Dist (ft)		544			386			340			266	
Turn Bay Length (ft)	170			120								200
Base Capacity (vph)	864	2572		845	2487			411			324	497
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.10	0.11		0.02	0.15			0.11			0.05	0.21

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	6.1
Intersection LOS:	A
Intersection Capacity Utilization	38.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)



106: Route 75 & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	250	480	70	260	440
Future Volume (vph)	100	250	480	70	260	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	10	11
Storage Length (ft)	0	400		0	675	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				35	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Fr _t		0.850	0.980			
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1711	1459	3243	0	1589	3202
Fl _t Permitted	0.950				0.394	
Satd. Flow (perm)	1711	1459	3243	0	659	3202
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		190	25			
Link Speed (mph)	40		35			35
Link Distance (ft)	300		1839			990
Travel Time (s)	5.1		35.8			19.3
Peak Hour Factor	0.80	0.87	0.87	0.84	0.94	0.89
Heavy Vehicles (%)	2%	7%	10%	3%	6%	9%
Adj. Flow (vph)	125	287	552	83	277	494
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	287	635	0	277	494
Turn Type	Prot	pt+ov	NA		D.P+P	NA
Protected Phases	4	1 4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4			1	
Switch Phase						
Minimum Initial (s)	9.0		15.0		5.0	
Minimum Split (s)	13.0		20.9		9.0	
Total Split (s)	25.0		39.0		16.0	
Total Split (%)	31.3%		48.8%		20.0%	
Yellow Time (s)	3.0		4.4		3.0	
All-Red Time (s)	1.0		1.5		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		5.9		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	
Act Effct Green (s)	12.1	24.4	45.7		55.9	59.9
Actuated g/C Ratio	0.15	0.30	0.57		0.70	0.75
v/c Ratio	0.48	0.50	0.34		0.50	0.21
Control Delay	36.7	10.1	7.1		7.0	3.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.7	10.1	7.1		7.0	3.6
LOS	D	B	A		A	A
Approach Delay	18.2		7.1			4.8
Approach LOS	B		A			A

106: Route 75 & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	59	37	120		31	28
Queue Length 95th (ft)	88	74	45		77	59
Internal Link Dist (ft)	220		1759			910
Turn Bay Length (ft)		400			675	
Base Capacity (vph)	449	588	1863		625	2397
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.28	0.49	0.34		0.44	0.21

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	43 (54%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay:	8.6
Intersection LOS:	A
Intersection Capacity Utilization	49.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 106: Route 75 & Route 140 (Elm Street)



201: Old County Road & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday AM Peak

Intersection						
Int Delay, s/veh	6.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↕↕	↕	↕
Traffic Vol, veh/h	110	200	60	140	190	40
Future Vol, veh/h	110	200	60	140	190	40
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	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	92	66	74	87	58
Heavy Vehicles, %	10	2	3	3	3	7
Mvmt Flow	117	217	91	189	218	69

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	334	0	503 226
Stage 1	-	-	-	-	226 -
Stage 2	-	-	-	-	277 -
Critical Hdwy	-	-	4.145	-	6.645 6.305
Critical Hdwy Stg 1	-	-	-	-	5.445 -
Critical Hdwy Stg 2	-	-	-	-	5.845 -
Follow-up Hdwy	-	-2.2285	-	-3.5285	3.3665
Pot Cap-1 Maneuver	-	-	1217	-	511 799
Stage 1	-	-	-	-	808 -
Stage 2	-	-	-	-	743 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1217	-	468 799
Mov Cap-2 Maneuver	-	-	-	-	468 -
Stage 1	-	-	-	-	808 -
Stage 2	-	-	-	-	681 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	799	-	-	1217	-
HCM Lane V/C Ratio	0.467	0.086	-	-	0.075	-
HCM Control Delay (s)	19.2	9.9	-	-	8.2	0.2
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %tile Q(veh)	2.4	0.3	-	-	0.2	-

202: Old County Road & Halfway House Road
 2050 Future Conditions - Optimized Weekday AM Peak

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	10	100	10	10	10	90	220	0	10	250	60
Future Vol, veh/h	40	10	100	10	10	10	90	220	0	10	250	60
Peak Hour Factor	0.62	0.25	0.79	0.50	0.58	0.25	0.74	0.86	0.92	0.25	0.84	0.86
Heavy Vehicles, %	5	0	6	9	11	0	3	3	50	0	2	3
Mvmt Flow	65	40	127	20	17	40	122	256	0	40	298	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.5	10.8	16.4	16.4
HCM LOS	B	B	C	C

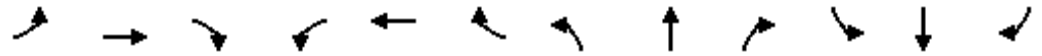
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	27%	33%	3%
Vol Thru, %	71%	7%	33%	78%
Vol Right, %	0%	67%	33%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	310	150	30	320
LT Vol	90	40	10	10
Through Vol	220	10	10	250
RT Vol	0	100	10	60
Lane Flow Rate	377	231	77	407
Geometry Grp	1	1	1	1
Degree of Util (X)	0.587	0.378	0.143	0.606
Departure Headway (Hd)	5.595	5.882	6.653	5.355
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	608	542	668
Service Time	3.668	3.968	4.653	3.429
HCM Lane V/C Ratio	0.587	0.38	0.142	0.609
HCM Control Delay	16.4	12.5	10.8	16.4
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	3.8	1.8	0.5	4.1

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕↕		↕	↕↕	↕
Traffic Volume (vph)	130	0	40	0	0	0	70	470	0	0	420	380
Future Volume (vph)	130	0	40	0	0	0	70	470	0	0	420	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		0	70		0	80		300
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			45			55		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.968										0.850
Flt Protected		0.963					0.950					
Satd. Flow (prot)	0	1948	0	0	0	0	1694	3505	0	1717	3421	1473
Flt Permitted		0.963					0.484					
Satd. Flow (perm)	0	1948	0	0	0	0	863	3505	0	1717	3421	1473
Right Turn on Red			Yes				Yes		Yes			Yes
Satd. Flow (RTOR)		33										514
Link Speed (mph)		35			25			35				35
Link Distance (ft)		394			120			257				652
Travel Time (s)		7.7			3.3			5.0				12.7
Peak Hour Factor	0.80	0.92	0.78	0.92	0.92	0.92	0.82	0.96	0.92	0.92	0.90	0.74
Heavy Vehicles (%)	4%	0%	0%	7%	7%	7%	3%	3%	7%	7%	2%	6%
Adj. Flow (vph)	163	0	51	0	0	0	85	490	0	0	467	514
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	0	0	85	490	0	0	467	514
Turn Type	Split	NA					Perm	NA		Perm	NA	Perm
Protected Phases	4	4						2				2
Permitted Phases							2			2		2
Detector Phase	4	4					2	2		2	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0		15.0	15.0	15.0
Minimum Split (s)	24.2	24.2					20.4	20.4		20.4	20.4	20.4
Total Split (s)	25.0	25.0					45.0	45.0		45.0	45.0	45.0
Total Split (%)	35.7%	35.7%					64.3%	64.3%		64.3%	64.3%	64.3%
Yellow Time (s)	3.0	3.0					4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0					0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.2					5.1	5.1		5.1	5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)		11.3					48.4	48.4		48.4	48.4	48.4
Actuated g/C Ratio		0.16					0.69	0.69		0.69	0.69	0.69
v/c Ratio		0.63					0.14	0.20		0.20	0.44	0.44
Control Delay		30.8					5.3	4.6		6.0	6.3	6.3
Queue Delay		0.0					0.0	0.0		0.0	0.0	0.0
Total Delay		30.8					5.3	4.6		6.0	6.3	6.3
LOS		C					A	A		A	A	A
Approach Delay		30.8						4.7			6.1	6.1
Approach LOS		C						A			A	A

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		73					10	32			28	24
Queue Length 95th (ft)		126					28	62			74	64
Internal Link Dist (ft)		314			40			177			572	
Turn Bay Length (ft)							70					300
Base Capacity (vph)		574					596	2423			2365	1176
Starvation Cap Reductn		0					0	0			0	0
Spillback Cap Reductn		0					0	0			0	0
Storage Cap Reductn		0					0	0			0	0
Reduced v/c Ratio		0.37					0.14	0.20			0.20	0.44

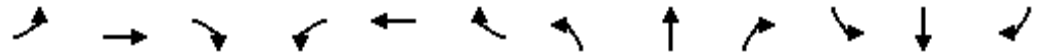
Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	8.6
Intersection LOS:	A
Intersection Capacity Utilization:	48.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 101: Route 75 & Route 20 EB Ramps/Private Driveway



102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗	↖	↕	↕		↕	↗
Traffic Volume (vph)	0	0	0	60	0	650	30	560	0	0	740	120
Future Volume (vph)	0	0	0	60	0	650	30	560	0	0	740	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	11	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		190	75		0	0		90
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t						0.850						0.850
Fl _t Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1694	1509	1711	3505	0	0	3355	1487
Fl _t Permitted					0.950		0.276					
Satd. Flow (perm)	0	0	0	0	1694	1509	497	3505	0	0	3355	1487
Right Turn on Red				Yes		Yes			Yes			Yes
Satd. Flow (RTOR)						133						162
Link Speed (mph)		30			30			35				35
Link Distance (ft)		591			524			652				2293
Travel Time (s)		13.4			11.9			12.7				44.7
Peak Hour Factor	0.92	0.92	0.92	0.76	0.92	0.95	0.84	0.96	0.92	0.92	0.96	0.68
Heavy Vehicles (%)	7%	7%	7%	3%	0%	7%	2%	3%	7%	7%	4%	5%
Adj. Flow (vph)	0	0	0	79	0	684	36	583	0	0	771	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	79	684	36	583	0	0	771	176
Turn Type				Split	NA	Prot	Perm	NA			NA	Perm
Protected Phases				4	4	4		2			2	
Permitted Phases							2					2
Detector Phase				4	4	4	2	2			2	2
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0	15.0	15.0			15.0	15.0
Minimum Split (s)				12.1	12.1	12.1	20.4	20.4			20.4	20.4
Total Split (s)				39.0	39.0	39.0	31.0	31.0			31.0	31.0
Total Split (%)				55.7%	55.7%	55.7%	44.3%	44.3%			44.3%	44.3%
Yellow Time (s)				3.0	3.0	3.0	4.4	4.4			4.4	4.4
All-Red Time (s)				2.1	2.1	2.1	1.0	1.0			1.0	1.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.1	5.1	5.4	5.4			5.4	5.4
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	C-Max	C-Max			C-Max	C-Max
Act Effct Green (s)					30.9	30.9	28.6	28.6			28.6	28.6
Actuated g/C Ratio					0.44	0.44	0.41	0.41			0.41	0.41
v/c Ratio					0.11	0.92	0.18	0.41			0.56	0.25
Control Delay					10.5	34.6	16.7	15.9			18.8	4.6
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay					10.5	34.6	16.7	15.9			18.8	4.6
LOS					B	C	B	B			B	A
Approach Delay					32.1			15.9			16.2	
Approach LOS					C			B			B	

102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future Conditions - Optimized Weekday PM peak

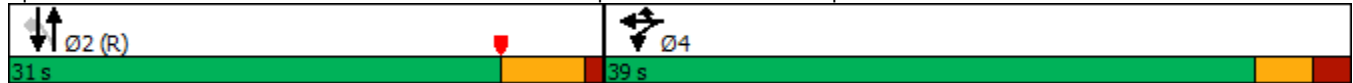


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					17	201	12	110			140	4
Queue Length 95th (ft)					39	#423	34	157			196	18
Internal Link Dist (ft)		511			444			572			2213	
Turn Bay Length (ft)						190	75					90
Base Capacity (vph)					820	799	202	1429			1368	702
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.10	0.86	0.18	0.41			0.56	0.25

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 21.3 Intersection LOS: C
 Intersection Capacity Utilization 64.5% ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp



103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Volume (vph)	10	10	10	100	10	30	10	890	130	30	650	10
Future Volume (vph)	10	10	10	100	10	30	10	890	130	30	650	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	415		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Fr _t		0.951			0.973			0.980			0.996	
Fl _t Protected		0.984			0.971			0.998		0.950		
Satd. Flow (prot)	0	1956	0	0	1986	0	0	3354	0	1752	3446	0
Fl _t Permitted		0.871			0.803			0.899		0.200		
Satd. Flow (perm)	0	1731	0	0	1643	0	0	3021	0	369	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			17			26			5	
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		250			258			2293			1019	
Travel Time (s)		6.8			5.9			44.7			19.9	
Peak Hour Factor	0.38	0.38	0.33	0.80	0.25	0.73	0.25	0.93	0.86	0.91	0.86	0.50
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	0%	6%	2%	3%	4%	17%
Adj. Flow (vph)	26	26	30	125	40	41	40	957	151	33	756	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	206	0	0	1148	0	33	776	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		4			4			2		1	12	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4					1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		15.0	15.0		5.0		
Minimum Split (s)	9.5	9.5		9.5	9.5		21.5	21.5		9.0		
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0		9.0		
Total Split (%)	38.8%	38.8%		38.8%	38.8%		50.0%	50.0%		11.3%		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.4	4.4		3.0		
All-Red Time (s)	1.5	1.5		1.5	1.5		2.1	2.1		1.0		
Lost Time Adjust (s)		0.0			0.0			0.0		0.0		
Total Lost Time (s)		4.5			4.5			6.5		4.0		
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None		
Act Effct Green (s)		13.4			13.4			50.2		55.7	58.1	
Actuated g/C Ratio		0.17			0.17			0.63		0.70	0.73	
v/c Ratio		0.26			0.71			0.60		0.10	0.31	
Control Delay		20.4			41.7			12.4		2.6	1.8	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		20.4			41.7			12.4		2.6	1.8	
LOS		C			D			B		A	A	
Approach Delay		20.4			41.7			12.4			1.8	
Approach LOS		C			D			B			A	

103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		23			90			181		1	14	
Queue Length 95th (ft)		15			29			302		m4	24	
Internal Link Dist (ft)		170			178			2213			939	
Turn Bay Length (ft)										415		
Base Capacity (vph)		593			555			1904		343	2503	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.14			0.37			0.60		0.10	0.31	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 57 (71%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 11.6
 Intersection LOS: B
 Intersection Capacity Utilization 59.6%
 ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: Route 75 & LAZFly Driveway/Halfway House Road



104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	20	200	10	20	20	310	590	20	10	500	150
Future Volume (vph)	250	20	200	10	20	20	310	590	20	10	500	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	12	12	12	12	12	12	12
Storage Length (ft)	0		220	200		150	450		0	0		400
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.932			0.994				0.850
Flt Protected	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (prot)	1609	1637	1409	1532	1653	0	1703	3328	0	1805	3438	1568
Flt Permitted	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (perm)	1609	1637	1409	1532	1653	0	1703	3328	0	1805	3438	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233		28			6				251
Link Speed (mph)		35			25			35				35
Link Distance (ft)		466			418			1019				1839
Travel Time (s)		9.1			11.4			19.9				35.8
Peak Hour Factor	0.86	0.69	0.78	0.88	0.58	0.71	0.88	0.96	0.75	0.50	0.89	0.74
Heavy Vehicles (%)	3%	0%	7%	10%	0%	0%	6%	8%	4%	0%	5%	3%
Adj. Flow (vph)	291	29	256	11	34	28	352	615	27	20	562	203
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	160	160	256	11	62	0	352	642	0	20	562	203
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA		Prot	NA	Free
Protected Phases	8	8	18	4	4		1	6		5	2	
Permitted Phases												Free
Detector Phase	8	8	18	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	12.7	12.7		9.8	9.8		10.1	20.8		9.0	20.6	
Total Split (s)	22.0	22.0		10.0	10.0		18.0	30.0		18.0	30.0	
Total Split (%)	27.5%	27.5%		12.5%	12.5%		22.5%	37.5%		22.5%	37.5%	
Yellow Time (s)	3.0	3.0		3.3	3.3		3.0	4.4		3.0	4.4	
All-Red Time (s)	2.7	2.7		1.5	1.5		2.1	1.4		1.0	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		4.8	4.8		5.1	5.8		4.0	5.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	12.1	12.1	41.1	5.9	5.9		23.3	43.6		5.5	19.5	80.0
Actuated g/C Ratio	0.15	0.15	0.51	0.07	0.07		0.29	0.54		0.07	0.24	1.00
v/c Ratio	0.66	0.65	0.31	0.10	0.42		0.71	0.35		0.16	0.67	0.13
Control Delay	44.3	43.5	3.7	36.5	31.7		32.3	10.0		35.0	37.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.3	43.5	3.7	36.5	31.7		32.3	10.0		35.0	37.7	0.2
LOS	D	D	A	D	C		C	B		C	D	A
Approach Delay		26.1			32.4			17.9			27.9	
Approach LOS		C			C			B			C	

104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future Conditions - Optimized Weekday PM peak

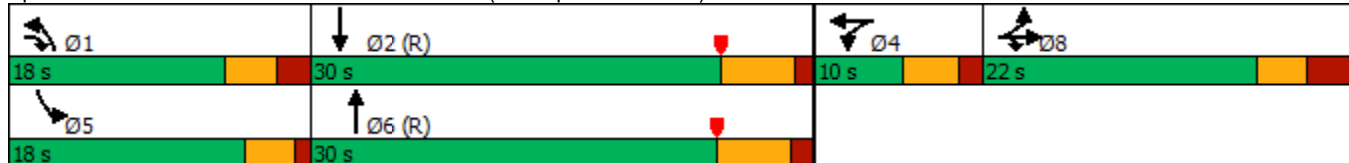


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	80	80	5	5	16		132	53		10	154	0
Queue Length 95th (ft)	129	100	31	21	29		#367	218		18	176	0
Internal Link Dist (ft)		386			338			939			1759	
Turn Bay Length (ft)			220	200			450					400
Base Capacity (vph)	327	333	823	114	149		495	1814		315	1048	1568
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.49	0.48	0.31	0.10	0.42		0.71	0.35		0.06	0.54	0.13

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 12 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 23.5
 Intersection LOS: C
 Intersection Capacity Utilization 58.8%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 104: Route 75 & Route 401 (Schoephoester Road)/National Road



105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	430	20	10	440	30	30	10	20	20	10	130
Future Volume (vph)	90	430	20	10	440	30	30	10	20	20	10	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	15	12	12	14	14
Storage Length (ft)	170		0	120		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	40			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.993			0.986			0.959				0.850
Fl _t Protected	0.950			0.950				0.982			0.969	
Satd. Flow (prot)	1787	3551	0	1745	3350	0	0	1968	0	0	1964	1723
Fl _t Permitted	0.450			0.440				0.850			0.688	
Satd. Flow (perm)	847	3551	0	808	3350	0	0	1704	0	0	1394	1723
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			19			23				186
Link Speed (mph)		35			35			25				30
Link Distance (ft)		624			466			420				346
Travel Time (s)		12.2			9.1			11.5				7.9
Peak Hour Factor	0.75	0.80	0.75	0.42	0.90	0.58	0.67	0.25	0.54	0.46	0.42	0.70
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	120	538	27	24	489	52	45	40	37	43	24	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	565	0	24	541	0	0	122	0	0	67	186
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		5	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	9.0	21.6		9.0	21.6		12.1	12.1		12.1	12.1	12.1
Total Split (s)	9.0	53.9		9.0	53.9		27.1	27.1		27.1	27.1	27.1
Total Split (%)	10.0%	59.9%		10.0%	59.9%		30.1%	30.1%		30.1%	30.1%	30.1%
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.2		1.0	2.2		2.1	2.1		2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.6		4.0	6.6			5.1			5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	66.7	58.0		66.4	58.0			10.2			10.2	10.2
Actuated g/C Ratio	0.74	0.64		0.74	0.64			0.11			0.11	0.11
v/c Ratio	0.17	0.25		0.04	0.25			0.58			0.43	0.52
Control Delay	3.3	7.5		2.9	7.4			40.9			44.7	11.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	3.3	7.5		2.9	7.4			40.9			44.7	11.0
LOS	A	A		A	A			D			D	B
Approach Delay		6.8			7.2			40.9			19.9	
Approach LOS		A			A			D			B	

105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	12	61		2	57			54			36	0
Queue Length 95th (ft)	24	91		4	101			18			32	22
Internal Link Dist (ft)		544			386			340			266	
Turn Bay Length (ft)	170			120								200
Base Capacity (vph)	692	2289		657	2164			433			340	561
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.17	0.25		0.04	0.25			0.28			0.20	0.33

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	11.5
Intersection LOS:	B
Intersection Capacity Utilization	41.3%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)



106: Route 75 & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↕↶		↶	↷↷
Traffic Volume (vph)	150	230	670	200	340	550
Future Volume (vph)	150	230	670	200	340	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	10	11
Storage Length (ft)	0	400		0	675	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				35	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Fr _t		0.850	0.960			
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1745	1473	3343	0	1620	3355
Fl _t Permitted	0.950				0.146	
Satd. Flow (perm)	1745	1473	3343	0	249	3355
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		89	78			
Link Speed (mph)	40		35			35
Link Distance (ft)	300		1839			990
Travel Time (s)	5.1		35.8			19.3
Peak Hour Factor	0.89	0.89	0.86	0.71	0.87	0.91
Heavy Vehicles (%)	0%	6%	5%	0%	4%	4%
Adj. Flow (vph)	169	258	779	282	391	604
Shared Lane Traffic (%)						
Lane Group Flow (vph)	169	258	1061	0	391	604
Turn Type	Prot	pt+ov	NA		D.P+P	NA
Protected Phases	4	1 4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4			1	
Switch Phase						
Minimum Initial (s)	9.0		15.0		5.0	
Minimum Split (s)	13.0		20.9		9.0	
Total Split (s)	25.0		39.0		16.0	
Total Split (%)	31.3%		48.8%		20.0%	
Yellow Time (s)	3.0		4.4		3.0	
All-Red Time (s)	1.0		1.5		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		5.9		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	
Act Effct Green (s)	13.4	37.0	33.1		54.6	58.6
Actuated g/C Ratio	0.17	0.46	0.41		0.68	0.73
v/c Ratio	0.58	0.35	0.74		0.77	0.25
Control Delay	38.1	10.4	22.4		29.3	4.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	38.1	10.4	22.4		29.3	4.2
LOS	D	B	C		C	A
Approach Delay	21.4		22.4			14.1
Approach LOS	C		C			B

106: Route 75 & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday PM peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	79	49	272		114	40
Queue Length 95th (ft)	127	99	125		#294	78
Internal Link Dist (ft)	220		1759			910
Turn Bay Length (ft)		400			675	
Base Capacity (vph)	458	723	1428		505	2457
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.37	0.36	0.74		0.77	0.25

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 43 (54%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 18.9
 Intersection LOS: B
 Intersection Capacity Utilization 63.6%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 106: Route 75 & Route 140 (Elm Street)



201: Old County Road & Route 140 (Elm Street)
 2050 Future Conditions - Optimized Weekday PM peak

Intersection						
Int Delay, s/veh	7.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔↔	↔	↔
Traffic Vol, veh/h	210	300	60	150	210	60
Future Vol, veh/h	210	300	60	150	210	60
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	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	91	66	72	89	84
Heavy Vehicles, %	2	2	0	5	2	0
Mvmt Flow	223	330	91	208	236	71

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	553	0	674 388
Stage 1	-	-	-	-	388 -
Stage 2	-	-	-	-	286 -
Critical Hdwy	-	-	4.1	-	6.63 6.2
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.83 -
Follow-up Hdwy	-	-	2.2	-	3.519 3.3
Pot Cap-1 Maneuver	-	-	1027	-	404 665
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	738 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1027	-	364 665
Mov Cap-2 Maneuver	-	-	-	-	364 -
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	664 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	26.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	364	665	-	-	1027	-
HCM Lane V/C Ratio	0.648	0.107	-	-	0.089	-
HCM Control Delay (s)	31.4	11.1	-	-	8.8	0.2
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	4.3	0.4	-	-	0.3	-

202: Old County Road & Halfway House Road
 2050 Future Conditions - Optimized Weekday PM peak



















Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	20	140	20	20	10	110	290	10	10	300	60
Future Vol, veh/h	80	20	140	20	20	10	110	290	10	10	300	60
Peak Hour Factor	0.86	0.37	0.86	0.69	0.43	0.50	0.88	0.97	0.50	0.50	0.87	0.64
Heavy Vehicles, %	0	4	2	0	0	0	3	1	0	0	2	1
Mvmt Flow	93	54	163	29	47	20	125	299	20	20	345	94
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	18.1	12.7	28.8	28.3
HCM LOS	C	B	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	33%	40%	3%
Vol Thru, %	71%	8%	40%	81%
Vol Right, %	2%	58%	20%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	410	240	50	370
LT Vol	110	80	20	10
Through Vol	290	20	20	300
RT Vol	10	140	10	60
Lane Flow Rate	444	310	95	459
Geometry Grp	1	1	1	1
Degree of Util (X)	0.783	0.568	0.204	0.785
Departure Headway (Hd)	6.35	6.604	7.703	6.162
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	542	469	582
Service Time	4.431	4.687	5.703	4.242
HCM Lane V/C Ratio	0.782	0.572	0.203	0.789
HCM Control Delay	28.8	18.1	12.7	28.3
HCM Lane LOS	D	C	B	D
HCM 95th-tile Q	7.3	3.5	0.8	7.4

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future with Development Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	0	20	0	0	0	70	243	0	0	363	338
Future Volume (vph)	83	0	20	0	0	0	70	243	0	0	363	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		0	70		0	80		300
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			45			55		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.970										0.850
Flt Protected		0.962					0.950					
Satd. Flow (prot)	0	1878	0	0	0	0	1662	3438	0	1717	3292	1346
Flt Permitted		0.962					0.508					
Satd. Flow (perm)	0	1878	0	0	0	0	889	3438	0	1717	3292	1346
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33										360
Link Speed (mph)		35			25			35				35
Link Distance (ft)		394			120			257				652
Travel Time (s)		7.7			3.3			5.0				12.7
Peak Hour Factor	0.71	0.92	0.60	0.92	0.92	0.92	0.88	0.85	0.92	0.92	0.87	0.94
Heavy Vehicles (%)	9%	7%	0%	7%	7%	7%	5%	5%	7%	7%	6%	16%
Adj. Flow (vph)	117	0	33	0	0	0	80	286	0	0	417	360
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	150	0	0	0	0	80	286	0	0	417	360
Turn Type	Split	NA					Perm	NA		Perm	NA	Perm
Protected Phases	4	4						2			2	
Permitted Phases							2			2		2
Detector Phase	4	4					2	2		2	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0		15.0	15.0	15.0
Minimum Split (s)	24.2	24.2					20.4	20.4		20.4	20.4	20.4
Total Split (s)	25.0	25.0					45.0	45.0		45.0	45.0	45.0
Total Split (%)	35.7%	35.7%					64.3%	64.3%		64.3%	64.3%	64.3%
Yellow Time (s)	3.0	3.0					4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0					0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.2					5.1	5.1		5.1	5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)		10.6					52.6	52.6		52.6	52.6	52.6
Actuated g/C Ratio		0.15					0.75	0.75		0.75	0.75	0.75
v/c Ratio		0.48					0.12	0.11		0.17	0.33	
Control Delay		25.0					5.3	4.1		3.1	1.3	
Queue Delay		0.0					0.0	0.0		0.0	0.0	
Total Delay		25.0					5.3	4.1		3.1	1.3	
LOS		C					A	A		A	A	
Approach Delay		25.0						4.3			2.3	
Approach LOS		C						A			A	

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future with Development Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		48					8	15			19	2
Queue Length 95th (ft)		83					33	40			35	15
Internal Link Dist (ft)		314			40			177			572	
Turn Bay Length (ft)							70					300
Base Capacity (vph)		554					667	2581			2472	1100
Starvation Cap Reductn		0					0	0			0	0
Spillback Cap Reductn		0					0	0			0	0
Storage Cap Reductn		0					0	0			0	0
Reduced v/c Ratio		0.27					0.12	0.11			0.17	0.33



















Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	5.5
Intersection LOS:	A
Intersection Capacity Utilization:	43.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 101: Route 75 & Route 20 EB Ramps/Private Driveway



102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future with Development Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	40	10	545	40	296	0	0	661	110
Future Volume (vph)	0	0	0	40	10	545	40	296	0	0	661	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	11	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		190	75		0	0		90
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t						0.850						0.850
Fl _t Protected					0.972		0.950					
Satd. Flow (prot)	0	0	0	0	1662	1468	1662	3406	0	0	3144	1382
Fl _t Permitted					0.972		0.374					
Satd. Flow (perm)	0	0	0	0	1662	1468	654	3406	0	0	3144	1382
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						460						133
Link Speed (mph)		30			30			35				35
Link Distance (ft)		591			524			652				2293
Travel Time (s)		13.4			11.9			12.7				44.7
Peak Hour Factor	0.92	0.92	0.92	0.75	0.25	0.89	0.84	0.78	0.92	0.92	0.94	0.83
Heavy Vehicles (%)	7%	7%	7%	13%	0%	10%	5%	6%	7%	7%	11%	13%
Adj. Flow (vph)	0	0	0	53	40	612	48	379	0	0	703	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	93	612	48	379	0	0	703	133
Turn Type				Split	NA	Prot	Perm	NA			NA	Perm
Protected Phases				4	4	4		2			2	
Permitted Phases							2					2
Detector Phase				4	4	4	2	2			2	2
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0	15.0	15.0			15.0	15.0
Minimum Split (s)				12.1	12.1	12.1	20.4	20.4			20.4	20.4
Total Split (s)				25.0	25.0	25.0	45.0	45.0			45.0	45.0
Total Split (%)				35.7%	35.7%	35.7%	64.3%	64.3%			64.3%	64.3%
Yellow Time (s)				3.0	3.0	3.0	4.4	4.4			4.4	4.4
All-Red Time (s)				2.1	2.1	2.1	1.0	1.0			1.0	1.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.1	5.1	5.4	5.4			5.4	5.4
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	C-Max	C-Max			C-Max	C-Max
Act Effct Green (s)					14.8	14.8	44.7	44.7			44.7	44.7
Actuated g/C Ratio					0.21	0.21	0.64	0.64			0.64	0.64
v/c Ratio					0.27	0.91	0.12	0.17			0.35	0.14
Control Delay					22.9	26.4	6.4	5.4			7.4	1.9
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay					22.9	26.4	6.4	5.4			7.4	1.9
LOS					C	C	A	A			A	A
Approach Delay					25.9			5.5			6.5	
Approach LOS					C			A			A	

102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future with Development Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					32	56	8	35			70	0
Queue Length 95th (ft)					17	#238	19	43			115	16
Internal Link Dist (ft)		511			444			572			2213	
Turn Bay Length (ft)						190	75					90
Base Capacity (vph)					472	746	417	2175			2008	930
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.20	0.82	0.12	0.17			0.35	0.14


















Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 13.3
 Intersection LOS: B
 Intersection Capacity Utilization 55.0%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp



103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future with Development Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	14	75	2	20	15	740	76	31	522	4
Future Volume (vph)	1	1	14	75	2	20	15	740	76	31	522	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	415		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.870			0.970			0.983			0.999	
Flt Protected		0.999			0.963			0.999		0.950		
Satd. Flow (prot)	0	1812	0	0	1966	0	0	3290	0	1597	3280	0
Flt Permitted		0.996			0.827			0.941		0.271		
Satd. Flow (perm)	0	1807	0	0	1689	0	0	3099	0	456	3280	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			19			21			1	
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		250			258			2293			1019	
Travel Time (s)		6.8			5.9			44.7			19.9	
Peak Hour Factor	0.92	0.92	0.25	0.72	0.92	0.67	0.92	0.88	0.70	0.75	0.86	0.92
Heavy Vehicles (%)	7%	7%	0%	2%	7%	3%	7%	8%	6%	13%	10%	0%
Adj. Flow (vph)	1	1	56	104	2	30	16	841	109	41	607	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	136	0	0	966	0	41	611	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		4			4			2		1	12	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4					1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		15.0	15.0		5.0		
Minimum Split (s)	9.5	9.5		9.5	9.5		21.5	21.5		9.0		
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0		9.0		
Total Split (%)	38.8%	38.8%		38.8%	38.8%		50.0%	50.0%		11.3%		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.4	4.4		3.0		
All-Red Time (s)	1.5	1.5		1.5	1.5		2.1	2.1		1.0		
Lost Time Adjust (s)		0.0			0.0			0.0		0.0		
Total Lost Time (s)		4.5			4.5			6.5		4.0		
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None		
Act Effct Green (s)		9.9			9.9			53.6		59.2	61.6	
Actuated g/C Ratio		0.12			0.12			0.67		0.74	0.77	
v/c Ratio		0.21			0.60			0.46		0.10	0.24	
Control Delay		11.0			38.8			8.5		2.2	1.9	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		11.0			38.8			8.5		2.2	1.9	
LOS		B			D			A		A	A	
Approach Delay		11.0			38.8			8.5			1.9	
Approach LOS		B			D			A			A	

103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future with Development Weekday AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		1			56			118		1	5	
Queue Length 95th (ft)		31			104			192		2	10	
Internal Link Dist (ft)		170			178			2213			939	
Turn Bay Length (ft)										415		
Base Capacity (vph)		636			572			2084		409	2524	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.09			0.24			0.46		0.10	0.24	
























Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	57 (71%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	8.5
Intersection LOS:	A
Intersection Capacity Utilization	55.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 103: Route 75 & LAZFly Driveway/Halfway House Road



104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future with Development Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	12	90	10	11	14	210	540	10	20	447	115
Future Volume (vph)	93	12	90	10	11	14	210	540	10	20	447	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	12	12	12	12	12	12	12
Storage Length (ft)	0		220	200		150	450		0	0		400
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.902			0.994				0.850
Flt Protected	0.950	0.968		0.950			0.950			0.950		
Satd. Flow (prot)	1417	1517	1311	1306	1433	0	1671	3217	0	1530	3223	1568
Flt Permitted	0.950	0.968		0.950			0.950			0.950		
Satd. Flow (perm)	1417	1517	1311	1306	1433	0	1671	3217	0	1530	3223	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130		28			5				251
Link Speed (mph)		35			25			35				35
Link Distance (ft)		466			418			1019				1839
Travel Time (s)		9.1			11.4			19.9				35.8
Peak Hour Factor	0.78	0.50	0.69	0.50	0.75	0.50	0.78	0.95	0.44	0.31	0.84	0.93
Heavy Vehicles (%)	17%	0%	15%	29%	11%	12%	8%	12%	0%	18%	12%	3%
Adj. Flow (vph)	119	24	130	20	15	28	269	568	23	65	532	124
Shared Lane Traffic (%)	40%											
Lane Group Flow (vph)	71	72	130	20	43	0	269	591	0	65	532	124
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA		Prot	NA	Free
Protected Phases	8	8	18	4	4		1	6		5	2	
Permitted Phases												Free
Detector Phase	8	8	18	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	12.7	12.7		9.8	9.8		10.1	20.8		9.0	20.6	
Total Split (s)	22.0	22.0		10.0	10.0		18.0	30.0		18.0	30.0	
Total Split (%)	27.5%	27.5%		12.5%	12.5%		22.5%	37.5%		22.5%	37.5%	
Yellow Time (s)	3.0	3.0		3.3	3.3		3.0	4.4		3.0	4.4	
All-Red Time (s)	2.7	2.7		1.5	1.5		2.1	1.4		1.0	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		4.8	4.8		5.1	5.8		4.0	5.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	9.1	9.1	30.9	5.6	5.6		18.6	46.7		7.7	31.9	80.0
Actuated g/C Ratio	0.11	0.11	0.39	0.07	0.07		0.23	0.58		0.10	0.40	1.00
v/c Ratio	0.44	0.42	0.22	0.22	0.34		0.69	0.31		0.44	0.41	0.08
Control Delay	41.2	39.9	3.7	41.0	26.6		31.4	12.9		39.5	25.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	41.2	39.9	3.7	41.0	26.6		31.4	12.9		39.5	25.3	0.1
LOS	D	D	A	D	C		C	B		D	C	A
Approach Delay		23.0			31.2			18.7			22.3	
Approach LOS		C			C			B			C	

104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future with Development Weekday AM Peak

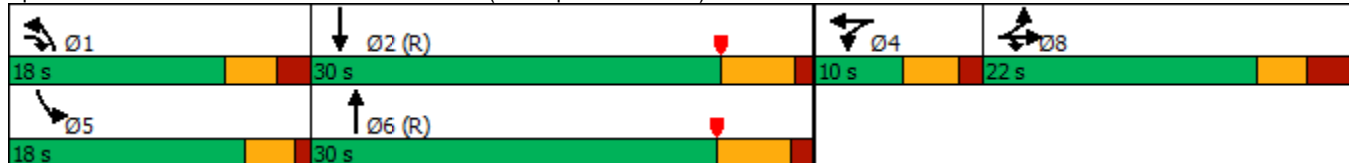


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	35	35	0	10	7		115	114		32	128	0
Queue Length 95th (ft)	63	40	13	17	29		#181	206		23	155	0
Internal Link Dist (ft)		386			338			939			1759	
Turn Bay Length (ft)			220	200			450					400
Base Capacity (vph)	288	309	581	92	128		388	1880		267	1319	1568
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.25	0.23	0.22	0.22	0.34		0.69	0.31		0.24	0.40	0.08




















Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 12 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 21.1
 Intersection LOS: C
 Intersection Capacity Utilization 47.4%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 104: Route 75 & Route 401 (Schoephoester Road)/National Road



105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future with Development Weekday AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	175	20	10	306	20	20	0	10	10	0	70
Future Volume (vph)	60	175	20	10	306	20	20	0	10	10	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	15	12	12	14	14
Storage Length (ft)	170		0	120		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	40			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.988			0.939				0.850
Flt Protected	0.950			0.950				0.973			0.950	
Satd. Flow (prot)	1805	3459	0	1631	3347	0	0	1660	0	0	1735	1706
Flt Permitted	0.528			0.580				0.821			0.728	
Satd. Flow (perm)	1003	3459	0	996	3347	0	0	1401	0	0	1329	1706
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			15			92				106
Link Speed (mph)		35			35			25				30
Link Distance (ft)		624			466			420				346
Travel Time (s)		12.2			9.1			11.5				7.9
Peak Hour Factor	0.70	0.70	0.69	0.50	0.88	0.67	0.83	0.92	0.50	0.63	0.92	0.66
Heavy Vehicles (%)	0%	3%	0%	7%	3%	3%	0%	100%	33%	11%	7%	1%
Adj. Flow (vph)	86	250	29	20	348	30	24	0	20	16	0	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	279	0	20	378	0	0	44	0	0	16	106
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4				4
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		5	2		4	4		4		4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	9.0	21.6		9.0	21.6		12.1	12.1		12.1	12.1	12.1
Total Split (s)	9.0	53.9		9.0	53.9		27.1	27.1		27.1	27.1	27.1
Total Split (%)	10.0%	59.9%		10.0%	59.9%		30.1%	30.1%		30.1%	30.1%	30.1%
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.2		1.0	2.2		2.1	2.1		2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.6		4.0	6.6			5.1			5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	72.7	66.8		72.5	66.8			7.5			7.5	7.5
Actuated g/C Ratio	0.81	0.74		0.81	0.74			0.08			0.08	0.08
v/c Ratio	0.10	0.11		0.02	0.15			0.22			0.15	0.45
Control Delay	2.0	4.5		1.8	4.8			3.5			41.0	14.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	2.0	4.5		1.8	4.8			3.5			41.0	14.4
LOS	A	A		A	A			A			D	B
Approach Delay		3.9			4.6			3.5			17.9	
Approach LOS		A			A			A			B	

105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future with Development Weekday AM Peak

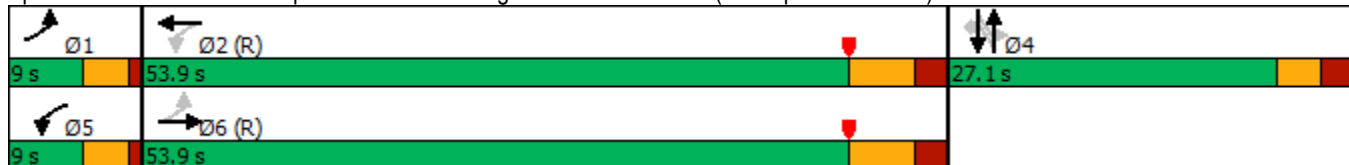


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	6	22		1	33			0			9	0
Queue Length 95th (ft)	12	30		3	54			5			28	19
Internal Link Dist (ft)		544			386			340			266	
Turn Bay Length (ft)	170			120								200
Base Capacity (vph)	859	2572		841	2487			411			324	497
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.10	0.11		0.02	0.15			0.11			0.05	0.21














Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	6.0
Intersection LOS:	A
Intersection Capacity Utilization	38.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)



106: Route 75 & Route 140 (Elm Street)
 2050 Future with Development Weekday AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	104	259	536	74	264	474
Future Volume (vph)	104	259	536	74	264	474
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	10	11
Storage Length (ft)	0	400		0	675	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				35	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Fr _t		0.850	0.981			
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1711	1459	3245	0	1589	3202
Fl _t Permitted	0.950				0.355	
Satd. Flow (perm)	1711	1459	3245	0	594	3202
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		154	24			
Link Speed (mph)	40		35			35
Link Distance (ft)	300		1839			990
Travel Time (s)	5.1		35.8			19.3
Peak Hour Factor	0.80	0.87	0.87	0.84	0.94	0.89
Heavy Vehicles (%)	2%	7%	10%	3%	6%	9%
Adj. Flow (vph)	130	298	616	88	281	533
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	298	704	0	281	533
Turn Type	Prot	pt+ov	NA		D.P+P	NA
Protected Phases	4	1 4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4			1	
Switch Phase						
Minimum Initial (s)	9.0		15.0		5.0	
Minimum Split (s)	13.0		20.9		9.0	
Total Split (s)	25.0		39.0		16.0	
Total Split (%)	31.3%		48.8%		20.0%	
Yellow Time (s)	3.0		4.4		3.0	
All-Red Time (s)	1.0		1.5		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		5.9		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	
Act Effct Green (s)	13.2	25.8	44.3		54.8	58.8
Actuated g/C Ratio	0.16	0.32	0.55		0.68	0.74
v/c Ratio	0.46	0.52	0.39		0.55	0.23
Control Delay	34.6	12.3	6.3		8.5	4.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	34.6	12.3	6.3		8.5	4.1
LOS	C	B	A		A	A
Approach Delay	19.1		6.3			5.6
Approach LOS	B		A			A

106: Route 75 & Route 140 (Elm Street)
 2050 Future with Development Weekday AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	60	55	37		35	34
Queue Length 95th (ft)	89	91	50		83	68
Internal Link Dist (ft)	220		1759			910
Turn Bay Length (ft)		400			675	
Base Capacity (vph)	449	580	1805		580	2355
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.29	0.51	0.39		0.48	0.23

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	43 (54%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	8.8
Intersection LOS:	A
Intersection Capacity Utilization	50.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 106: Route 75 & Route 140 (Elm Street)



201: Old County Road & Route 140 (Elm Street)
 2050 Future with Development Weekday AM Peak

Intersection						
Int Delay, s/veh	6.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	203	63	147	196	42
Future Vol, veh/h	115	203	63	147	196	42
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	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	92	66	74	87	58
Heavy Vehicles, %	10	2	3	3	3	7
Mvmt Flow	122	221	95	199	225	72

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	343	0	523
Stage 1	-	-	-	-	233
Stage 2	-	-	-	-	290
Critical Hdwy	-	-	4.145	-	6.645
Critical Hdwy Stg 1	-	-	-	-	5.445
Critical Hdwy Stg 2	-	-	-	-	5.845
Follow-up Hdwy	-	-	2.2285	-	3.3665
Pot Cap-1 Maneuver	-	-	1208	-	497
Stage 1	-	-	-	-	802
Stage 2	-	-	-	-	732
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1208	-	453
Mov Cap-2 Maneuver	-	-	-	-	453
Stage 1	-	-	-	-	802
Stage 2	-	-	-	-	668

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	453	791	-	-	1208	-
HCM Lane V/C Ratio	0.497	0.092	-	-	0.079	-
HCM Control Delay (s)	20.6	10	-	-	8.2	0.2
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	2.7	0.3	-	-	0.3	-

202: Old County Road & Halfway House Road
 2050 Future with Development Weekday AM Peak



















Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	26	109	11	30	13	96	225	1	11	255	60
Future Vol, veh/h	40	26	109	11	30	13	96	225	1	11	255	60
Peak Hour Factor	0.62	0.25	0.79	0.50	0.58	0.25	0.74	0.86	0.92	0.25	0.84	0.86
Heavy Vehicles, %	5	0	6	9	11	0	3	3	50	0	2	3
Mvmt Flow	65	104	138	22	52	52	130	262	1	44	304	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.3	13	22.7	22.9
HCM LOS	C	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	23%	20%	3%
Vol Thru, %	70%	15%	56%	78%
Vol Right, %	0%	62%	24%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	322	175	54	326
LT Vol	96	40	11	11
Through Vol	225	26	30	255
RT Vol	1	109	13	60
Lane Flow Rate	392	306	126	417
Geometry Grp	1	1	1	1
Degree of Util (X)	0.694	0.551	0.256	0.71
Departure Headway (Hd)	6.362	6.476	7.321	6.125
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	565	555	487	588
Service Time	4.433	4.553	5.419	4.194
HCM Lane V/C Ratio	0.694	0.551	0.259	0.709
HCM Control Delay	22.7	17.3	13	22.9
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	5.4	3.3	1	5.8

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future with Development Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	0	40	0	0	0	70	474	0	0	424	450
Future Volume (vph)	142	0	40	0	0	0	70	474	0	0	424	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		0	70		0	80		300
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	25			25			45			55		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.970										0.850
Flt Protected		0.963					0.950					
Satd. Flow (prot)	0	1951	0	0	0	0	1694	3505	0	1717	3421	1473
Flt Permitted		0.963					0.482					
Satd. Flow (perm)	0	1951	0	0	0	0	859	3505	0	1717	3421	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33										608
Link Speed (mph)		35			25			35				35
Link Distance (ft)		394			120			257				652
Travel Time (s)		7.7			3.3			5.0				12.7
Peak Hour Factor	0.80	0.92	0.78	0.92	0.92	0.92	0.82	0.96	0.92	0.92	0.90	0.74
Heavy Vehicles (%)	4%	0%	0%	7%	7%	7%	3%	3%	7%	7%	2%	6%
Adj. Flow (vph)	178	0	51	0	0	0	85	494	0	0	471	608
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	0	0	0	0	85	494	0	0	471	608
Turn Type	Split	NA					Perm	NA		Perm	NA	Perm
Protected Phases	4	4						2				2
Permitted Phases							2			2		2
Detector Phase	4	4					2	2		2	2	2
Switch Phase												
Minimum Initial (s)	7.0	7.0					15.0	15.0		15.0	15.0	15.0
Minimum Split (s)	24.2	24.2					20.4	20.4		20.4	20.4	20.4
Total Split (s)	25.0	25.0					45.0	45.0		45.0	45.0	45.0
Total Split (%)	35.7%	35.7%					64.3%	64.3%		64.3%	64.3%	64.3%
Yellow Time (s)	3.0	3.0					4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2					1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0					0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		5.2					5.1	5.1		5.1	5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None					C-Max	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)		11.7					48.0	48.0		48.0	48.0	48.0
Actuated g/C Ratio		0.17					0.69	0.69		0.69	0.69	0.69
v/c Ratio		0.65					0.14	0.21		0.20	0.51	
Control Delay		31.3					5.6	4.8		8.9	9.6	
Queue Delay		0.0					0.0	0.0		0.0	0.0	
Total Delay		31.3					5.6	4.8		8.9	9.6	
LOS		C					A	A		A	A	
Approach Delay		31.3						4.9			9.3	
Approach LOS		C						A			A	

101: Route 75 & Route 20 EB Ramps/Private Driveway
 2050 Future with Development Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		79					11	33			57	126
Queue Length 95th (ft)		134					28	64			97	133
Internal Link Dist (ft)		314			40			177			572	
Turn Bay Length (ft)							70					300
Base Capacity (vph)		575					588	2402			2344	1201
Starvation Cap Reductn		0					0	0			0	0
Spillback Cap Reductn		0					0	0			0	0
Storage Cap Reductn		0					0	0			0	0
Reduced v/c Ratio		0.40					0.14	0.21			0.20	0.51




















Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	10.6
Intersection LOS:	B
Intersection Capacity Utilization:	48.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 101: Route 75 & Route 20 EB Ramps/Private Driveway



102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future with Development Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	60	0	698	30	576	0	0	814	135
Future Volume (vph)	0	0	0	60	0	698	30	576	0	0	814	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	11	12	11	12	12	11	11	11
Storage Length (ft)	0		0	0		190	75		0	0		90
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr _t						0.850						0.850
Fl _t Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1694	1509	1711	3505	0	0	3355	1487
Fl _t Permitted					0.950		0.206					
Satd. Flow (perm)	0	0	0	0	1694	1509	371	3505	0	0	3355	1487
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						90						155
Link Speed (mph)		30			30			35				35
Link Distance (ft)		591			524			652				2293
Travel Time (s)		13.4			11.9			12.7				44.7
Peak Hour Factor	0.92	0.92	0.92	0.76	0.92	0.95	0.84	0.96	0.92	0.92	0.96	0.68
Heavy Vehicles (%)	7%	7%	7%	3%	0%	7%	2%	3%	7%	7%	4%	5%
Adj. Flow (vph)	0	0	0	79	0	735	36	600	0	0	848	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	79	735	36	600	0	0	848	199
Turn Type				Split	NA	Prot	Perm	NA			NA	Perm
Protected Phases				4	4	4		2			2	
Permitted Phases							2					2
Detector Phase				4	4	4	2	2			2	2
Switch Phase												
Minimum Initial (s)				7.0	7.0	7.0	15.0	15.0			15.0	15.0
Minimum Split (s)				12.1	12.1	12.1	20.4	20.4			20.4	20.4
Total Split (s)				42.2	42.2	42.2	27.8	27.8			27.8	27.8
Total Split (%)				60.3%	60.3%	60.3%	39.7%	39.7%			39.7%	39.7%
Yellow Time (s)				3.0	3.0	3.0	4.4	4.4			4.4	4.4
All-Red Time (s)				2.1	2.1	2.1	1.0	1.0			1.0	1.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.1	5.1	5.4	5.4			5.4	5.4
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode				None	None	None	C-Max	C-Max			C-Max	C-Max
Act Effct Green (s)					34.7	34.7	24.8	24.8			24.8	24.8
Actuated g/C Ratio					0.50	0.50	0.35	0.35			0.35	0.35
v/c Ratio					0.09	0.93	0.27	0.48			0.71	0.32
Control Delay					8.7	33.9	23.8	19.5			24.7	7.0
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay					8.7	33.9	23.8	19.5			24.7	7.0
LOS					A	C	C	B			C	A
Approach Delay					31.5			19.7			21.3	
Approach LOS					C			B			C	

102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp
 2050 Future with Development Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					16	228	13	121			172	13
Queue Length 95th (ft)					34	#468	37	171			240	29
Internal Link Dist (ft)		511			444			572			2213	
Turn Bay Length (ft)						190	75					90
Base Capacity (vph)					897	842	131	1241			1188	627
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.09	0.87	0.27	0.48			0.71	0.32



















Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 1 (1%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 24.2
 Intersection LOS: C
 Intersection Capacity Utilization 67.9%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 102: Route 75 & Route 20 WB On Ramp/Route 20 WB Off Ramp



103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future with Development Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	12	24	119	10	31	14	937	143	31	706	11
Future Volume (vph)	14	12	24	119	10	31	14	937	143	31	706	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	16	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	415		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Fr _t		0.931			0.975			0.980			0.996	
Fl _t Protected		0.987			0.969			0.998		0.950		
Satd. Flow (prot)	0	1920	0	0	1983	0	0	3357	0	1752	3446	0
Fl _t Permitted		0.886			0.684			0.864		0.167		
Satd. Flow (perm)	0	1724	0	0	1400	0	0	2906	0	308	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			15			27			5	
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		250			258			2293			1019	
Travel Time (s)		6.8			5.9			44.7			19.9	
Peak Hour Factor	0.38	0.38	0.33	0.80	0.25	0.73	0.25	0.93	0.86	0.91	0.86	0.50
Heavy Vehicles (%)	0%	0%	0%	4%	0%	0%	0%	6%	2%	3%	4%	17%
Adj. Flow (vph)	37	32	73	149	40	42	56	1008	166	34	821	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	231	0	0	1230	0	34	843	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		4			4			2		1	1	2
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4					1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		15.0	15.0		5.0		
Minimum Split (s)	9.5	9.5		9.5	9.5		21.5	21.5		9.0		
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0		9.0		
Total Split (%)	38.8%	38.8%		38.8%	38.8%		50.0%	50.0%		11.3%		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.4	4.4		3.0		
All-Red Time (s)	1.5	1.5		1.5	1.5		2.1	2.1		1.0		
Lost Time Adjust (s)		0.0			0.0			0.0		0.0		
Total Lost Time (s)		4.5			4.5			6.5		4.0		
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None		
Act Effct Green (s)		15.5			15.5			48.0		53.6	56.0	
Actuated g/C Ratio		0.19			0.19			0.60		0.67	0.70	
v/c Ratio		0.36			0.81			0.70		0.11	0.35	
Control Delay		16.1			49.9			16.5		3.2	2.6	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		16.1			49.9			16.5		3.2	2.6	
LOS		B			D			B		A	A	
Approach Delay		16.1			49.9			16.5			2.7	
Approach LOS		B			D			B			A	

103: Route 75 & LAZFly Driveway/Halfway House Road
 2050 Future with Development Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		30			104			225		1	16	
Queue Length 95th (ft)		12			32			#427		m3	26	
Internal Link Dist (ft)		170			178			2213			939	
Turn Bay Length (ft)										415		
Base Capacity (vph)		618			473			1755		297	2412	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		0.23			0.49			0.70		0.11	0.35	
























Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 57 (71%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 14.7
 Intersection LOS: B
 Intersection Capacity Utilization 65.4%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 103: Route 75 & LAZFly Driveway/Halfway House Road



104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future with Development Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	23	200	10	23	26	310	640	20	26	557	153
Future Volume (vph)	254	23	200	10	23	26	310	640	20	26	557	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	12	12	12	12	12	12	12
Storage Length (ft)	0		220	200		150	450		0	0		400
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	25			25			50			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.928			0.994				0.850
Flt Protected	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (prot)	1609	1637	1409	1532	1646	0	1703	3327	0	1805	3438	1568
Flt Permitted	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (perm)	1609	1637	1409	1532	1646	0	1703	3327	0	1805	3438	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			213		37			5				251
Link Speed (mph)		35			25			35				35
Link Distance (ft)		466			418			1019				1839
Travel Time (s)		9.1			11.4			19.9				35.8
Peak Hour Factor	0.86	0.69	0.78	0.88	0.58	0.71	0.88	0.96	0.75	0.50	0.89	0.74
Heavy Vehicles (%)	3%	0%	7%	10%	0%	0%	6%	8%	4%	0%	5%	3%
Adj. Flow (vph)	295	33	256	11	40	37	352	667	27	52	626	207
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	162	166	256	11	77	0	352	694	0	52	626	207
Turn Type	Split	NA	pt+ov	Split	NA		Prot	NA		Prot	NA	Free
Protected Phases	8	8	18	4	4		1	6		5	2	
Permitted Phases												Free
Detector Phase	8	8	18	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	12.7	12.7		9.8	9.8		10.1	20.8		9.0	20.6	
Total Split (s)	22.0	22.0		10.0	10.0		18.0	30.0		18.0	30.0	
Total Split (%)	27.5%	27.5%		12.5%	12.5%		22.5%	37.5%		22.5%	37.5%	
Yellow Time (s)	3.0	3.0		3.3	3.3		3.0	4.4		3.0	4.4	
All-Red Time (s)	2.7	2.7		1.5	1.5		2.1	1.4		1.0	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		4.8	4.8		5.1	5.8		4.0	5.6	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	12.3	12.3	39.8	6.0	6.0		21.8	40.4		6.7	20.6	80.0
Actuated g/C Ratio	0.15	0.15	0.50	0.08	0.08		0.27	0.50		0.08	0.26	1.00
v/c Ratio	0.66	0.66	0.32	0.10	0.49		0.76	0.41		0.35	0.71	0.13
Control Delay	44.3	44.4	4.6	36.4	32.9		36.2	12.0		37.3	36.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.3	44.4	4.6	36.4	32.9		36.2	12.0		37.3	36.4	0.2
LOS	D	D	A	D	C		D	B		D	D	A
Approach Delay		26.9			33.4			20.2			28.0	
Approach LOS		C			C			C			C	

104: Route 75 & Route 401 (Schoephoester Road)/National Road
 2050 Future with Development Weekday PM Peak

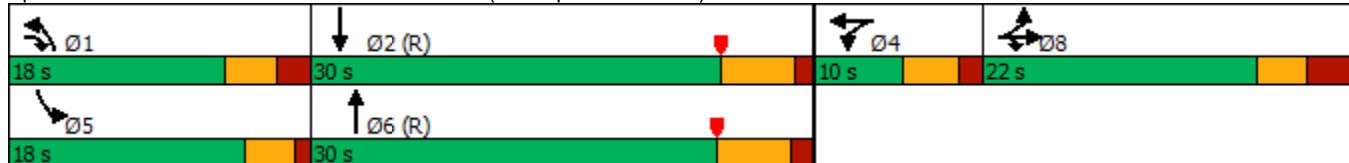


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	81	83	11	5	19		126	154		26	161	0
Queue Length 95th (ft)	130	103	37	21	32		#368	247		32	200	0
Internal Link Dist (ft)		386			338			939			1759	
Turn Bay Length (ft)			220	200			450					400
Base Capacity (vph)	327	333	793	116	158		464	1681		315	1048	1568
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.50	0.50	0.32	0.09	0.49		0.76	0.41		0.17	0.60	0.13




















Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 12 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 24.8
 Intersection LOS: C
 Intersection Capacity Utilization 60.5%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 104: Route 75 & Route 401 (Schoephoester Road)/National Road



105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future with Development Weekday PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	437	20	10	446	30	30	10	20	20	10	130
Future Volume (vph)	90	437	20	10	446	30	30	10	20	20	10	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	12	15	12	12	14	14
Storage Length (ft)	170		0	120		0	0		0	0		200
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	40			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.986			0.959				0.850
Flt Protected	0.950			0.950				0.982				0.969
Satd. Flow (prot)	1787	3551	0	1745	3350	0	0	1968	0	0	1964	1723
Flt Permitted	0.447			0.436				0.850				0.688
Satd. Flow (perm)	841	3551	0	801	3350	0	0	1704	0	0	1394	1723
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			19			23				186
Link Speed (mph)		35			35			25				30
Link Distance (ft)		624			466			420				346
Travel Time (s)		12.2			9.1			11.5				7.9
Peak Hour Factor	0.75	0.80	0.75	0.42	0.90	0.58	0.67	0.25	0.54	0.46	0.42	0.70
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	120	546	27	24	496	52	45	40	37	43	24	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	573	0	24	548	0	0	122	0	0	67	186
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4				4
Permitted Phases	6			2			4			4		4
Detector Phase	1	6		5	2		4	4		4		4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	9.0	21.6		9.0	21.6		12.1	12.1		12.1	12.1	12.1
Total Split (s)	9.0	53.9		9.0	53.9		27.1	27.1		27.1	27.1	27.1
Total Split (%)	10.0%	59.9%		10.0%	59.9%		30.1%	30.1%		30.1%	30.1%	30.1%
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.2		1.0	2.2		2.1	2.1		2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.6		4.0	6.6			5.1			5.1	5.1
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	66.7	58.0		66.4	58.0			10.2			10.2	10.2
Actuated g/C Ratio	0.74	0.64		0.74	0.64			0.11			0.11	0.11
v/c Ratio	0.17	0.25		0.04	0.25			0.58			0.43	0.52
Control Delay	3.3	7.5		2.9	7.4			40.9			44.7	11.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	3.3	7.5		2.9	7.4			40.9			44.7	11.0
LOS	A	A		A	A			D			D	B
Approach Delay		6.8			7.2			40.9			19.9	
Approach LOS		A			A			D			B	

105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)
 2050 Future with Development Weekday PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	12	62		2	58			54			36	0
Queue Length 95th (ft)	24	93		4	102			18			32	22
Internal Link Dist (ft)		544			386			340			266	
Turn Bay Length (ft)	170			120								200
Base Capacity (vph)	688	2289		653	2164			433			340	561
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.17	0.25		0.04	0.25			0.28			0.20	0.33

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	11.5
Intersection LOS:	B
Intersection Capacity Utilization	41.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 105: Airport Service Road/Light Lane & Route 401 (Schoephoester Road)



106: Route 75 & Route 140 (Elm Street)
 2050 Future with Development Weekday PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	156	236	714	206	349	613
Future Volume (vph)	156	236	714	206	349	613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	10	11
Storage Length (ft)	0	400		0	675	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				35	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Fr _t		0.850	0.961			
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1745	1473	3345	0	1620	3355
Fl _t Permitted	0.950				0.124	
Satd. Flow (perm)	1745	1473	3345	0	211	3355
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		75	74			
Link Speed (mph)	40		35			35
Link Distance (ft)	300		1839			990
Travel Time (s)	5.1		35.8			19.3
Peak Hour Factor	0.89	0.89	0.86	0.71	0.87	0.91
Heavy Vehicles (%)	0%	6%	5%	0%	4%	4%
Adj. Flow (vph)	175	265	830	290	401	674
Shared Lane Traffic (%)						
Lane Group Flow (vph)	175	265	1120	0	401	674
Turn Type	Prot	pt+ov	NA		D.P+P	NA
Protected Phases	4	1 4	2		1	1 2
Permitted Phases					2	
Detector Phase	4	4			1	
Switch Phase						
Minimum Initial (s)	9.0		15.0		5.0	
Minimum Split (s)	13.0		20.9		9.0	
Total Split (s)	25.0		39.0		16.0	
Total Split (%)	31.3%		48.8%		20.0%	
Yellow Time (s)	3.0		4.4		3.0	
All-Red Time (s)	1.0		1.5		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		5.9		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	
Act Effct Green (s)	13.8	37.0	33.1		54.2	58.2
Actuated g/C Ratio	0.17	0.46	0.41		0.68	0.73
v/c Ratio	0.58	0.37	0.78		0.83	0.28
Control Delay	37.7	11.5	20.9		37.3	4.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	37.7	11.5	20.9		37.3	4.5
LOS	D	B	C		D	A
Approach Delay	21.9		20.9			16.7
Approach LOS	C		C			B

106: Route 75 & Route 140 (Elm Street)
 2050 Future with Development Weekday PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	82	56	290		134	47
Queue Length 95th (ft)	129	109	128		#335	93
Internal Link Dist (ft)	220		1759			910
Turn Bay Length (ft)		400			675	
Base Capacity (vph)	458	711	1427		481	2441
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.38	0.37	0.78		0.83	0.28

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	43 (54%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	19.4
Intersection LOS:	B
Intersection Capacity Utilization:	65.9%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 106: Route 75 & Route 140 (Elm Street)



201: Old County Road & Route 140 (Elm Street)
 2050 Future with Development Weekday PM Peak

Intersection						
Int Delay, s/veh	8.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	219	306	64	158	214	65
Future Vol, veh/h	219	306	64	158	214	65
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	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	91	66	72	89	84
Heavy Vehicles, %	2	2	0	5	2	0
Mvmt Flow	233	336	97	219	240	77

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	569	0	705
Stage 1	-	-	-	-	401
Stage 2	-	-	-	-	304
Critical Hdwy	-	-	4.1	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.83
Follow-up Hdwy	-	-	2.2	-	3.519
Pot Cap-1 Maneuver	-	-	1013	-	386
Stage 1	-	-	-	-	675
Stage 2	-	-	-	-	723
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1013	-	344
Mov Cap-2 Maneuver	-	-	-	-	344
Stage 1	-	-	-	-	675
Stage 2	-	-	-	-	644

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	30.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	653	-	-	1013	-
HCM Lane V/C Ratio	0.699	0.119	-	-	0.096	-
HCM Control Delay (s)	36.5	11.3	-	-	8.9	0.3
HCM Lane LOS	E	B	-	-	A	A
HCM 95th %tile Q(veh)	5	0.4	-	-	0.3	-

202: Old County Road & Halfway House Road
 2050 Future with Development Weekday PM Peak

Intersection	
Intersection Delay, s/veh	60.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	49	149	21	48	11	121	298	11	13	307	60
Future Vol, veh/h	80	49	149	21	48	11	121	298	11	13	307	60
Peak Hour Factor	0.86	0.37	0.86	0.69	0.43	0.50	0.88	0.97	0.50	0.50	0.87	0.64
Heavy Vehicles, %	0	4	2	0	0	0	3	1	0	0	2	1
Mvmt Flow	93	132	173	30	112	22	138	307	22	26	353	94
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	45	19.2	75.9	72.7
HCM LOS	E	C	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	29%	26%	3%
Vol Thru, %	69%	18%	60%	81%
Vol Right, %	3%	54%	14%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	430	278	80	380
LT Vol	121	80	21	13
Through Vol	298	49	48	307
RT Vol	11	149	11	60
Lane Flow Rate	467	399	164	473
Geometry Grp	1	1	1	1
Degree of Util (X)	1.018	0.87	0.421	1.009
Departure Headway (Hd)	8.035	8.026	9.481	7.865
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	453	455	382	463
Service Time	6.035	6.026	7.481	5.865
HCM Lane V/C Ratio	1.031	0.877	0.429	1.022
HCM Control Delay	75.9	45	19.2	72.7
HCM Lane LOS	F	E	C	F
HCM 95th-tile Q	13.6	9	2	13.4

APPENDIX B

Potential Development Site Generated Traffic
Summary Tables

TABLE B-1

Total Potential Development Site-Generated Traffic Summary

Proposed Retail Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	58	42	100
Weekday Afternoon	85	84	189
Proposed Residential/Warehouse/Manufacturing/Industrial Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	107	82	189
Weekday Afternoon	88	118	206
Total Vehicular Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	165	124	289
Weekday Afternoon	173	202	395

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021

Land Use - 130 Industrial Park

Land Use - 140 Manufacturing

Land Use - 150 Warehousing

Land Use - 220 Multifamily Housing (Low-Rise)

Land Use - 215 Single Family Attached Housing

Land Use - 254 Assisted Living

Land Use - 312 Business Hotel

Land Use - 822 Strip Retail Plaza (<40k)

Land Use - 937 Coffee/Donut Shop with Drive-Through Window

SITE 2, I & J

Site-Generated Traffic Summary - Residential

Proposed - 55 Apartments			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	5	17	22
Weekday Afternoon	18	10	28

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 220 Multifamily Housing (Low-Rise)

SITE 2, I & J

Site-Generated Traffic Summary - Retail

Proposed - 25,000 SF Retail Space			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	35	24	59
Weekday Afternoon	83	82	165

Pass-by Trips			
Peak Hour Period	Enter	30% Exit	Total
Weekday Morning		No Pass-by Trips	
Weekday Afternoon	25	25	50

Net Vehicular Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	35	24	59
Weekday Afternoon	58	57	115

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 822 Strip Retail Plaza (<40k)

SITE 4

Site-Generated Traffic Summary

Proposed - 2,000 SF Coffee Shop			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	88	84	172
Weekday Afternoon	39	39	78

Pass-by Trips			
Peak Hour Period	Enter	90% Exit	Total
Weekday Morning	79	76	155
Weekday Afternoon	35	35	70

Net Vehicular Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	9	8	17
Weekday Afternoon	4	4	8

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 937 Coffee/Donut Shop with Drive-Through Window

SITE A

Site-Generated Traffic Summary

Proposed - 50,000 SF Warehouse			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	7	2	9
Weekday Afternoon	3	6	9

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 150 Warehousing

SITE B & C

Site-Generated Traffic Summary

Proposed - 100,000 SF Manufacturing			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	52	16	68
Weekday Afternoon	23	51	74

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 140 Manufacturing

SITE D, E & F

Site-Generated Traffic Summary - Residential

Proposed - 35 Apartments			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	3	11	14
Weekday Afternoon	11	7	18

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 220 Multifamily Housing (Low-Rise)

SITE D, E & F

Site-Generated Traffic Summary - Retail

Proposed - 10,000 SF Retail Space			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	14	10	24
Weekday Afternoon	33	33	66

Pass-by Trips		30%	
Peak Hour Period	Enter	Exit	Total
Weekday Morning		No Pass-by Trips	
Weekday Afternoon	10	10	20

Net Vehicular Trips			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	14	10	24
Weekday Afternoon	23	23	46

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 822 Strip Retail Plaza (<40k)

SITE G

Site-Generated Traffic Summary

Proposed - 80-Room Hotel			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	11	18	29
Weekday Afternoon	14	11	25

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 312 Business Hotel

SITE H

Site-Generated Traffic Summary

Proposed - 75,000 SF Industrial Park			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	21	5	26
Weekday Afternoon	6	20	26

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 130 Industrial Park

SITE K

Site-Generated Traffic Summary

Proposed - 50-Bed Assisted Living			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	5	4	9
Weekday Afternoon	5	7	12

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 254 Assisted Living

SITE L

Site-Generated Traffic Summary

Proposed - 25 Townhouses			
Peak Hour Period	Enter	Exit	Total
Weekday Morning	3	9	12
Weekday Afternoon	8	6	14

Source: Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021
Land Use - 215 Single Family Attached Housing