RiverCOG
Lower Connecticut River Valley Council of Governments

Tighe&Bond

Route 66 Transportation Study
Portland and East Hampton, CT

Future Condition Technical Memorandum (DRAFT)

Prepared For:

RiverCOG and the Towns of Portland & East Hampton

January 2019

Section 1 Future Conditions

Appendix

Section 1
Future Conditions

The Lower Connecticut River Valley Council of Governments (RiverCOG) has been developing the *Route 66 Transportation Study* along with the Federal Highway Administration, the Connecticut Department of Transportation (CTDOT) and the Towns of Portland and East Hampton (Towns). RiverCOG retained Tighe & Bond and prepared the *Route 66 Transportation Study Existing Conditions Technical Memorandum* in August 2018. Following the engineering and planning study of the Existing Conditions, Tighe & Bond further conduced an analysis of the Future Conditions and the analysis results and findings are included in this *Route 66 Transportation Study Future Conditions Technical Memorandum.*

The assessment of future conditions conducts a traffic analysis of the Route 66 study area intersections under existing geometric and operational conditions utilizing 2040 Future Traffic volumes. This process identifies deterioration of operational efficiency from existing conditions and areas of concern that develop in the future under the scenario where no improvements are made to the transportation system.

The future conditions analysis includes traffic projections based on the methodology described in Section 1.1 to expand the 2020 Corridor Conditions traffic volumes to the 2040 Future Conditions traffic volumes. The Route 66 study area intersections were analyzed under two scenarios utilizing the 2040 traffic volumes, a Future scenario and Future-Optimized scenario. The 2040 Future analysis utilizes existing geometry and existing traffic signal settings to facilitate a direct comparison between existing and future no-build conditions. The 2040 Future-Optimized analysis utilizes existing geometry but modifies intersection signal operations to provide the most efficient operations based on future traffic with adjustments to traffic control signal timings and settings. This optimization analysis determines if future travel demand can be mitigated through low-cost adjustments to signal operations or if additional physical improvements are needed to provide measurable improvements over the no-build scenario. The future conditions analyses will provide the basis for generating roadway improvement plans for the study corridor to accommodate anticipated traffic growth, in addition to other safety and multi-modal improvements.

This report concludes with future areas of concern based upon the results of the traffic analyses and identified safety concerns. These areas will be the focus of planning and traffic analyses with the goal of generating a set of physical improvements to accommodate projected travel demand, in addition to addressing the safety concerns, multi-modal accessibility, and other operational goals on the Route 66 corridor.

1.1 2040 Future Traffic Forecasts

2040 Future traffic forecasts for the study area were generated by the Connecticut Department of Transportation (CTDOT) utilizing their transportation traffic volume model. The model utilizes historical traffic volume trends, pending/approved and yet to be constructed developments, and expected future development based on information provided from local municipalities to forecast future traffic volume conditions. Based on this methodology, the 2020 Corridor Conditions traffic volumes were projected to 2040 Future Conditions traffic volumes. The potential future developments that are anticipated to generate additional traffic on Route 66 study area within the 20-year study horizon are summarized below. A review of the traffic volume growth is also summarized below.

1.1.1 Future Developments

In order to forecast traffic to be generated by potential development and redevelopment that may occur along the corridor within the study time horizon, the study team prepared a *Route 66 Corridor Study Future Conditions Planning Study Report* (conducted by RKG Associated, Inc., January 2019). The Future Conditions Planning Study Report is a synopsis of the projected population and employment growth in East Hampton and Portland, as well as a catalogue of development projects that are anticipated along the Route 66 corridor. The report highlights the anticipated background growth in both communities and describes development activity that will impact travel along the corridor. Zoning considerations are also included that identify potential growth areas to help inform infrastructure needs and improvements. The information in this report will feed into the transportation recommendations so future changes along Route 66 are not negatively impacted by traffic, access, or safety issues. The *Route 66 Corridor Study Future Conditions Planning Study Report* is provieed in Appendix A. Based on the planning study, the parcels and areas identified for future development and/or redevelopment within the 20-year study horizon are illustrated in Figure 1 and 2, for Portland and East Hampton, respectively. The potential land use and completion year for these future developments are summarized in Table 1.

In Portland, the prominent developments will take place near the west end of the Route 66 study area between Gospel Lane and Main Street, focusing on residential and commercial mixed-use development. This area has easy access to Route 66 and Route 17A and the surrounding amenities. The proposed Brainerd Place mixed-use development will be located at the southeast corner of the Route 66 and Main Street intersection and is anticipated to generate significant traffic on the Route 66 study area.

Intersection of Route 66 at Route 17A (Main Street) in Portland, near the proposed Brainerd Place Mixed-Use Development, Looking East

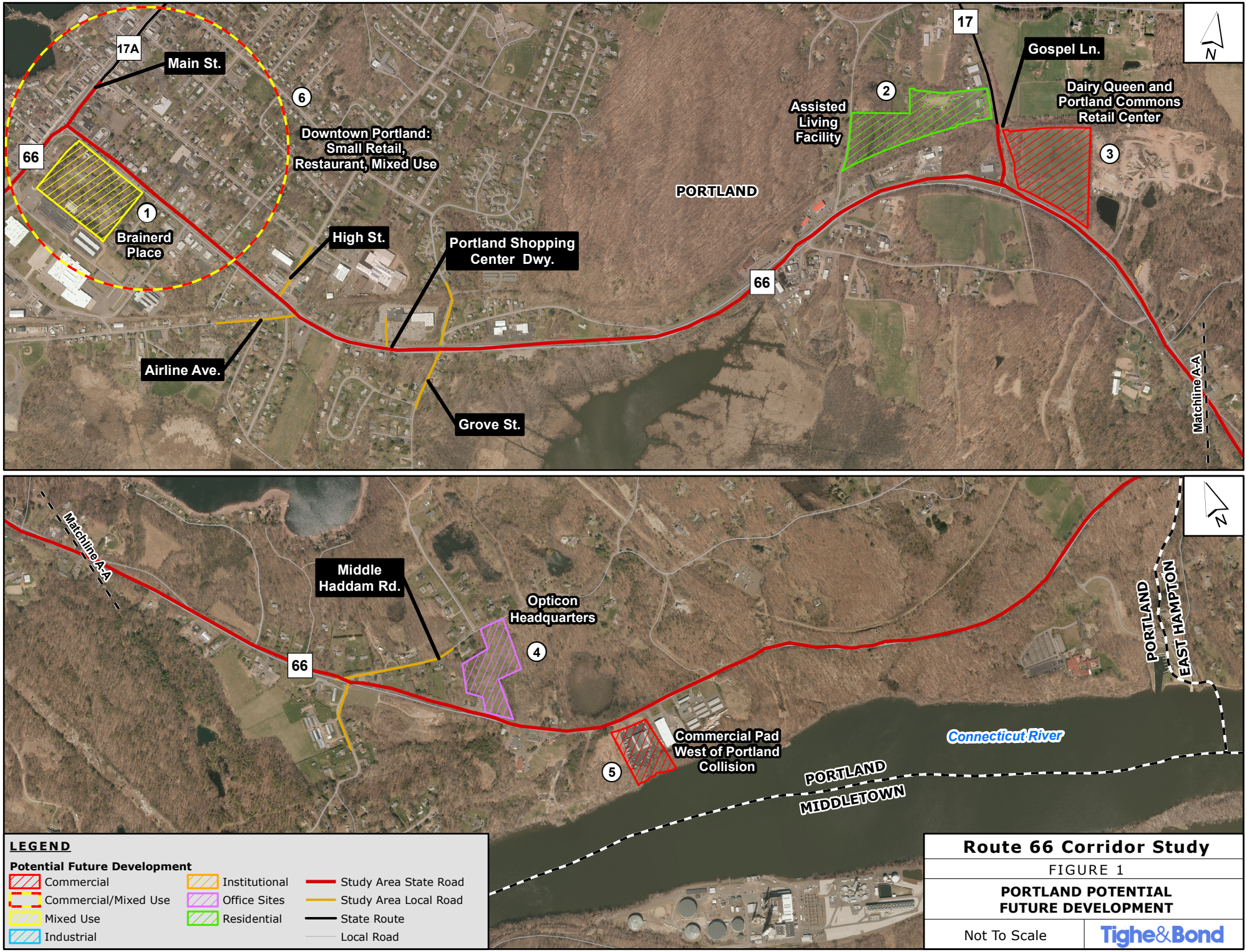
In East Hampton, the major developments will be located close to the east end of the Route 66 study corridor, which is in proximity to Route 2. The developments that are anticipated to generate significant traffic in East Hampton include Edgewater Hills mixed-use development and Hampton Woods residential development.

Route 66 corridor close to Portland and East Hampton Townline is expected to see less significant additional development within the study horizon. In addition, the areas such as Downtown Portland, Historical Village Center in East Hampton, Downtown East Hampton, and Cobalt Area are considered to have the potential for small commercial or mixed-use redevelopment even though no specific plans are in place yet.

East Hampton Commercial Center, Looking East on Route 66 (East High Street)

TABLE 1
Potential Future Development Parcels Summary

Area	Parcel	Location	Potential Development	Potential Completion Year
		Town of Portland		
1	Brainerd Place	Route 66 at Main Street	240-unit Apartment; 100,000 sf Commercial/Office	2023
2	Assisted Living Facility	Route 66 between Gospel Lane and William Street	120-bed Assisted Living Development	2021
3	Portland Commons	Route 66 at Gospel Lane	102,655 sf Retail/Restaurant	2029
4	Opticon Headquarters	Route 66 east of Payne Blvd.	8,000 sf Office Buildings	2022
5	Commercial Site	Route 66 west of Portland Collision	Auto-related Use	2023
6	Downtown Portland	Downtown Portland (other than Brainerd Place)	Small Retail, Restaurant, Mixed-Use Development	N/A
		Town of East Hampton		
1	207 West High Street	207 West High Street	8,000 sf Daycare Facility	2019
2	201 West High Street	201 West High Street	18,000 sf Commercial/Industrial PAD	2020
3	East Hampton Town Hall Redevelopment	Town Hall Site	Commercial or Mixed-Use Redevelopment	2020
4	Edgewater Hills	Route 66 between Laurel Ridge and Lake Vista	250 Residential Units; 80,000 sf Retail/Office	2028
5	Future Commercial Site	Route 66 next to Lakeside Automotive	Commercial PAD	2022
6	Dollar General	197 East High Street	7,500 sf Retail	2019
7	Hampton Woods	Route 66 just n/o Edgewater Hills	253-unit Townhouses	2028
8	Historical Village Center Area	Main Street s/o Route 66	Small Commercial	N/A
9	Downtown East Hampton	Downtown East Hampton	Small Infill or Redevelopment	N/A
10	Cobalt Development	Route 66 at Route 151	Commercial Redevelopment	N/A



Route 66 Corridor Study

FIGURE 1

PORTLAND POTENTIAL FUTURE DEVELOPMENT

Not To Scale

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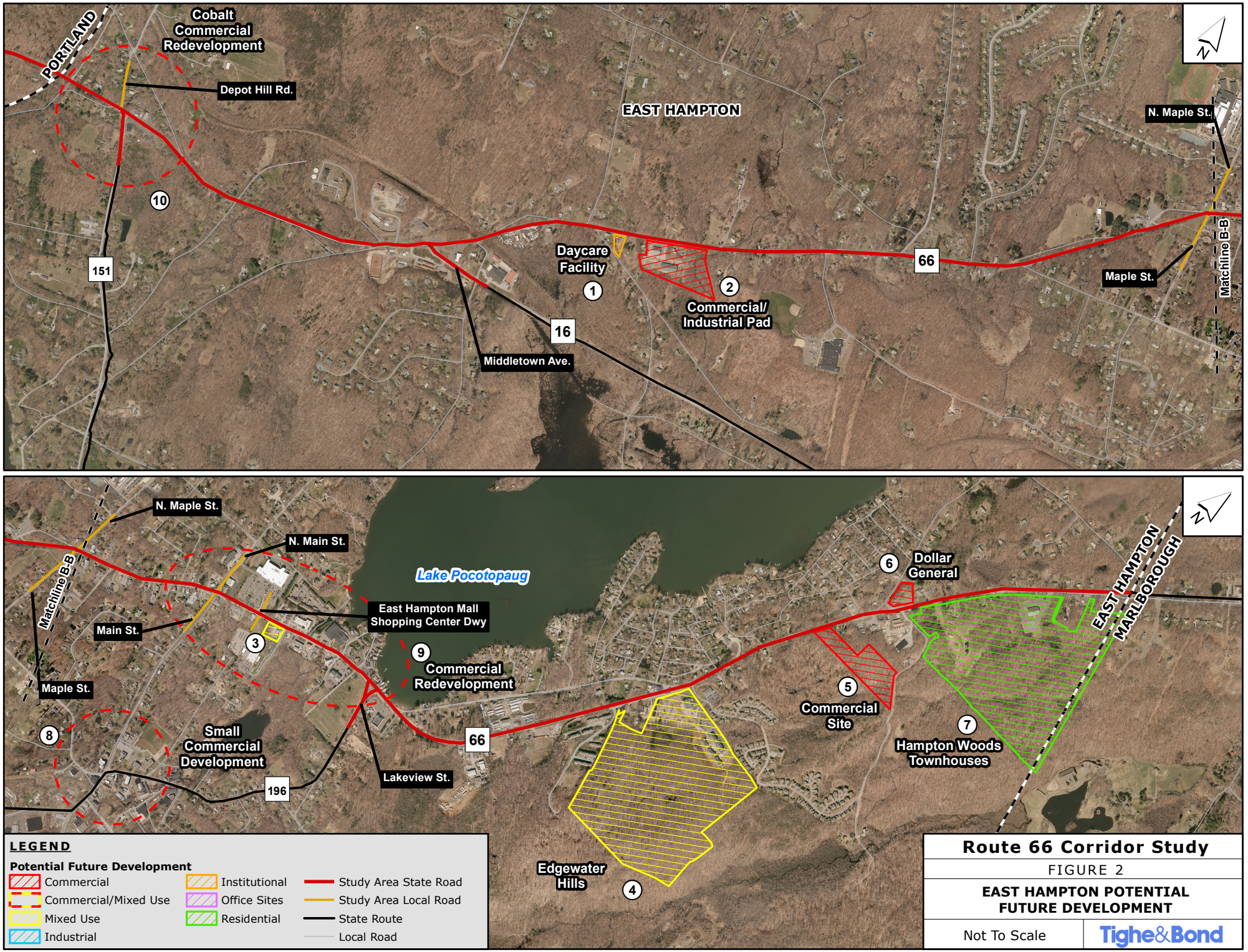

Route 66 Corridor Study

FIGURE 2

EAST HAMPTON POTENTIAL FUTURE DEVELOPMENT

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1.1.2 2040 Future Traffic Volumes

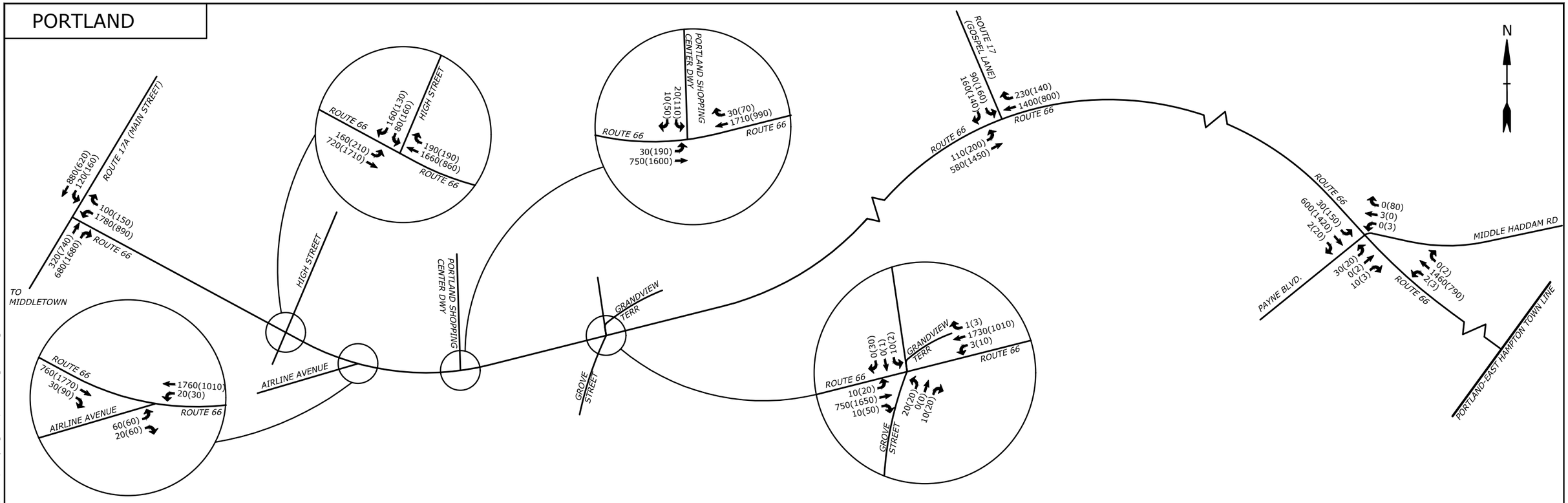
Based on the CTDOT transportation model and methodology described above, the 2020 Corridor Conditions intersection turning movement traffic volumes were projected to 2040 Future Conditions intersection turning movement traffic volumes for the peak hours at the study intersections, as shown in Figure 3.

Comparing the 2020 Corridor Conditions traffic volumes to the 2040 Future Conditions traffic volumes for the peak hours reveal that the anticipated development along the Route 66 corridor will generate significant traffic within the 20-year study horizon. Table 2 shows that total traffic growth along Route 66 ranges from 20.8 to 52.7 percent, equating to 1.0 to 2.6 percent average annual growth in the study area. The most significant traffic volume increases along Route 66 focus around the Portland Town Center between Route 17A (Main Street) and Route 17 (Gospel Lane) with a growth rate of 2.6 percent, as the Brainerd Place mixed-use development is expected to generate significant new traffic in this area. To the east of Gospel Lane, growth along Route 66 is relatively consistent at 20.8 to 38.9 percent, or average annual growth rates of 1.0 to 1.9 percent.

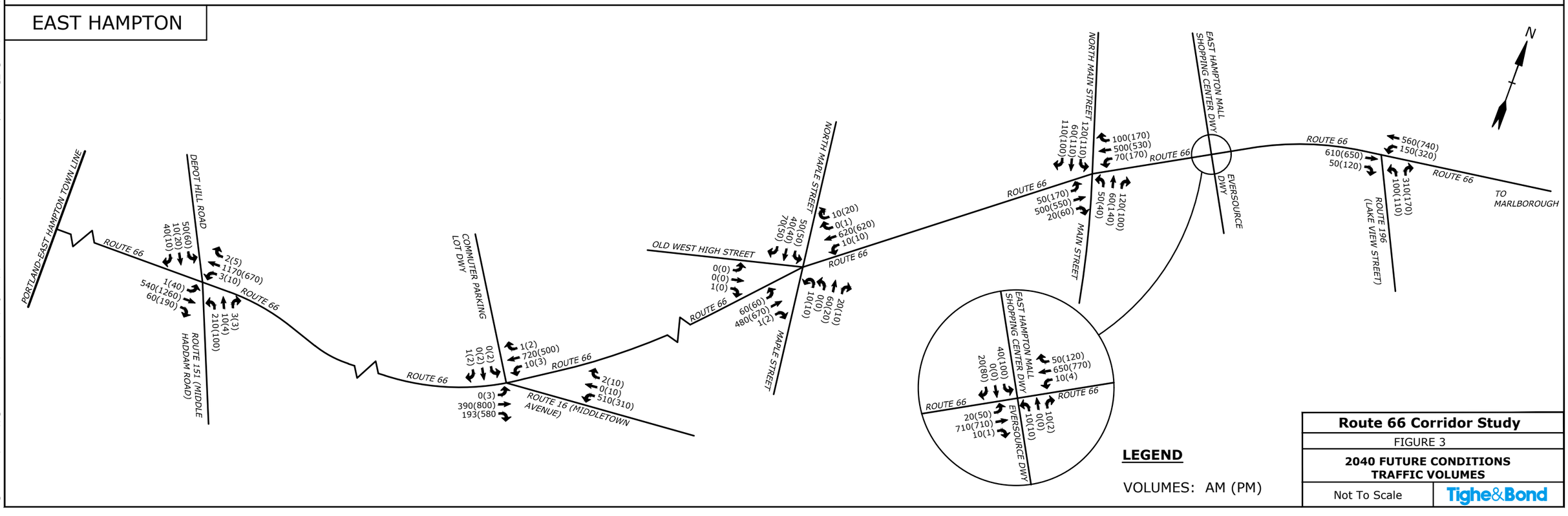
In addition, the available CTDOT triennial 24-hour continuous automatic traffic recorder (ATR) data between 2003 and 2015, as well as the ATR data collected by Tighe & Bond in 2018, were reviewed to evaluate the historical traffic and growth in the study area. The historical ATR data are summarized in Table 3, while the historical traffic growth is summarized in Table 4.

As shown in Table 3, the daily traffic volumes along Route 66 peaked around 2006 before the economic recession and began to decline. Route 66 started to recover in 2012 and volumes have since returned to pre-recession levels in most areas along the corridor by 2018. The traffic growth included in Table 4 shows a long-term annual growth rate of 0.2 percent between 2003 and 2018. For a short-term period, Route 66 have seen a growth rate of 2.9 percent between 2012 and 2018 and a growth rate of 1.8 percent between 2015 and 2018. In general, the historical traffic volume growth rates are consistent with the traffic volume projection between 2020 Corridor Conditions and 2040 Future Conditions for the study area intersections.

PORTLAND



EAST HAMPTON



LEGEND

VOLUMES: AM (PM)

Route 66 Corridor Study	
FIGURE 3	
2040 FUTURE CONDITIONS TRAFFIC VOLUMES	
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TABLE 2
Peak Hour Bi-Directional Traffic Volume Growth

Location	Weekday Morning Peak Hour				Weekday Afternoon Peak Hour			
	2020 Corridor	2040 Future	Approx. Change Net Vol.	%	2020 Corridor	2040 Future	Approx. Change Net Vol.	%
Route 17A								
Northeast of Route 66	930	1420	490	52.7%	1159	1670	511	44.1%
Route 66								
Southwest of Route 17A (Main Street)	2685	3660	975	36.3%	3018	3930	912	30.2%
Between Route 17A (Main Street) & High Street	1841	2690	849	46.1%	2098	2895	797	38.0%
Between High Street & Airline Avenue	1804	2630	827	45.8%	2194	2925	732	33.3%
Between Airline Avenue & Portland Shopping Center Driveway	1779	2530	752	42.3%	2143	2850	708	33.0%
Between Portland Shopping Center Driveway & Grove Street	1768	2515	747	42.3%	2106	2775	670	31.8%
Between Grove Street & Route 17 (Gospel Lane)	1648	2375	727	44.1%	2007	2643	636	31.7%
Between Route 17 (Gospel Lane) & Middle Haddam Road (W Junction)	1596	2216	621	38.9%	1959	2365	407	20.8%
Between Middle Haddam Road (W Junction) & Route 151 (Middle Haddam Road)/ Depot Hill Road	1516	2047	531	35.0%	1728	2096	368	21.3%
Between Route 151 (Middle Haddam Road)/ Depot Hill Road & Route 16 (Middletown Avenue)	1399	1830	431	30.8%	1608	2102	494	30.7%
Between Route 16 (Middletown Avenue) & Maple Street/ North Maple Street	898	1187	289	32.2%	1043	1365	322	30.8%
Between Maple Street/ North Maple Street & Main Street/ North Main Street	913	1210	298	32.6%	1086	1415	330	30.4%
Between North Maple Street & Main Street/ North Main Street & East Hampton Mall Shopping Center Dwy	1077	1415	338	31.4%	1263	1626	363	28.8%
Between East Hampton Mall Shopping Center Dwy & Route 196 (Lake View Street)	1072	1395	323	30.1%	1302	1663	362	27.8%
East of Route 196 (Lake View Street)	1258	1630	372	29.6%	1454	1880	426	29.3%

TABLE 3
Historic Average Daily Traffic(Volume & Average Annual Percent Change)

	Year										
Location	**2003**	**AAPC**	**2006**	**AAPC**	**2009**	**AAPC**	**2012**	**AAPC**	**2015**	**AAPC**	**2018**
Rte. 66 SW of Silver St.	33,200	0.4%	33,600	-1.2%	32,400	-5.5%	27,300	2.2%	29,100	4.1%	32,842
Rte. 66 SE of Rte. 17A	25,800	-3.6%	23,100	-1.3%	22,200	-6.9%	17,900	8.4%	22,800	2.7%	24,685
Rte. 66 West of Rte. 17	20,800	-0.8%	20,300	-3.2%	18,400	-6.2%	15,200	7.5%	18,900	2.8%	20,540
Rte. 66 East of Rte. 17	21,100	-1.1%	20,400	-1.3%	19,600	-3.9%	17,400	--	*	--	21,510
Rte. 66 NW of Murphy Rd.	*	--	*	--	*	--	17,100	-1.8%	16,200	--	*
Rte. 66 at Portland Town Line	18,400	-0.5%	18,100	-0.9%	17,600	-3.7%	15,700	2.5%	16,900	1.8%	17,825
Rte. 66 East of Rte. 151	16,200	0.2%	16,300	-0.6%	16,000	-4.4%	14,000	3.5%	15,500	0.7%	15,830
Rte. 66 SW of Rte. 16	15,900	2.3%	17,000	-1.2%	16,400	-2.3%	15,300	1.7%	16,100	--	*
Rte. 66 NE of Middletown Ave.	9,400	2.1%	10,000	-1.7%	9,500	-2.9%	8,700	--	*	--	10,185
Rte. 66 NE of Barton Hill Rd.	9,900	2.9%	10,800	-2.9%	9,900	-2.4%	9,200	3.2%	10,100	2.4%	10,835
Rte. 66 SW of Main St.	10,600	-1.3%	10,200	1.0%	10,500	-1.9%	9,900	4.2%	11,200	-1.1%	10,835
Rte. 66 NE of Main St.	13,500	-2.0%	12,700	0.8%	13,000	-1.8%	12,300	1.3%	12,800	0.0%	12,815
Rte. 66 West of Rte. 196	11,600	0.0%	11,600	2.0%	12,300	-2.2%	11,500	6.0%	13,700	3.1%	15,030
Rte. 66 East of Rte. 196 (Connector)	13,100	1.8%	13,800	-0.2%	13,700	-3.0%	12,500	2.3%	13,400	0.1%	13,430
Rte. 66 East of Old Marlborough Rd. (W Jct)	12,100	1.9%	12,800	0.8%	13100	-3.7%	11,700	1.7%	12,300	3.0%	13,430
Average		**0.2%**		**-0.7%**		**-3.6%**		**3.3%**		**1.8%**	

* Volume data not collected at this location during this year

TABLE 4

Historic Average Daily Traffic Growth Summary

Location	Annual Average Percent Change (AAPC)				
	2003-2018	2006-2018	2009-2018	2012-2018	2015-2018
Rte. 66 SW of Silver St.	**-0.1%**	**-0.2%**	**0.2%**	**3.1%**	**4.1%**
Rte. 66 SE of Rte. 17A	**-0.3%**	**0.6%**	**1.2%**	**5.5%**	**2.7%**
Rte. 66 West of Rte. 17	**-0.1%**	**0.1%**	**1.2%**	**5.1%**	**2.8%**
Rte. 66 East of Rte. 17	**0.1%**	**0.4%**	**1.0%**	**3.6%**	**-**
Rte. 66 NW of Murphy Rd.	**-**	**-**	**-**	**-**	**-**
Rte. 66 at Portland Town Line	**-0.2%**	**-0.1%**	**0.1%**	**2.1%**	**1.8%**
Rte. 66 East of Rte. 151	**-0.2%**	**-0.2%**	**-0.1%**	**2.1%**	**0.7%**
Rte. 66 SW of Rte. 16		**-**	**-**	**-**	**-**
Rte. 66 NE of Middletown Ave.	**0.5%**	**0.2%**	**0.8%**	**2.7%**	**-**
Rte. 66 NE of Barton Hill Rd.	**0.6%**	**0.0%**	**1.0%**	**2.8%**	**2.4%**
Rte. 66 SW of Main St.	**0.1%**	**0.5%**	**0.3%**	**1.5%**	**-1.1%**
Rte. 66 NE of Main St.	**-0.3%**	**0.1%**	**-0.2%**	**0.7%**	**0.0%**
Rte. 66 West of Rte. 196	**1.7%**	**2.2%**	**2.3%**	**4.6%**	**3.1%**
Rte. 66 East of Rte. 196 (Connector)	**0.2%**	**-0.2%**	**-0.2%**	**1.2%**	**0.1%**
Rte. 66 East of Old Marlborough Rd. (W Jct)	**0.7%**	**0.4%**	**0.3%**	**2.3%**	**3.0%**
Average	**0.2%**	**0.3%**	**0.6%**	**2.9%**	**1.8%**

- Volume data not available for the comparison

1.2 Future Traffic Operations

Utilizing the existing geometry and traffic signal settings established under the 2020 Corridor Conditions traffic analyses, traffic operations for the 2040 Future Conditions traffic volumes were evaluated for the study area intersections using Trafficware's Synchro plus SimTraffic 10 – 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 delays 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 with 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** Average Control Delay (Seconds per Vehicle)	**Unsignalized Intersection Criteria** Average Control Delay (Seconds per Vehicle)	**V/C Ratio >1.00[a]**
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: [a]For 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.

Figure 4 and Tables 5 and 6 summarize the expected traffic operations of the corridor in each of the peak periods. Figure 4 presents a visual representation of the overall signalized intersection LOS results on a study area map with the LOS color coded by letter. Within Tables 5, intersections, approaches and/or movements with significant delays (LOS E) and failing operations (LOS F) have been highlighted yellow and red, respectively. Within Table 6, approaches or movements with average and/ or design queues that exceed the available storage are highlighted in red. A comparison chart of the traffic operations between the 2020 Corridor Conditions traffic analyses, further detailed in the Route 66 Existing Condition Technical Memorandum, and 2040 Future Conditions traffic analyses are provided in Appendix B. Capacity analysis worksheets for the 2040 Future Conditions traffic operations are included in Appendix C.

The future traffic growth further exacerbates existing capacity issues along the Route 66 corridor at the study area intersections during the peak hours. Select approaches experience an increase in delay and reduction in LOS due to the increased traffic volumes. In general, similar to the traffic operations under Existing Conditions, queueing in the westbound direction during weekday morning commuter peak hours and in the eastbound direction during weekday afternoon commuter peak hours at the study area intersections are significantly increaseddue to the insceased traffic volumes. These delays will likely cause residual delays in excess of those shown by the LOS results. Traffic operations along Route 66 are significantly impacted during the peak hours due to the significant amount of traffic growth expected along the corridor as described in Section 1.1.

TABLE 5

Study Area Signalized Intersection Operational Summary – 2040 Future – LOS

	Lane Use	Weekday Morning Peak Hour LOS	Weekday Morning Peak Hour Avg. Delay (s/veh)	Weekday Morning Peak Hour v/c	Weekday Afternoon Peak Hour LOS	Weekday Afternoon Peak Hour Avg. Delay (s/veh)	Weekday Afternoon Peak Hour v/c
Traffic Signal - Route 66 at Route 17A (Main Street)							
Overall		**E**	**75.6**	**1.25**	**D**	**47.3**	**1.13**
Route 66	WB	E	72.4	1.12	B	15.1	0.76
Route 66	NBT	C	27.8	0.42	D	51.4	0.94
Route 17A	SB	F	147.8	1.25	C	26.4	0.78
Traffic Signal - Route 66 (Marlborough Street) at High Street							
Overall		**D**	**39.1**	**1.08**	**D**	**40.5**	**1.00**
Route 66	EBL	B	18.2	0.54	A	6.5	0.52
	EBT	B	10.8	0.42	E	66.0	1.00
Route 66	WB	D	53.5	1.08	A	6.6	0.62
High Street	SB	C	26.8	0.69	D	37.9	0.76
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue							
Overall		**D**	**39.2**	**0.99**	**D**	**43.6**	**1.11**
Route 66	EB	A	4.1	0.45	E	66.2	1.11
Route 66	WBL	A	3.9	0.04	A	1.3	0.07
	WBT	E	55.9	0.99	A	6.0	0.60
Airline Avenue	NB	C	26.6	0.32	B	17.4	0.35
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway							
Overall		**A**	**9.3**	**0.64**	**B**	**14.6**	**0.61**
Route 66	EBL	A	6.0	0.13	A	7.9	0.45
	EBTR	A	3.8	0.26	B	16.6	0.61
Route 66	WBTR	B	11.3	0.64	B	10.4	0.54
Portland Shopping Center	SBL	C	33.7	0.12	D	37.6	0.47
Dwy.	SBR	B	18.5	0.06	B	10.6	0.19
Traffic Signal - Route 66 (Marlborough St/Portland-Cobalt Rd) at Grove Street/ Grandview Terrace							
Overall		**A**	**4.9**	**0.67**	**A**	**3.4**	**0.62**
Route 66	EBL	A	0.7	0.05	A	1.1	0.05
	EBT	A	0.6	0.29	A	2.7	0.62
Route 66	WBL	A	1.7	0.01	A	2.0	0.04
	WBT	A	6.7	0.67	A	4.3	0.38
Grove Street	NBT	A	1.6	0.16	A	2.4	0.21
Grandview Terrace	SBT	D	35.7	0.08	B	18.5	0.23
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)							
Overall		**C**	**20.6**	**0.93**	**B**	**14.3**	**0.67**
Route 66	EBL	D	39.7	0.58	D	41.7	0.65
	EBTR	A	3.7	0.27	A	7.1	0.61
Route 66	WBT	C	28.9	0.93	B	17.2	0.52
	WBR	A	3.5	0.30	A	3.3	0.19
Route 17 (Gospel Lane)	SBL	D	36.6	0.48	D	45.4	0.67
	SBR	B	11.0	0.52	A	9.4	0.42
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road/Payne Boulevard							
Overall		**D**	**40.4**	**1.06**	**C**	**34.4**	**1.04**
Route 66	EBL	A	5.3	0.22	A	4.2	0.36
	EBTR	A	4.2	0.42	D	50.6	1.04
Route 66	WBL	A	1.5	0.00	A	2.3	0.02
	WBTR	E	57.1	1.06	B	12.1	0.66
Payne Boulevard	NB	A	5.0	0.24	D	43.4	0.25
Middle Haddam Road	SB	D	43.3	0.02	B	17.3	0.43

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE 5 (continued)

Study Area Signalized Intersection Operational Summary – 2040 Future – LOS

	Lane Use	Weekday Morning Peak Hour LOS	Weekday Morning Peak Hour Avg. Delay (s/veh)	Weekday Morning Peak Hour v/c	Weekday Afternoon Peak Hour LOS	Weekday Afternoon Peak Hour Avg. Delay (s/veh)	Weekday Afternoon Peak Hour v/c
Traffic Signal - Route 66 (Portland-Cobalt Rd/West High St) at Rte. 151 (Middle Haddam Rd)/Depot Hill Rd							
Overall		**E**	**63.3**	**1.18**	**F**	**99.2**	**1.26**
Route 66	EB	B	11.3	0.56	F	144.4	1.26
Route 66	WB	E	69.8	1.08	A	9.5	0.57
Route 151 (Middle Haddam	NBLT	F	164.5	1.18	E	76.0	0.72
Road)	NBR	A	0.0	0.01	A	0.0	0.01
Depot Hill Road	SB	E	78.6	0.80	E	62.5	0.59
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue)/Park & Ride Driveway							
Overall		**E**	**65.5**	**1.33**	**C**	**20.1**	**0.86**
Route 66	EBLT	B	13.5	0.49	C	24.6	0.85
	EBR	A	2.2	0.33	A	2.9	0.54
Route 66	WBL	A	8.3	0.03	A	8.3	0.02
	WBTR	C	30.3	0.90	B	13.4	0.53
Route 16 (Middletown Ave.)	NBLT	F	189.7	1.33	D	51.3	0.86
	NBR	A	0.0	0.00	A	0.1	0.02
Park & Ride Driveway	SB	A	0.0	0.00	B	19.3	0.01
Traffic Signal - Route 66 (West High Street) at Maple Street/North Maple Street/Old West High Street							
Overall		**C**	**21.7**	**0.75**	**B**	**14.6**	**0.72**
Route 66	EB	B	18.7	0.73	B	13.9	0.72
Route 66	WB	B	18.7	0.75	A	9.9	0.59
Main Street	NB	C	29.5	0.33	C	25.3	0.16
North Main Street	SB	D	39.6	0.66	D	37.5	0.60
Old West High Street	SEB	C	34.0	0.01	0	0.0	0.00
Traffic Signal - Route 66 (East Main St/West Main St) at Main Street/North Main Street							
Overall		**C**	**21.6**	**0.69**	**D**	**35.5**	**0.97**
Route 66	EBL	A	7.9	0.15	C	28.9	0.68
	EBTR	B	19.7	0.59	D	35.6	0.82
Route 66	WBL	A	5.6	0.18	B	17.7	0.57
	WBTR	C	22.3	0.69	D	42.0	0.97
Main Street	NBL	C	28.1	0.21	C	23.2	0.14
	NBTR	C	24.4	0.66	D	43.1	0.77
North Main Street	SBL	C	30.6	0.37	C	25.7	0.30
	SBTR	C	24.8	0.53	C	31.7	0.54
Traffic Signal - Route 66 (East High St.) at East Hampton Mall Shopping Center Dwy/Eversource Dwy							
Overall		**B**	**10.2**	**0.54**	**B**	**17.1**	**0.76**
Route 66	EBL	A	3.5	0.04	A	6.0	0.17
	EBT	B	10.3	0.54	B	13.3	0.55
Route 66	WBL	A	2.1	0.02	A	3.2	0.01
	WBT	A	7.7	0.54	B	17.6	0.76
Eversource Driveway	NBT	D	40.6	0.15	C	34.2	0.07
East Hampton Mall Shopping	SBT	D	45.2	0.31	D	48.8	0.55
Center Driveway	SBR	A	0.8	0.09	B	10.3	0.29
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)							
Overall		**B**	**16.9**	**0.86**	**D**	**44.3**	**1.13**
Route 66	EB	C	29.5	0.86	F	99.8	1.13
Route 66	WBL	A	6.4	0.37	B	18.4	0.64
	WBTR	A	6.0	0.47	A	7.5	0.60
Route 196 (Lake View St.)	NBL	C	32.2	0.39	C	34.5	0.45
	NBR	A	9.6	0.62	A	9.1	0.46

TR and LT denote shared "through-right" and shared "left-through" lanes

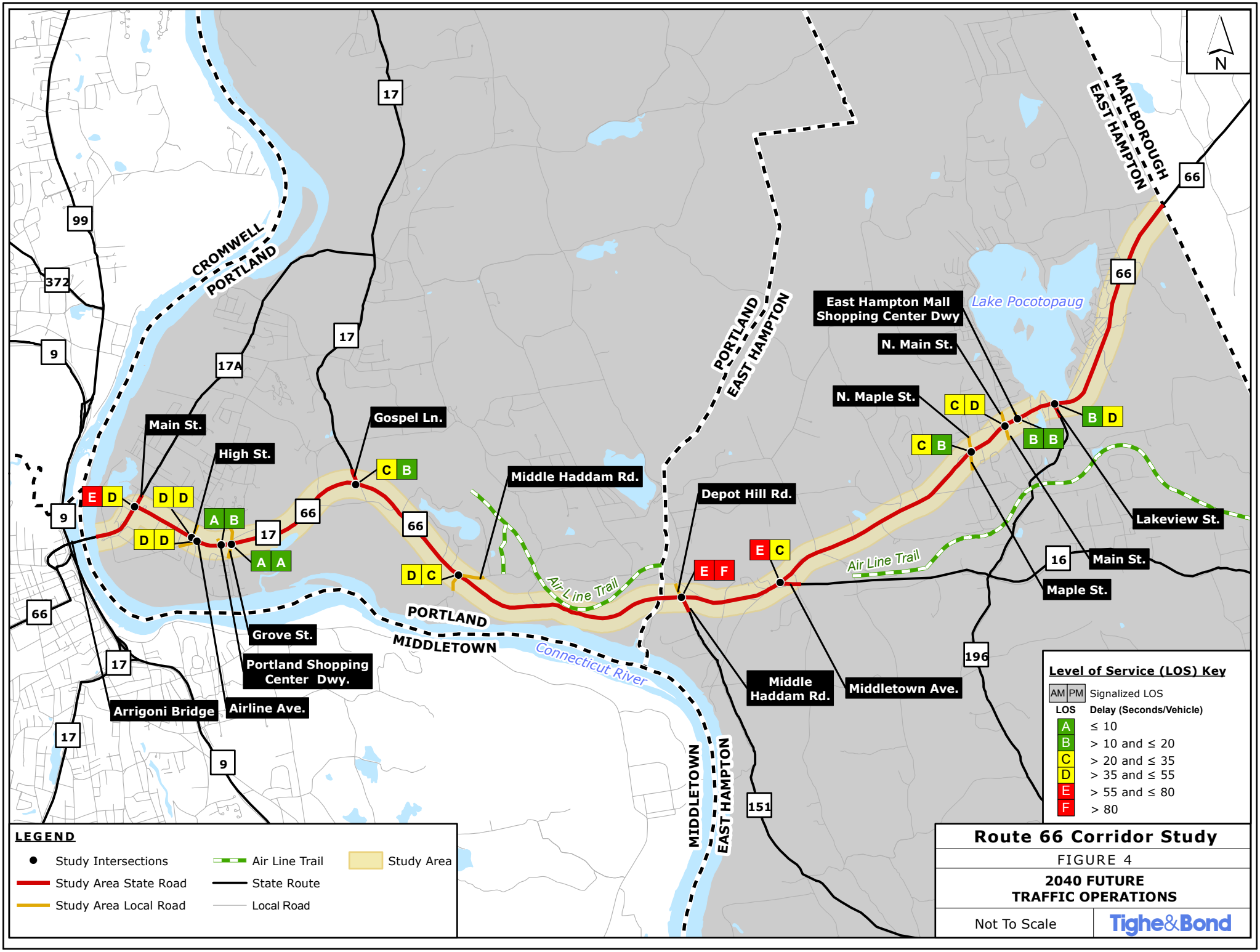

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TABLE 6

Study Area Signalized Intersection Operational Summary – 2040 Future – Queues

	Lane Use	Available Storage	Weekday Morning Peak Hour Avg. Queues	Weekday Morning Peak Hour Design Queues	Weekday Afternoon Peak Hour Avg. Queues	Weekday Afternoon Peak Hour Design Queues
Traffic Signal - Route 66 at Route 17A (Main Street)						
Route 66	WB	>750	~613	m#552	253	41
Route 66	NB	510	75	114	197	#308
Route 17A	SB	510	~350	#470	142	#328
Traffic Signal - Route 66 (Marlborough Street) at High Street						
Route 66	EBL	225	23	m82	26	m33
	EBT	>1000	87	m160	~438	m#543
Route 66	WBT	150	~553	m#689	24	#80
High Street	SB	>500	64	129	118	184
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue						
Route 66	EB	145	27	37	~563	m#693
Route 66	WBL	175	1	m5	0	m1
	WBT	975	424	#735	21	#32
Airline Avenue	NB	>500	29	64	28	67
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway						
Route 66	EBL	350	1	m21	46	m51
	EBTR	>500	0	186	424	m431
Route 66	WBTR	370	0	599	172	305
Portland Shopping Center	SBL	155	10	31	53	96
Driveway	SBR	155	0	14	0	28
Traffic Signal - Route 66 (Marlborough St/Portland-Cobalt Rd) at Grove Street/ Grandview Terrace						
Route 66	EBL	125	1	m0	1	m3
	EBTR	370	2	4	3	152
Route 66	WBL	150	0	1	1	3
	WBTR	>500	182	440	64	155
Grove Street	NB	>500	0	0	0	1
Grandview Terrace	SB	>500	5	21	1	28
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)						
Route 66	EBL	200	49	103	97	#197
	EBT	>500	35	68	155	270
Route 66	WBT	>750	297	#556	147	225
	WBR	200	5	45	0	32
Route 17 (Gospel Lane)	SBL	>500	40	88	80	141
	SBR	100	0	51	0	47
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road/Payne Boulevard						
Route 66	EBL	175	3	6	14	29
	EBTR	>1500	95	227	~971	#1469
Route 66	WBL	300	0	1	0	2
	WBTR	>2000	~1258	#1475	254	437
Payne Boulevard	NB	>500	0	8	12	41
Middle Haddam Road	SB	>500	2	11	2	48

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE 6 (continued)

Study Area Signalized Intersection Operational Summary – 2040 Future – Queues

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
	Lane Use	Available Storage	Avg. Queues	Design Queues	Avg. Queues	Design Queues
Traffic Signal - Route 66 (Portland-Cobalt Rd/West High St) at Rte. 151 (Middle Haddam Rd)/Depot Hill Rd						
Route 66	EB	>2500	247	327	~1591	#2030
Route 66	WB	>1500	~1233	#1442	220	400
Route 151 (Middle	NBLT	>500	~247	#404	86	149
Haddam Road)	NBR	65	0	0	0	0
Depot Hill Road	SB	>500	74	#175	70	128
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue)/Park & Ride Driveway						
Route 66	EBLT	>750	127	189	330	507
	EBR	250	0	30	0	42
Route 66	WBL	125	2	9	1	4
	WBTR	>500	329	481	156	236
Route 16 (Middletown	NBLT	>750	~402	#625	164	#324
Avenue)	NBR	100	0	0	0	0
Park & Ride Driveway	SB	75	0	0	2	11
Traffic Signal - Route 66 (West High Street) at Maple Street/North Maple Street/Old West High Street						
Route 66	EB	>500	154	#474	183	401
Route 66	WB	>750	186	#551	139	285
Main Street	NB	>500	41	92	16	40
North Main Street	SB	>500	77	157	59	112
Old West High Street	SEB	>500	0	5	0	0
Traffic Signal - Route 66 (East Main St/West Main St) at Main Street/North Main Street						
Route 66	EBL	275	10	28	47	128
	EBTR	>1000	217	405	315	#678
Route 66	WBL	225	24	m6	13	m52
	WBTR	485	374	#544	406	#801
Main Street	NBL	225	24	49	17	37
	NBTR	>500	44	98	115	172
North Main Street	SBL	175	64	103	54	86
	SBTR	>500	53	117	101	165
Traffic Signal - Route 66 (East High Street) at East Hampton Mall Shopping Center Dwy/Eversource Dwy						
Route 66	EBL	225	4	m7	5	m21
	EBTR	485	233	402	180	m467
Route 66	WBL	125	1	4	1	3
	WBTR	>1000	123	352	348	#732
Eversource Driveway	NB	260	12	35	7	23
East Hampton Mall	SBL	140	25	56	60	107
Shopping Center Dwy.	SBR	140	0	0	0	38
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)						
Route 66	EB	>1000	239	#486	~443	#710
Route 66	WBL	250	15	39	72	173
	WBTR	>500	77	171	125	264
Route 196 (Lake View	NBL	170	43	87	50	96
St.)	NBR	>500	0	66	0	50

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

1.3 Future Optimized Traffic Operations

The 2040 Future Traffic Volumes were also analyzed with an optimized traffic network where the physical lane geometry remained unchanged, but traffic signal timings including the coordination and system settings along the corridor was optimized. The purpose of the 2040 Future Optimized traffic analysis is to determine how the signalization along the corridor will process expected traffic without any significant physical improvements.

The optimization process included a review of the coordinated system along Route 66, the coordinated system cycle lengths, and signal phase timing splits at each of the study area intersections to balance delays on the intersection approaches to increase the overall efficiency of the traffic operations. The optimization process was similar to those employed by CTDOT, which monitors state-maintained coordination systems, periodically modifying the signal timing based on current volumes to maintain operational efficiency. A study area minimum cycle length of 60 seconds and maximum cycle length of 120 seconds were utilized during optimization to assess the opportunities available from optimization. The optimization of the traffic signal operation included the following:

- Optimize the cycle length (increased from 80 seconds to 120 seconds) and the timing splits at the intersection of Route 66 and Main Street during weekday morning peak hours. Retain the existing cycle length of 80 seconds but optimize the timing splits at the intersection during weekday afternoon peak hours. It should be noted that the traffic signal at the intersection of Route 66 and Main Street is operated on a time-based coordination system along Route 17A (Main Street) and the traffic signal optimization should be further reviewed along with the remaining traffic signals on the same coordination system along Route 17A. The optimization of the cycle length and timing splits at the intersection are expected to improve the overall intersection operation, however, the southbound approaches on Route 17A (Main Street) will continue to operate at unacceptable LOS F with the optimization.

- Optimize the cycle length (increased from 80 seconds to 100 seconds) and the timing splits at the coordinated intersections of Route 66 at High Street, Airline Avenue, Portland Shopping Center Driveway, and Grove Street, which operate on a time-based coordination system on the west end of Route 66. These four intersections are expected to operate at acceptable LOS with the traffic signal optimization during both peak periods.

- Optimize the cycle length (decreased from 112.2 seconds to 110 seconds) and the timing splits at the uncoordinated intersection of Route 66 and Middle Haddam Road (West Junction) during both peak periods. The intersection is expected to operate at acceptable LOS with the traffic signal optimization.

- All the approaches of the uncoordinated intersection of Route 66 at Depot Hill Road & Route 151 are expected to operate at unacceptable LOS during both peak periods. The optimization of the cycle length and timing splits won't resolve the operational issues at this intersection.

- Optimize the cycle length (increased from 86.9 seconds to 90 seconds) and the timing splits at the uncoordinated intersections of Route 66 and Route 16 during both peak periods. The intersection is expected to operate at acceptable LOS with the traffic signal optimization.

- The uncoordinated intersection of Route 66 and Lake View Street is expected to operate at acceptable LOS during weekday morning peak periods under 2040 Future Conditions and therefore no traffic signal optimization is required. During the weekday afternoon peak hours, the intersection is expected to operate at acceptable LOS with the optimization of the cycle length (increased from 78.4 seconds to 80 seconds) and the timing splits.

A summary of the expected traffic operations following optimization is provided in Figure 5 and Tables 7 and 8. Figure 5 illustrates the overall signalized intersection LOS and intersection approach LOS on the study area map with the LOS color coded by letter. Within Table 7, intersection approaches and/or movements with significant delays (LOS E) and failing operations (LOS F) have been highlighted yellow and red, respectively. Within Table 8, approaches or movements with average and/ or design queues that exceed the available storage are highlighted in red. Capacity analysis worksheets for the 2040 Future Optimized traffic network are included in Appendix D.

The traffic signal optimization mitigates some of the delay caused by the additional future traffic growth. Overall intersection LOS at select intersections during the peak periods are improved to acceptable levels, however, a number of intersections and/ or approaches remain at poor to failing LOS E and F conditions. A few approaches continue to operate at failing levels with queues beyond available storage and extending to and through adjacent intersections indicating the need for further investigation and potential physical improvements to the transportation system to mitigate poor operating conditions. A table comparing the 2020 Corridor, 2020 Corridor Optimized, 2040 Future and 2040 Future Optimized conditions is provided in Appendix B.

TABLE 7

Study Area Signalized Intersection Operational Summary – 2040 Future Optimized – LOS

	Lane Use	Weekday Morning Peak Hour LOS	Avg. Delay (s/veh)	v/c	Weekday Afternoon Peak Hour LOS	Avg. Delay (s/veh)	v/c
Traffic Signal - Route 66 at Route 17A (Main Street)							
Overall		**E**	**65.9**	**1.21**	**D**	**46.6**	**1.13**
Route 66	WB	D	52.4	1.02	C	24.3	0.78
Route 66	NBT	D	53.3	0.63	C	32.6	0.78
Route 17A	SB	F	139.3	1.21	C	28.3	0.81
Traffic Signal - Route 66 (Marlborough Street) at High Street							
Overall		**C**	**28.3**	**1.03**	**C**	**28.1**	**0.93**
Route 66	EBL	C	25.3	0.58	A	9.8	0.52
	EBT	B	13.8	0.40	D	42.4	0.93
Route 66	WB	C	32.8	1.03	A	3.4	0.58
High Street	SB	D	40.0	0.74	D	46.7	0.76
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue							
Overall		**C**	**33.8**	**0.94**	**C**	**32.1**	**1.03**
Route 66	EB	A	4.7	0.42	C	33.8	1.03
Route 66	WBL	A	6.0	0.04	A	8.7	0.07
	WBT	D	47.2	0.94	C	30.2	0.55
Airline Avenue	NB	C	33.3	0.31	C	24.8	0.35
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway							
Overall		**A**	**8.8**	**0.66**	**A**	**9.3**	**0.62**
Route 66	EBL	A	4.0	0.14	A	8.0	0.44
	EBTR	A	0.2	0.26	A	3.2	0.62
Route 66	WBTR	B	12.1	0.66	B	14.4	0.53
Portland Shopping Center Dwy.	SBL	D	44.5	0.14	D	49.7	0.54
	SBR	C	23.1	0.07	B	12.7	0.21
Traffic Signal - Route 66 (Marlborough St/Portland-Cobalt Rd) at Grove Street/ Grandview Terrace							
Overall		**A**	**5.4**	**0.65**	**A**	**9.2**	**0.62**
Route 66	EBL	A	2.9	0.05	A	2.5	0.05
	EBT	A	4.7	0.28	B	12.3	0.62
Route 66	WBL	A	1.3	0.01	A	1.7	0.05
	WBT	A	5.5	0.65	A	3.8	0.38
Grove Street	NBT	A	2.6	0.20	A	6.2	0.26
Grandview Terrace	SBT	D	46.2	0.10	C	22.9	0.27
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)							
Overall		**C**	**20.6**	**0.93**	**B**	**14.3**	**0.67**
Route 66	EBL	D	39.7	0.58	D	41.7	0.65
	EBTR	A	3.7	0.27	A	7.1	0.61
Route 66	WBT	C	28.9	0.93	B	17.2	0.52
	WBR	A	3.5	0.30	A	3.3	0.19
Route 17 (Gospel Lane)	SBL	D	36.6	0.48	D	45.4	0.67
	SBR	B	11.0	0.52	A	9.4	0.42
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road/Payne Boulevard							
Overall		**D**	**37.6**	**1.05**	**C**	**31.1**	**1.03**
Route 66	EBL	A	5.9	0.24	A	3.9	0.35
	EBTR	A	4.0	0.42	D	46.0	1.03
Route 66	WBL	A	1.5	0.00	A	2.3	0.02
	WBTR	D	53.1	1.05	B	11.2	0.65
Payne Boulevard	NB	A	4.8	0.24	D	47.6	0.28
Middle Haddam Road	SB	D	45.7	0.02	A	7.0	0.36

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE 7 (continued)

Study Area Signalized Intersection Operational Summary – 2040 Future Optimized – LOS

	Lane Use	Weekday Morning Peak Hour LOS	Weekday Morning Peak Hour Avg. Delay (s/veh)	Weekday Morning Peak Hour v/c	Weekday Afternoon Peak Hour LOS	Weekday Afternoon Peak Hour Avg. Delay (s/veh)	Weekday Afternoon Peak Hour v/c
Traffic Signal - Route 66 (Portland-Cobalt Rd/West High St) at Rte. 151 (Middle Haddam Rd)/Depot Hill Rd							
Overall		**E**	**63.3**	**1.18**	**F**	**99.2**	**1.26**
Route 66	EB	B	11.3	0.56	F	144.4	1.26
Route 66	WB	E	69.8	1.08	A	9.5	0.57
Route 151 (Middle Haddam	NBLT	F	164.5	1.18	E	76.0	0.72
Road)	NBR	A	0.0	0.01	A	0.0	0.01
Depot Hill Road	SB	E	78.6	0.80	E	62.5	0.59
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue)/Park & Ride Driveway							
Overall		**D**	**50.3**	**1.09**	**C**	**20.3**	**0.85**
Route 66	EBLT	C	20.0	0.54	C	25.4	0.85
	EBR	A	3.0	0.35	A	2.9	0.54
Route 66	WBL	B	13.4	0.03	A	9.0	0.02
	WBTR	D	54.9	0.99	B	13.9	0.53
Route 16 (Middletown Ave.)	NBLT	F	92.8	1.09	D	49.7	0.85
	NBR	A	0.0	0.00	A	0.1	0.02
Park & Ride Driveway	SB	A	0.0	0.00	B	19.3	0.01
Traffic Signal - Route 66 (West High Street) at Maple Street/North Maple Street/Old West High Street							
Overall		**C**	**21.7**	**0.75**	**B**	**14.6**	**0.72**
Route 66	EB	B	18.7	0.73	B	13.9	0.72
Route 66	WB	B	18.7	0.75	A	9.9	0.59
Main Street	NB	C	29.5	0.33	C	25.3	0.16
North Main Street	SB	D	39.6	0.66	D	37.5	0.60
Old West High Street	SEB	C	34.0	0.01	0	0.0	0.00
Traffic Signal - Route 66 (East Main St/West Main St) at Main Street/North Main Street							
Overall		**C**	**21.6**	**0.69**	**D**	**35.5**	**0.97**
Route 66	EBL	A	7.9	0.15	C	28.9	0.68
	EBTR	B	19.7	0.59	D	35.6	0.82
Route 66	WBL	A	5.6	0.18	B	17.7	0.57
	WBTR	C	22.3	0.69	D	42.0	0.97
Main Street	NBL	C	28.1	0.21	C	23.2	0.14
	NBTR	C	24.4	0.66	D	43.1	0.77
North Main Street	SBL	C	30.6	0.37	C	25.7	0.30
	SBTR	C	24.8	0.53	C	31.7	0.54
Traffic Signal - Route 66 (East High St.) at East Hampton Mall Shopping Center Dwy/Eversource Dwy							
Overall		**B**	**10.2**	**0.54**	**B**	**17.1**	**0.76**
Route 66	EBL	A	3.5	0.04	A	6.0	0.17
	EBT	B	10.3	0.54	B	13.3	0.55
Route 66	WBL	A	2.1	0.02	A	3.2	0.01
	WBT	A	7.7	0.54	B	17.6	0.76
Eversource Driveway	NBT	D	40.6	0.15	C	34.2	0.07
East Hampton Mall Shopping	SBT	D	45.2	0.31	D	48.8	0.55
Center Driveway	SBR	A	0.8	0.09	B	10.3	0.29
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)							
Overall		**B**	**16.9**	**0.86**	**C**	**22.3**	**0.91**
Route 66	EB	C	29.5	0.86	C	33.7	0.91
Route 66	WBL	A	6.4	0.37	C	31.3	0.78
	WBTR	A	6.0	0.47	A	5.6	0.57
Route 196 (Lake View St.)	NBL	C	32.2	0.39	D	45.9	0.57
	NBR	A	9.6	0.62	B	11.6	0.52

TR and LT denote shared "through-right" and shared "left-through" lanes

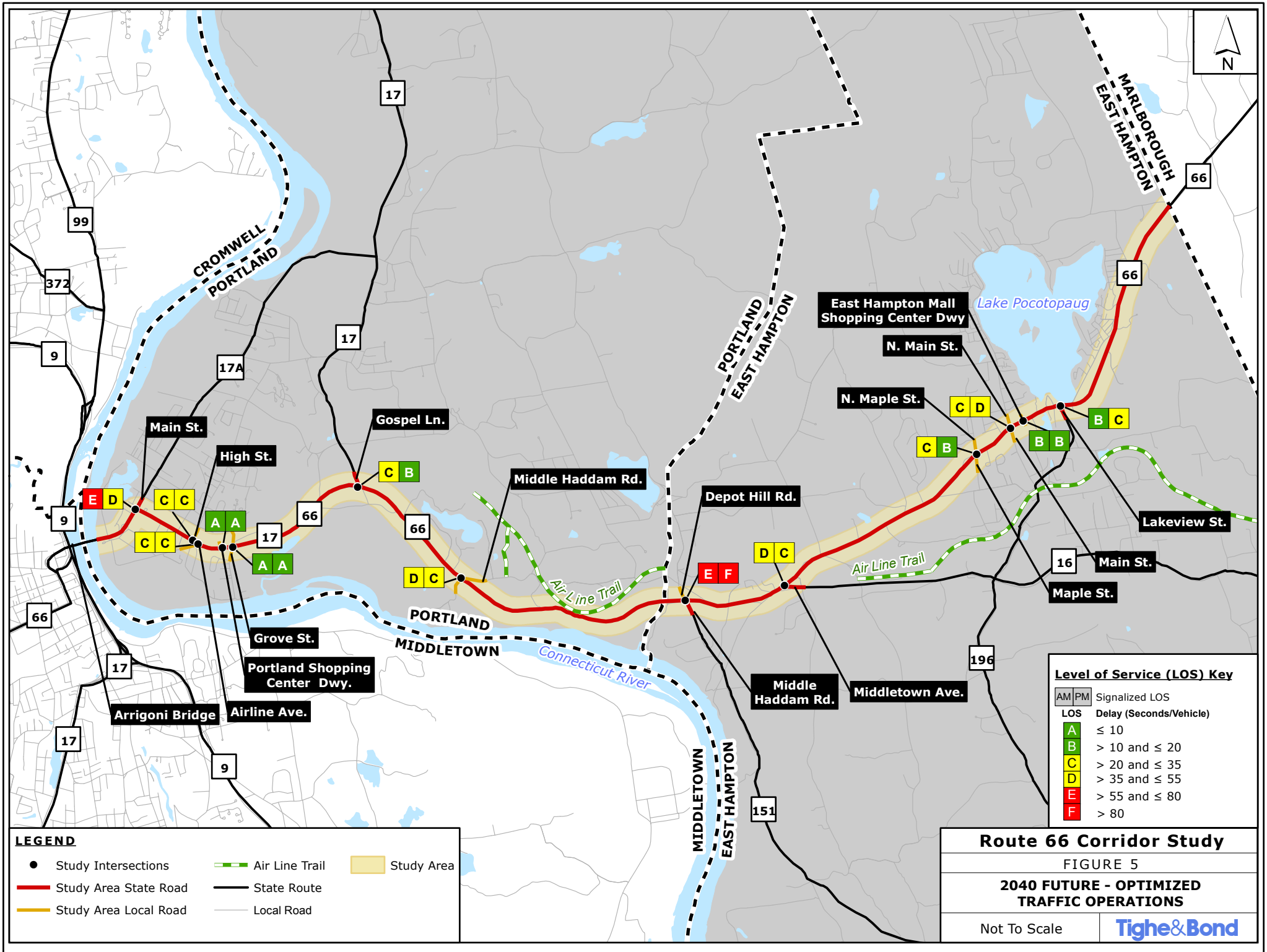

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TABLE 8

Study Area Signalized Intersection Operational Summary – 2040 Future Optimized – Queues

	Lane Use	Available Storage	Weekday Morning Peak Hour Avg. Queues	Weekday Morning Peak Hour Design Queues	Weekday Afternoon Peak Hour Avg. Queues	Weekday Afternoon Peak Hour Design Queues
Traffic Signal - Route 66 at Route 17A (Main Street)						
Route 66	WB	>750	~839	#977	226	260
Route 66	NB	510	130	181	183	249
Route 17A	SB	510	~523	#484	139	#317
Traffic Signal - Route 66 (Marlborough Street) at High Street						
Route 66	EBL	225	50	118	37	72
	EBT	>1000	133	222	514	#854
Route 66	WBT	150	~725	m#902	12	16
High Street	SB	>500	106	182	159	237
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue						
Route 66	EB	145	35	45	~688	m#918
Route 66	WBL	175	5	m8	0	m11
	WBT	975	591	#849	374	445
Airline Avenue	NB	>500	39	80	44	92
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway						
Route 66	EBL	350	0	m8	1	m24
	EBTR	>500	1	1	2	m38
Route 66	WBTR	370	333	583	187	305
Portland Shopping Center	SBL	155	13	36	68	117
Driveway	SBR	155	0	16	0	32
Traffic Signal - Route 66 (Marlborough St/Portland-Cobalt Rd) at Grove Street/ Grandview Terrace						
Route 66	EBL	125	1	9	2	m4
	EBTR	370	40	206	376	616
Route 66	WBL	150	0	1	1	3
	WBTR	>500	182	422	64	152
Grove Street	NB	>500	0	1	0	9
Grandview Terrace	SB	>500	7	25	2	32
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)						
Route 66	EBL	200	49	103	97	#197
	EBT	>500	35	68	155	270
Route 66	WBT	>750	297	#556	147	225
	WBR	200	5	45	0	32
Route 17 (Gospel Lane)	SBL	>500	40	88	80	141
	SBR	100	0	51	0	47
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road/Payne Boulevard						
Route 66	EBL	175	3	6	14	27
	EBTR	>1500	95	224	~1012	#1499
Route 66	WBL	300	0	1	0	2
	WBTR	>2000	~1303	#1514	254	422
Payne Boulevard	NB	>500	0	7	13	43
Middle Haddam Road	SB	>500	2	11	0	18

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE 8 (continued)

Study Area Signalized Intersection Operational Summary – 2040 Future Optimized – Queues

			Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
	Lane Use	Available Storage	Avg. Queues	Design Queues	Avg. Queues	Design Queues
Traffic Signal - Route 66 (Portland-Cobalt Rd/West High St) at Rte. 151 (Middle Haddam Rd)/Depot Hill Rd						
Route 66	EB	>2500	247	327	~1591	#2030
Route 66	WB	>1500	~1233	#1442	220	400
Route 151 (Middle	NBLT	>500	~247	#404	86	149
Haddam Road)	NBR	65	0	0	0	0
Depot Hill Road	SB	>500	74	#175	70	128
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue)/Park & Ride Driveway						
Route 66	EBLT	>750	172	254	351	532
	EBR	250	0	39	0	44
Route 66	WBL	125	3	12	1	5
	WBTR	>500	445	#681	166	249
Route 16 (Middletown	NBLT	>750	~374	#554	170	#323
Avenue)	NBR	100	0	0	0	0
Park & Ride Driveway	SB	75	0	0	2	11
Traffic Signal - Route 66 (West High Street) at Maple Street/North Maple Street/Old West High Street						
Route 66	EB	>500	154	#474	183	401
Route 66	WB	>750	186	#551	139	285
Main Street	NB	>500	0	0	0	0
North Main Street	SB	>500	77	157	59	112
Old West High Street	SEB	>500	0	5	0	0
Traffic Signal - Route 66 (East Main St/West Main St) at Main Street/North Main Street						
Route 66	EBL	275	10	28	47	128
	EBTR	>1000	217	405	315	#678
Route 66	WBL	225	24	m6	13	m52
	WBTR	485	374	#544	406	#801
Main Street	NBL	225	24	49	17	37
	NBTR	>500	44	98	115	172
North Main Street	SBL	175	64	103	54	86
	SBTR	>500	53	117	101	165
Traffic Signal - Route 66 (East High Street) at East Hampton Mall Shopping Center Dwy/Eversource Dwy						
Route 66	EBL	225	4	m7	5	m21
	EBTR	485	233	402	180	m467
Route 66	WBL	125	1	4	1	3
	WBTR	>1000	123	352	348	#732
Eversource Driveway	NB	260	12	35	7	23
East Hampton Mall	SBL	140	25	56	60	107
Shopping Center Dwy.	SBR	140	0	0	0	38
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)						
Route 66	EB	>1000	239	#486	336	#581
Route 66	WBL	250	15	39	98	#227
	WBTR	>500	77	171	115	179
Route 196 (Lake View	NBL	170	43	87	56	#121
St.)	NBR	>500	0	66	0	56

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

1.4 Areas of Concern

1.4.1 Traffic Operations

As identified in the traffic analyses, the poor traffic operations that were identified under the Assessment of Existing Conditions become worse under future travel demand and some intersections that exhibited acceptable operations begin to degrade with the additional forecast traffic volume. The intersections that experience long queues on the eastbound and westbound approaches under the existing conditions show increased queues under the future conditions. The areas outlined below will be the focus of efforts to plan roadway improvements to mitigate the impact of projected travel demand on Route 66 study corridor.

- **Route 66 at Route 17A (Main Street)**
    - LOS F operation on Route 17A southbound approach and LOS E operation on Route 66 westbound approach during weekday morning peak period. Route 66 westbound approach will operate at acceptable LOS D but Route 17A southbound approach will continue to operate at LOS F with traffic signal timing optimization.
    - Significant queues on Route 66 westbound approach during weekday morning peak period. Signal timing optimization won't resolve the queue issues at the intersection.

- **Route 66 at High Street**
    - LOS E operation on Route 66 eastbound approach during weekday afternoon peak hour. However, with the optimization of the cycle length and timing splits, this approach will operate at acceptable LOS D under 2040 Future Conditions.
    - Significant queues for Route 66 westbound approach during weekday morning peak hours and for Route 66 eastbound approach during weekday afternoon peak hours due to heavy commuter traffic along Route 66. Signal timing optimization itself won't resolve the queue issues at the intersection.

- **Route 66 at Airline Avenue**
    - LOS E operation for Route 66 westbound through approach during weekday morning peak hour and for eastbound approach during weekday afternoon approach. However, with the optimization of the cycle length and timing splits, these approaches will operate at acceptable LOS D or better under 2040 Future Conditions.
    - Significant queues for Route 66 westbound approach during weekday morning peak hours and for Route 66 eastbound approach during weekday afternoon peak hours due to heavy commuter traffic along Route 66. Signal timing optimization itself won't resolve the queue issues at the intersection.

- **Route 66 at Middle Haddam Road/ Payne Boulevard**
    - LOS E operation for the westbound shared through-right approach during weekday morning peak hour. However, with the optimization of the cycle length and timing splits, the intersection will operate at acceptable LOS under 2040 Future Conditions.
    - Significant queues for Route 66 westbound approach during weekday morning peak hours and for Route 66 eastbound approach during weekday afternoon peak hours due to heavy commuter traffic along Route 66. Signal timing optimization itself won't resolve the queue issues at the intersection.
- **Route 66 at Route 151 (Middle Haddam Road)/ Depot Hill Road**
    - Overall LOS E/F operation and LOS E/F operation on all the approaches of the intersection during both morning and afternoon peak periods. The optimization of the cycle length and timing splits won't resolve the operational issues at this intersection.
    - Significant queues for Route 66 westbound approach during weekday morning peak hour and for Route 66 eastbound approach during weekday afternoon peak hour based on the capacity analysis results. The optimization of the cycle length and timing splits won't resolve the queue issues at this intersection.

Long queues at the intersection of Route 66 at Route 151 in Cobalt, Looking East

- **Route 66 at Route 16 (Middletown Avenue)/ Park & Ride Driveway**
    - Overall LOS E operation and LOS F operation on Route 16 (Middletown Avenue) northbound shared left-through approach during weekday morning peak hour.
    - Significant queues for Route 16 (Middletown Avenue) northbound approach during weekday morning peak hour based on the capacity analysis results. The long queues do not improve with signal timing optimization.

- **Route 66 at Main Street/North Main Street**
    - Significant queues for Route 66 westbound approach during both peak hours based on the capacity analysis results. The long queues do not improve with signal timing optimization.

- **Route 66 at Lake View Street**
    - LOS E operation for Route 66 eastbound approach during weekday afternoon peak hour. However, with the optimization of the cycle length and timing splits, this approach will operate at acceptable LOS C under 2040 Future Conditions.
    - Significant queues for Route 66 eastbound approach during weekday afternoon peak hour based on the capacity analysis results. Queues for Route 66 eastbound approach during weekday afternoon peak hour are improved with traffic signal optimization.

1.4.2 Safety Concerns

As discussed in the Existing Conditions Technical Memorandum, there are a number of safety concerns throughout the Route 66 Corridor. With the projected 2040 traffic volume growth, the safety concerns identified in the Existing Condition may be amplified under additional travel demand, higher congestion and additional development . Vehicles may increasingly utilitize cut-throughs on local roads to avoid significant delays at poorly performing areas of the corridor. Currently, vehicles use Wolcott Avenue as an alternate to the intersection of Route 66 and Route 17A, William Street Extension to avoid the intersection of Route 66 and Route 17, and Middle Haddam Road as an alternative to Route 66 in Cobalt. These roadways, as well as other possible roadways, are expected to see increased cut-through traffic. In addition, an increasingly unsafe environment will likely develop along these relatively quiet, low-speed local roadways as cut-through and by-pass traffic increases. Concerns with vehicles leaving and entering the Route 66 corridor at intersecting roads with skewed alignments will likely worsen with the increased future traffic volumes on Route 66. The Ledges area in Portland is one location where existing unsafe conditions will likely worsen with increased future traffic volumes. The high collision rates at the intersections of Route 66 at 17A (Main Street), Route 66 at High Street, and Route 66 at Route 151 (Middle Haddam Road)/ Depot Hill Road during the existing conditions may increase in the future as a result of the projected increase in future traffic volumes. Finally, as alternative travel modes become more utilized for both travel and recreation, the mixing of these modes along the existing Route 66 roadway is a concern that needs further investigation to identify viable off-road solutions to meet this travel demand.

The Ledges at St. Clement's Castle Driveway in Portland, Looking West

APPENDIX A

Route 66 Corridor Study
Future Conditions Planning Study Report

Tighe&Bond

January 2019

ROUTE 66 CORRIDOR STUDY
Future Conditions Planning Study Report

Towns of East Hampton &
Portland, Connecticut

RKG ASSOCIATES INC

Table of Contents

1. EXECUTIVE SUMMARY

SUMMARY OF KEY POINTS

This section presents the summary of key points from this analysis. The research and analysis on which these are based are presented in greater detail throughout other sections of this report.

- Between 2015 and 2040, both East Hampton and Portland are expected to see the age composition of their populations shift toward an older demographic. Although Portland is projected to see population growth, while East Hampton may see population decline; it is the aging of both communities that could have economic development and housing implications.

- Both towns are projected to see modest employment growth over the next ten years. While it is possible that employment growth could result in additional businesses and the demand for commercial/industrial space along Route 66, existing businesses could choose to expand in existing space to absorb additional employees or fill existing vacant space.

- There is a noticeable shift in the types of permitted and planned development projects along Route 66 in both towns. Developers looking to build housing are choosing to construct a range of product types from single-family homes, to townhouses, to apartments. In some instances, like Brainerd Place, the developer is creating a new mixed-use village with residential units over retail/office space. Mixed-use developments, particularly those in and around existing town centers and downtowns have become much more common over the last ten to twenty years. Municipalities, developers, and residents see the value in promoting walkable, livable extensions of downtown areas. This trend is likely to continue as it creates sustained economic value over time for the developer and the municipality, helps integrate new housing types into the community, and creates an active street frontage by placing commercial space on the ground floor with uses above.

- Development along Route 66 continues to concentrate at the ends of the corridor closer to primary transportation routes, utilities and services, and daily service needs and amenities.

- The lack of a municipal/regional water system will continue to constrain development potential and limit opportunities to lower volume water users or developments that are large enough to create their own internal systems. Plans to extend water to East Hampton and create a series of service areas are expensive and require the Metropolitan District (MDC) and Town of Portland to agree on a strategy for extending that service.

- The towns should look to concentrate development at nodes along Route 66 where transportation is safe and accessible, utilities could eventually be extended, parcels could be combined to form larger development sites, and enough development could be supported to create new activity centers where residents could live and have access to some daily service needs thereby reducing reliance on vehicles. Nodes could include Downtown Portland, Gospel Lane/Route 66, Cobalt, Downtown East Hampton, and the East Hampton Historic Village Center.

2. FUTURE CONDITIONS

INTRODUCTION AND PURPOSE

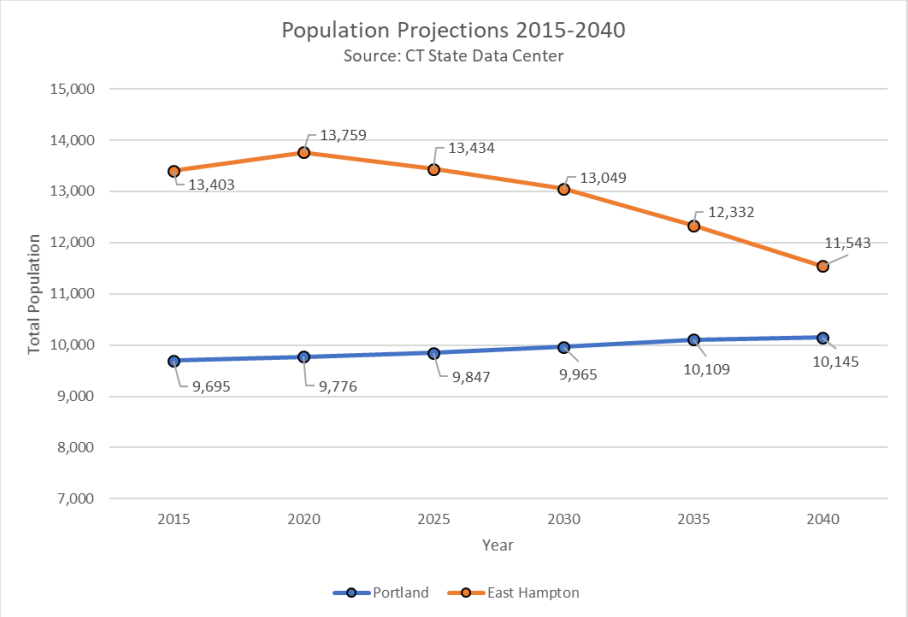
The following presents a summary of projected future conditions along the Route 66 corridor in Portland and East Hampton. This report includes a market assessment that looks at future population and employment growth and the potential to support future development along this corridor. It also includes a look at permitted and pipeline development projects in both communities, as well as a discussion of growth areas that could support future investment. Finally, the report concludes with some potential barriers and considerations to encourage development along the corridor long-term. The data and projects discussed in this report are also accounted for in the future traffic projections along the Route 66 corridor.

MARKET IMPLICATIONS

POPULATION PROJECTIONS

Looking forward over the next twenty years the story of population change is very different between East Hampton and Portland. The population of East Hampton is projected to decline by close to 14 percent while Portland's population is projected to increase by nearly 5 percent.[1] East Hampton is projected to hit a population high sometime between 2020 and 2025, with steady decline over the following fifteen years. Portland's population is projected to continue a steady climb gaining around 100 new residents every five years through 2040. Figure 1 shows the projected population changes in both communities.

Figure 1: Population Projections Through 2040



[1] Connecticut State Data Center, 2015-2040 Population Projections. Published August 2017.

One of the most significant population changes in both communities is the projected growth of residents ages fifty-five and older. In Portland, this population cohort is expected to grow by 15 percent through the year 2040. In East Hampton, where overall population decline is projected, this age cohort is expected to grow by 40 percent. At the same time, age cohorts covering children and young adults in East Hampton will decline considerably. Much of the increase in residents over the age of fifty-five is due to the aging of the existing population. This has implications for the future of housing and economic development, particularly in East Hampton.

Older adults who may be looking to downsize out of single-family homes will be looking for smaller units, possibly rentals, with minimal maintenance requirements and located in proximity to daily service needs such as grocery stores, shops, and restaurants. Older adults also tend to live in single- or two-person households which can sometimes translate into the need for more housing units even though population may be declining overall. The fact that both Portland and East Hampton are in the process of adding new housing that includes a commercial component should work to their advantage given the projected population changes. A large assisted living facility has also been approved in Portland which will provide another option for residents of both communities who may be looking to stay in the area but need an additional level of care as they age.

The declines projected for the age cohorts covering residents ages twenty to thirty-four also have implications for housing and economic development. These residents have a higher propensity to rent and spend money locally supporting restaurants, drinking establishments, and retail stores. Younger residents also help support the local workforce for existing businesses and can be an attraction for businesses looking to locate in either community. New housing options, particularly multi-family rental units, located close to the downtowns or with amenities on site will be attractive to these residents. Both communities have plans to add these types of housing options over the next five years.

EMPLOYMENT PROJECTIONS

On the employment side, both East Hampton and Portland are projected to see modest employment growth over the next ten years. East Hampton is projected to increase its employment by about 4 percent or 79 jobs, while Portland is projected to increase its employment by 7 percent or 190 jobs.[2] Most of the employment growth in East Hampton is projected to occur in industry sectors that dominate the employment landscape today. These include local government, food services and beverage stores, building material dealers and construction, and repair and maintenance shops. Some of the newly planned retail and restaurants at developments like Edgewater Hills will capture and absorb projected changes in employment. The same is true for some of the planned commercial/industrial pad sites and small buildings along Route 66 that would be well-suited for contractor storage, repair shops, or material dealers. The following table summarizes East Hampton's top ten industry sectors and the growth/decline anticipated over the next ten years.

[2] EMSI, 2018.

East Hampton Top Ten Industry Sectors			
Industry Category	2017 Jobs	2028 Jobs	% Change
Local Government	444	459	3%
Food Services and Drinking Places	207	229	11%
Food and Beverage Stores	171	175	2%
State Government	183	158	(14%)
Chemical Manufacturing	115	119	3%
Social Assistance	103	110	7%
Building Material and Garden Equipment and Supplies Dealers	59	72	22%
Construction of Buildings	60	67	12%
Repair and Maintenance	49	61	24%
Professional, Scientific, and Technical Services	81	56	(31%)
Source: EMSI, 2018.			

Portland's employment outlook is a bit more robust with a projected increase of 190 jobs over the next ten years. Similar to East Hampton, most of that growth will be captured by industry sectors that already dominate Portland's marketplace. These include restaurants, local government, machine and transportation equipment manufacturing, care facilities, contractors, and repair and maintenance. Portland has a robust manufacturing district near Downtown which could absorb some of the projected employment changes, while changes in categories like food and beverage services could be absorbed in future commercial sites along Route 66 or in Downtown. The table below summarizes Portland's top ten industry sectors and the growth/decline anticipated over the next ten years.

Portland Top Ten Industry Sectors			
Industry Category	2017 Jobs	2028 Jobs	% Change
Food Services and Drinking Places	463	471	2%
Local Government	286	295	3%
Machinery Manufacturing	221	255	15%
Nursing and Residential Care Facilities	201	232	15%
Nonstore Retailers	160	157	(2%)
Transportation Equipment Manufacturing	110	139	26%
Specialty Trade Contractors	117	132	13%
Administrative and Support Services	86	109	27%
Professional, Scientific, and Technical Services	88	108	23%
Repair and Maintenance	84	102	21%
Source: EMSI, 2018.			

FUTURE DEVELOPMENT

Over the next ten to fifteen years, the Route 66 corridor in Portland and East Hampton is projected to see several large-scale residential and commercial projects come to fruition. Several of these projects are already through the permitting process and underway, while some are a bit farther off in the future. There are also several activity centers in both communities that could see additional growth given their location, existing mix of uses, development/redevelopment potential. The following sections offer a detailed summary of pipeline projects and development sites in each community, as well as potential growth areas that could attract future investment.

OPPORTUNITY SITES ON ROUTE 66 – EAST HAMPTON

East Hampton has several prominent residential and commercial developments underway along its stretch of Route 66, and several smaller projects in the pipeline that could play out over the next decade. Much of the development activity along East Hampton's stretch of Route 66 is taking place on the eastern side closer to the Marlborough line. This part of town is close to the Downtown and Pocotopaug Lake with easier access to employment centers along Route 2 north to Hartford. Discussions with Town staff resulted in the identification of several development projects, some of which are currently underway, and could result in over 500 new housing units and over 100,000 square feet of commercial/industrial space along the corridor. The following is a summary description of each project and its anticipated development program and timeline, as well as some opportunity areas for consideration. The number next to each project description corresponds to Figure 2.

1. **207 West High Street** – This commercial parcel was recently approved for an 8,000 square foot daycare facility that is slated to open in Summer 2019.
2. **201 West High Street** – This parcel currently contains two commercial/industrial buildings which house a variety of small businesses including a Crossfit gym in the building fronting Route 66. Plans for another 18,000 square foot commercial/industrial building on the backside of the parcel have been approved with construction expected in Spring 2019. There is a proposal for storage units at the back of the property with build-out anticipated by the end of 2020.
3. **East Hampton Town Hall Site** – A new Town Hall is currently under construction as part of the Edgewater Hills development leaving the current Town Hall site up for potential redevelopment. The new Town Hall is expected to be completed and occupied in January 2020. Town staff have noted that some due diligence needs to be completed on the current Town Hall site before going out with any RFP for redevelopment. Given its location in the Downtown, this could be a candidate for a commercial or mixed-use redevelopment project.

4. **Edgewater Hills** – One of the two substantial residential and commercial developments along Route 66. Edgewater Hills is planned to include 250 residential units divided across multi-family rental apartments, townhouses, and single-family homes. There is a commercial component of approximately 80,000 square feet fronting along Route 66 with a mix of retail, restaurants, and office space. Early phases of the development are underway, and the developer is currently leasing up retail, office, and restaurant space, as well as some one- and two-bedroom apartments. The development is slated for completion by the year 2028.

5. **Future Commercial Site** – A commercial pad site next to Lakeside Automotive could build out sometime over the next two or three years. The 4.5-acre site was recently cleared with blasting to potentially start in late 2018. There are no plans or building specs for the site.
6. **Dollar General** – A 7,500 square foot Dollar General store recently opened at the Lake Drive intersection.
7. **Hampton Woods** – Hampton Woods is the second significant residential development along Route 66, just north of the Edgewater Hills development. Hampton Woods is projected to include 253 townhouses with six currently constructed. The development build-out is anticipated to take somewhere between ten and twenty years.
8. **Historic Village Center Development Area** – While not located directly on Route 66, East Hampton's historic village center area is another activity center not far off the corridor. The small-scale buildings and walkable center offer something different than what can be found along much of Route 66 in East Hampton. There are no major development plans for this area, but staff did mention a small 2,500 square foot commercial building coming online by the end of 2019. According to Town staff, this area has seen a bit of a renaissance lately and is one of the few areas in town that has access to water.

9. **Downtown Development Area** – The commercial heart of East Hampton, the Downtown area has a mix of retail, restaurants, and office space including the Stop and Shop grocery store. The Downtown has high visibility directly on Route 66, abuts the Lake, and has some opportunities for small infill or redevelopment over time. The Downtown is also the location of the current Town Hall, which will be vacated in the next few years.
10. **Cobalt Development Area** – This small commercial area at the intersection of Route 66 and Middletown Avenue includes several commercial properties, with some currently

vacant. This small redevelopment area lies directly on Route 66 on the way to Portland but is challenged by the lack of town water. The lack of a public water system is a major impediment to any large redevelopment proposals or heavy water users. If water is extended to this area, it could help with future redevelopment projects.

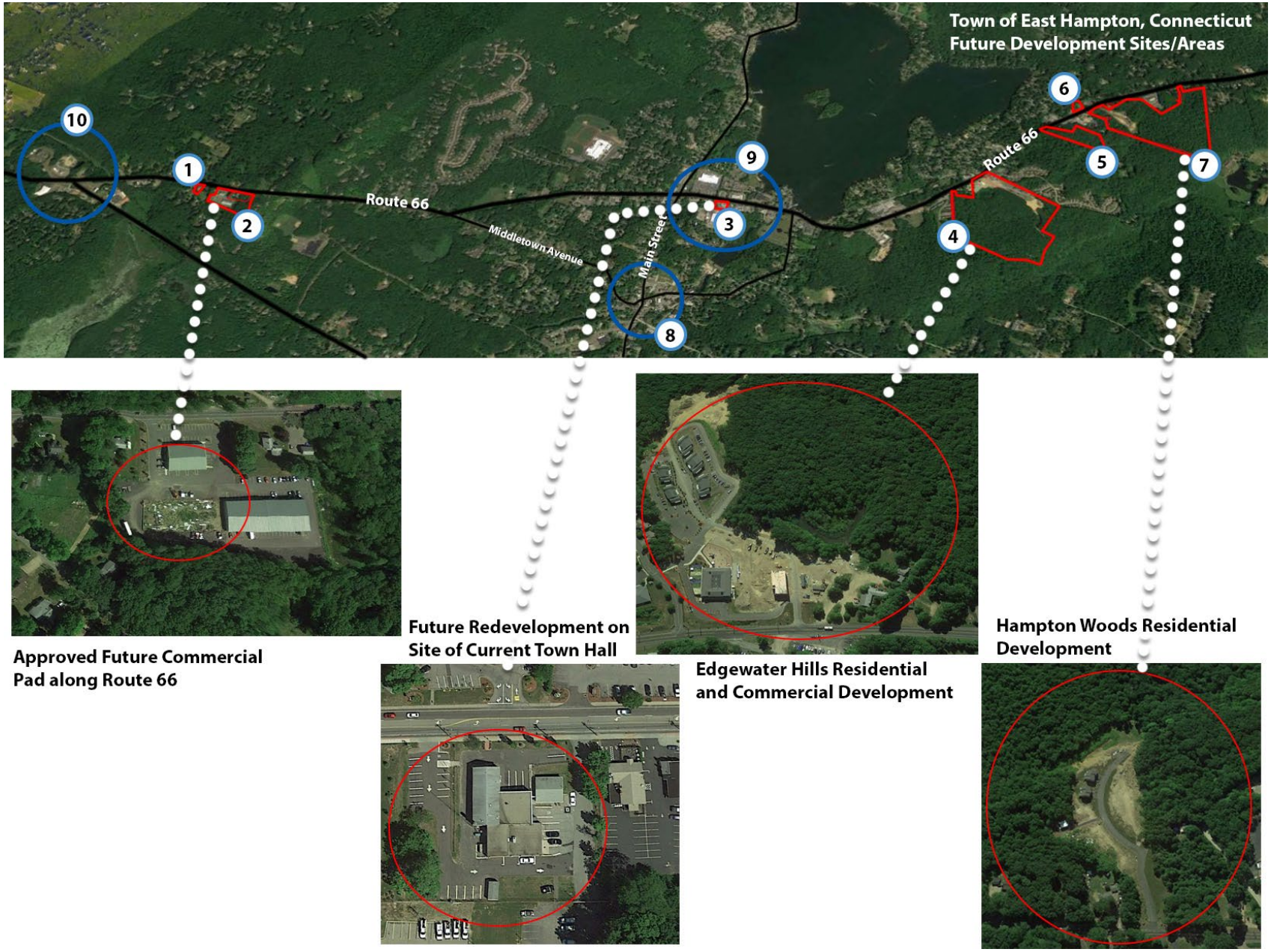


Figure 2: East Hampton Future Development Map

OPPORTUNITY SITES ON ROUTE 66 – PORTLAND

In Portland, most of the future development sites and areas are located west of the ledges with three prominent projects between Gospel Lane and Main Street in Downtown Portland. Similar to East Hampton, development projects in Portland tend to be focused on residential and commercial/retail taking advantage of easy transportation access and high visibility for businesses located on Route 66. Discussions with Town staff resulted in the identification of several development projects that could result in 360 new housing units and over 100,000 square feet of commercial space along the corridor. The following is a summary description of each project and its anticipated development program and timeline, as well as some opportunity areas for consideration. The number next to each project description corresponds to Figure 2 on the preceding page.

1. **Brainerd Place** – This development project will substantially change the face of Downtown Portland by redeveloping the former Elmcrest Psychiatric Hospital into a vibrant mixed-use development at the intersection of Route 66 and Main Street. Brainerd Place is proposed to add 240 multi-family rental apartments with 75 percent built as studios and one-bedrooms and 25 percent as two-bedrooms. Housing options will be geared toward the younger and older demographic providing a different housing option that does not really exist in Portland today. The development will also include roughly 100,000 square feet of commercial/office/retail space. Brainerd Place is anticipated to begin construction in March 2019 with completion in 2023.

2. **Assisted Living Facility** – The large parcel on the north side of Route 66 between Gospel Lane and William Street Extension was originally discussed as a future industrial development site but is now being considered for a 120-bed assisted living development. Construction is expected to start in Spring 2019 with an eighteen to twenty-four-month construction duration.

3. **Portland Commons** – A two-phase commercial development at the corner of Gospel Lane and Route 66, Portland Commons is currently approved for a 3,655 square foot Dairy Queen restaurant with a target opening date of November 2019. The second phase of the project would include an additional 99,000 square feet of retail development with a small grocery store. This development is anticipated to take place over the next ten years. Water for these developments would be supplied by on-site wells.
4. **Opticom Headquarters** – Opticom, a company that runs technology cabling and wiring services for businesses, will be constructing two office buildings on a former sand and gravel site next to the Eggs Up restaurant on Route 66. The company will be constructing two buildings for a total of 5,000 to 8,000 square feet of space. The full build out of the development is expected to take up to three years, beginning in 2019.
5. **Future Commercial Site** – This active sand and gravel site next to Portland Collision is expected to be a future commercial pad site that could support some auto-related use within the next five years.
6. **Downtown Portland** – No specific plans are in place for new development in Downtown Portland (other than Brainerd Place), but this is an area where the Town would like to encourage additional investment through infill or redevelopment projects. Downtown Portland is smaller and geared toward families looking for a different experience than what can be found in nearby Downtown Middletown. The draw of visitors to the Brownstone Exploration and Discovery Park during the warmer months creates another submarket of spending that could support some small retail, restaurants, and service-oriented businesses. Downtown could also be a location to encourage upper-story residential over commercial to add more small units for downsizing seniors or younger residents. The outcome of Brainerd Place will likely establish the market for smaller rental units in Portland.

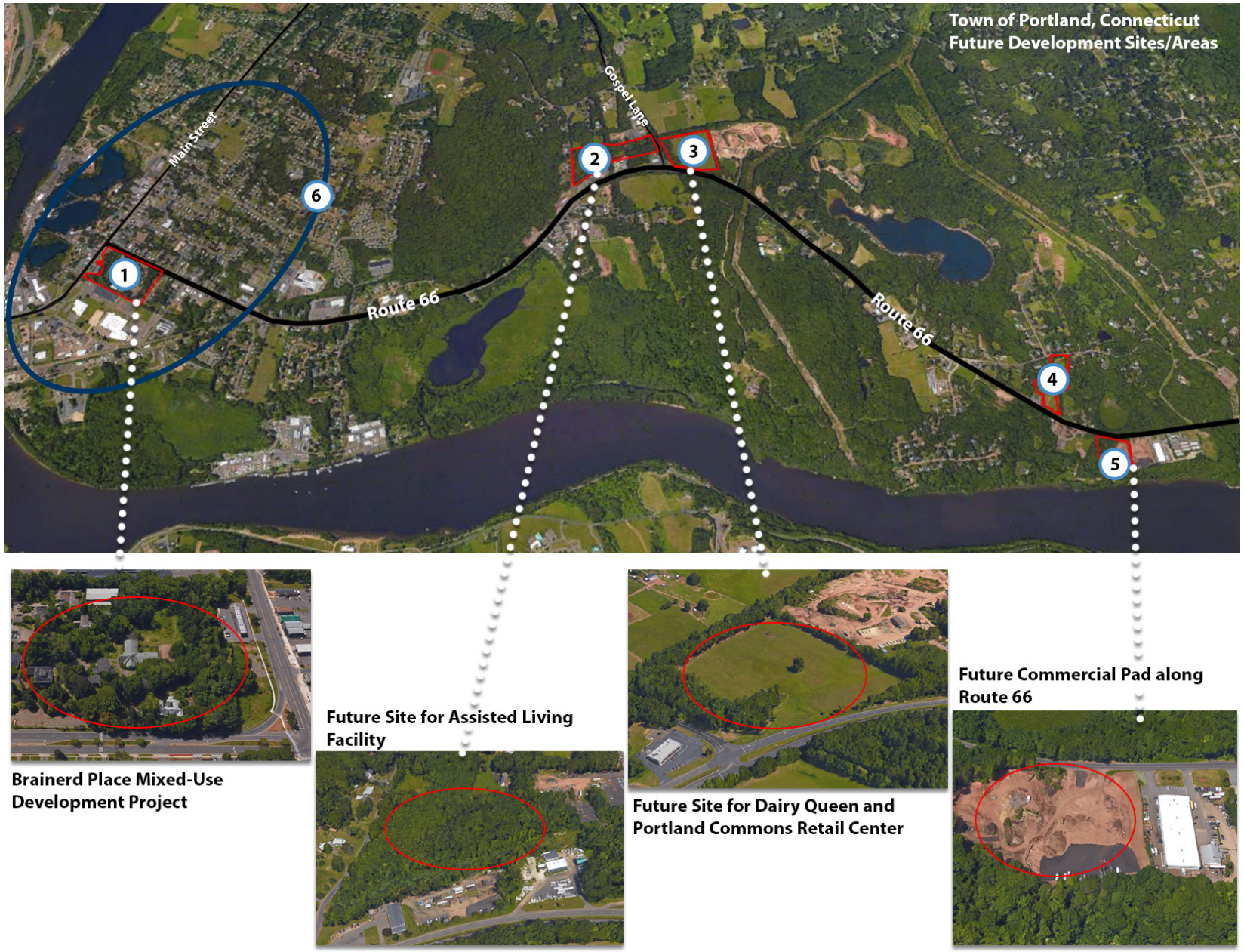


Figure 3: Portland Future Development Map

OPPORTUNITIES FOR THE FUTURE

Population and employment growth in both towns has been modest over the last decade and is projected to continue on a similar trend line in Portland, while East Hampton is projected to lose population over the next two decades. Route 66 is a busy east/west travel route through the heart of Central Connecticut, and its utility as a commuter route has created opportunities for many auto-oriented businesses. Recognizing the relatively low impact the smaller-scale commercial and industrial businesses have on overall community development, both towns have looked at ways of creating activity nodes or centers in their respective downtowns, village centers, and at key intersections along Route 66. Developers and property owners have also responded with proposals that integrate a range of uses, variety of housing types, and ideas for building on and improving existing activity centers. East Hampton and Portland remain desirable communities for those looking to own a home, have access to quality education, and locate along a primary travel corridor. With those principles well-established, it's time for the towns to take the next step in defining the next iteration of Route 66.

FOCUS GROWTH IN EXISTING ACTIVITY CENTERS

As noted in the previous section, there are several sites along Route 66 where development has been permitted or concepts are being explored. In both towns, there are also areas where coordinated land use planning and accompanying zoning regulations could contribute to a concentration of new development/redevelopment to create vibrant activity centers. For example, the concept of building smaller rental units as part of the Brainerd Place development brings residents closer to Downtown Portland and begins to create a built-in customer base for local businesses. A similar concept could be deployed for Downtown East Hampton and the Historic Village Center.

In reviewing the zoning districts and regulations that cover activity centers such as Downtown Portland, the area around the intersection of Gospel Lane and Route 66, Downtown East Hampton, and the East Hampton Historic Village Center, RKG offers the following thoughts and considerations:

East Hampton

- The existing Village Center (VC) District allows upper-story residential uses by Special Permit which can be unpredictable and lead to developer risk. The Town should consider allowing some level of mixed-use development as-of-right or with site plan approval. The Town could set a threshold of units or square feet which would trigger a Special Permit, similar to what is done for retail development in the Commercial zoning district. For example, if the proposed development were 25,000 square feet in size the Town may wish

to require a Special Permit but anything under 25,000 square feet could be permitted through a site plan review process. This small change could help add predictability and speed to the permitting process.

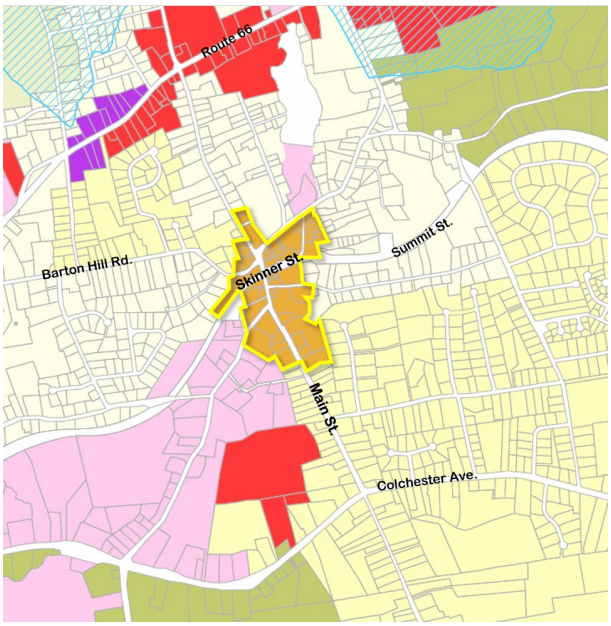


Figure 4: Village Center Zoning District

- The VC District includes a minimum lot size of 20,000 square feet with a thirty-foot building height maximum. To encourage parcel aggregation to support larger, more coordinated development efforts, the Town should consider allowing more uses or more flexible dimensional regulations.

- The Downtown is currently zoned Commercial (C) and is set up to facilitate single use structures on large parcels. This zoning district is not likely to facilitate a Downtown in the historic sense with multi-use buildings pulled closer to the street with parking located to the side or rear of a parcel. The minimum lot size of 40,000 square feet (nearly one acre in size) and fifty-foot front setback push buildings toward the middle or rear of the site encouraging parking to locate in the front. If the Town's goal is to make this activity center more of a downtown, they may want to create a new zoning district geared toward that goal as to not impact other parts of town already zoned Commercial.

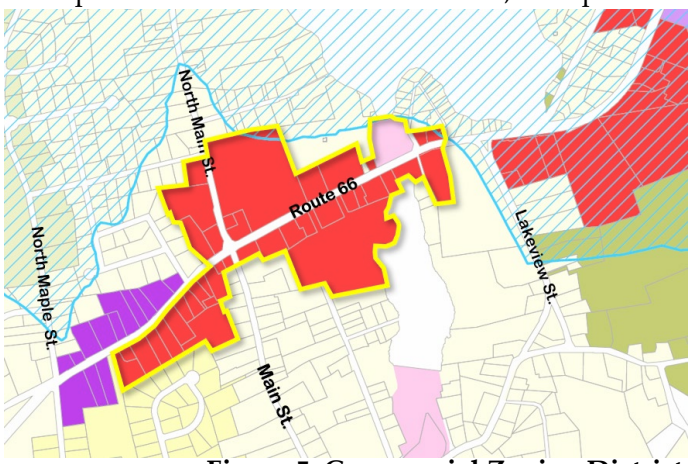


Figure 5: Commercial Zoning District

Portland

- Most of the parcels that front Main Street in Downtown Portland fall within the Central Business District Zone (B-3) and the Town Center Village District Zone. This zoning district is less restrictive than the B-1 and B-2 districts in terms of uses and dimensional requirements. To extend the positive impact of the Brainerd Place redevelopment project to the north side of Route 66, the Town may want to consider rezoning some of the parcels currently zoned B-2 and shifting them to B-3. This could help create a gateway into Downtown on both the north and south sides of Route 66 and create a nice area of transition before entering the core of Downtown.

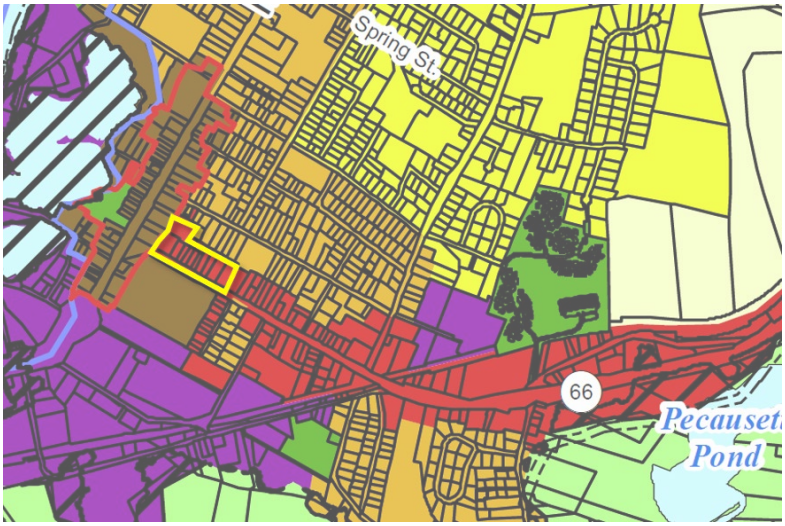


Figure 6: Downtown Zoning Districts

- In addition to rezoning some of the parcels along Route 66, the Town may also want to consider adjusting the permitted uses in the B-3 district. Currently multi-family structures containing up to four units in a building are allowed by Special Permit as are mixed-use buildings. If a goal is to have more residents living in proximity to Downtown, the Town may want to allow smaller scale residential and mixed-use development either by-right or subject to Site Plan approval. This would reduce risk and uncertainty for developers looking to invest in smaller-scale infill or redevelopment in the Downtown. The Town could set a size threshold which would trigger the need for a Special Permit if the development exceeded the threshold.

- The Town may wish to consider changing the zoning around the intersection of Gospel Lane and Route 66 if the area is going to support a broader mix of commercial, retail, and residential development than was originally anticipated. Much of the area is currently zoned Industrial (I) and Planned Industrial (IP) with the exception of parcels fronting along the north side of Route 66. Given the development interest in this area, the

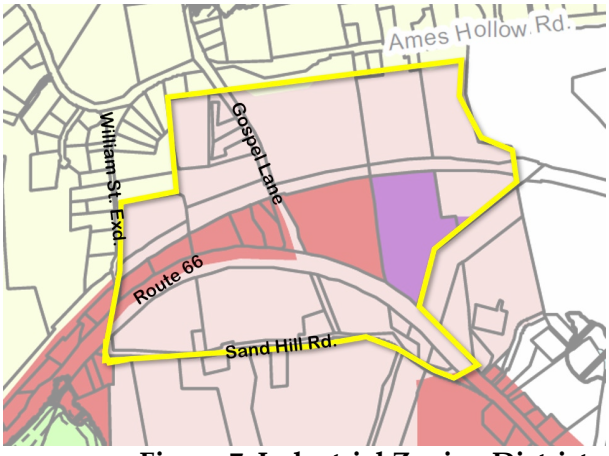


Figure 7: Industrial Zoning Districts

Town may wish to rethink this area and create zoning that encourages a different mix of uses.

DEMOGRAPHIC CHANGES MAY DRIVE MARKET OPPORTUNITIES

Recent development proposals in both East Hampton and Portland are responding to a need to bring new housing options to places that have been dominated by single-family homes for decades. Single-family homes still play an important role in the composition and fabric of both towns, but developers are seeing a hole in the responding by proposing (and constructing) smaller housing units that offer residents a new option for living. This is important as residents in both communities are getting older and may be looking for different housing options that do not currently exist in either town.

The recent proposals for rental housing in multi-story residential and mixed-use buildings will fill a need for smaller units in managed buildings with on-site amenities that younger and older residents are looking for. These new developments will anchor activity centers and integrate a mix of residential and commercial uses offering new amenities, places to eat and shop, and job opportunities.

UTILITIES AND INFRASTRUCTURE

The primary barrier to development along the Route 66 corridor is access to a reliable municipal or regional water service. Currently, neither town is a member of the MDC but Portland is a customer. Portland does receive water from MDC which is tracked by a water meter at the South Glastonbury/Portland town line. Portland has a minimum water purchase amount per month for which it is charged by the MDC. The lack of water service is a hinderance to larger developments or single users that would demand a large volume of water, such as certain types of manufacturing or bottling facilities.

East Hampton is not a member town or customer, but plans are being discussed to extend MDC water service into East Hampton via water infrastructure that the Town of Portland currently owns and maintains. These discussions of how ownership and maintenance would work are on-going between the two towns and MDC. East Hampton has plans to create a series of water line loops that would one day form a connected system. Bringing reliable water service to activity centers and sites along Route 66 would remove one additional barrier to larger-scale developments.

Safe, reliable, and efficient transportation infrastructure is also key to ensuring residents and businesses can utilize Route 66 to its fullest potential. Multi-modal travel routes that connect activity centers in both towns would help cut down on the number of short trips taken by vehicle, increase walking and biking options, and have the added benefit of improving health and wellness.

APPENDIX B

Overall Capacity Analysis Summary Tables

Tighe&Bond

TABLE B1
Intersection Operation Summary - Vehicular Levels of Service / Average Delay (sec/veh)

		Weekday Morning Peak Hour				Weekday Afternoon Peak Hour			
	Lane Use	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized
Traffic Signal - Route 66 at Route 17A (Main Street)									
Overall		**B / 18.1**	**B / 17.4**	**E / 75.6**	**E / 65.9**	**B / 17.8**	**B / 17.9**	**D / 47.3**	**D / 46.6**
Route 66	WB	B / 19.8	B / 19.1	E / 72.4	D / 52.4	C / 20.7	C / 29.6	B / 15.1	C / 24.3
Route 66	NB	C / 27.2	C / 29.3	C / 27.8	D / 53.3	D / 39.2	C / 29.5	D / 51.4	C / 32.6
Route 17A	SB	C / 24.9	C / 22.4	F / 147.8	F / 139.3	B / 10.6	B / 10.3	C / 26.4	C / 28.3
Traffic Signal - Route 66 (Marlborough Street) at High Street									
Overall		**A / 7.3**	**A / 6.4**	**D / 39.1**	**C / 28.3**	**B / 10.6**	**B / 11.9**	**D / 40.5**	**C / 28.1**
Route 66	EBL	A / 6.1	A / 6.4	B / 18.2	C / 25.3	A / 4.2	A / 4.2	A / 6.5	A / 9.8
	EBT	A / 7.7	A / 7.5	B / 10.8	B / 13.8	B / 11.7	B / 12.2	E / 66.0	D / 42.4
Route 66	WB	A / 4.7	A / 3.6	D / 53.5	C / 32.8	A / 2.7	A / 6.0	A / 6.6	A / 3.4
High Street	SB	C / 25.9	C / 24.2	C / 26.8	D / 40.0	D / 36.6	D / 35.3	D / 37.9	D / 46.7
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue									
Overall		**A / 6.3**	**A / 10.0**	**D / 39.2**	**C / 33.8**	**A / 5.0**	**A / 8.3**	**D / 43.6**	**C / 32.1**
Route 66	EB	A / 3.9	A / 3.7	A / 4.1	A / 4.7	A / 4.9	A / 5.1	E / 66.2	C / 33.8
Route 66	WBL	A / 1.2	A / 1.5	A / 3.9	A / 6.0	A / 1.7	A / 7.2	A / 1.3	A / 8.7
	WBT	A / 6.4	B / 11.9	E / 55.9	D / 47.2	A / 3.3	B / 12.4	A / 6.0	C / 30.2
Airline Avenue	NB	C / 25.7	C / 25.9	C / 26.6	C / 33.3	C / 20.3	C / 20.4	B / 17.4	C / 24.8
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway									
Overall		**A / 5.2**	**A / 6.4**	**A / 9.3**	**A / 8.8**	**B / 11.2**	**A / 8.9**	**B / 14.6**	**A / 9.3**
Route 66	EBL	A / 1.4	A / 4.1	A / 6.0	A / 4.0	A / 8.6	A / 3.8	A / 7.9	A / 8.0
	EBTR	A / 0.8	A / 3.1	A / 3.8	A / 0.2	B / 11.5	A / 3.1	B / 16.6	A / 3.2
Route 66	WBTR	A / 6.7	A / 7.5	B / 11.3	B / 12.1	A / 7.2	B / 14.9	B / 10.4	B / 14.4
Portland Shopping	SBL	C / 32.3	C / 32.3	C / 33.7	D / 44.5	D / 37.7	D / 37.9	D / 37.6	D / 49.7
Center Driveway	SBR	C / 22.3	C / 22.3	B / 18.5	C / 23.1	B / 10.8	B / 10.7	B / 10.6	B / 12.7
Traffic Signal - Route 66 (Marlborough St/Portland-Cobalt Rd) at Grove Street/ Grandview Terrace									
Overall		**A / 3.6**	**A / 3.2**	**A / 4.9**	**A / 5.4**	**A / 2.7**	**A / 7.1**	**A / 3.4**	**A / 9.2**
Route 66	EBL	A / 0.6	A / 0.6	A / 0.7	A / 2.9	A / 0.7	A / 2.7	A / 1.1	A / 2.5
	EBT	A / 2.0	A / 0.6	A / 0.6	A / 4.7	A / 2.0	A / 8.9	A / 2.7	B / 12.3
Route 66	WBL	A / 1.7	A / 1.7	A / 1.7	A / 1.3	A / 1.8	A / 1.8	A / 2.0	A / 1.7
	WBT	A / 4.1	A / 4.1	A / 6.7	A / 5.5	A / 3.6	A / 3.6	A / 4.3	A / 3.8
Grove Street	NBT	A / 1.4	A / 1.4	A / 1.6	A / 2.6	A / 1.5	A / 1.5	A / 2.4	A / 6.2
Grandview Terrace	SBT	D / 35.3	D / 35.3	D / 35.7	D / 46.2	B / 19.3	B / 19.3	B / 18.5	C / 22.9
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)									
Overall		**B / 11.7**	**B / 13.4**	**C / 20.6**	**C / 20.6**	**B / 12.4**	**B / 10.9**	**B / 14.3**	**B / 14.3**
Route 66	EBL	D / 36.5	C / 27.7	D / 39.7	D / 39.7	C / 34.8	C / 27.0	D / 41.7	D / 41.7
	EBTR	A / 3.1	A / 3.7	A / 3.7	A / 3.7	A / 5.5	A / 5.9	A / 7.1	A / 7.1
Route 66	WBT	B / 13.3	B / 17.9	C / 28.9	C / 28.9	B / 15.1	B / 15.0	B / 17.2	B / 17.2
	WBR	A / 2.6	A / 3.3	A / 3.5	A / 3.5	A / 3.4	A / 4.2	A / 3.3	A / 3.3
Route 17 (Gospel Lane)	SBL	C / 33.1	C / 23.5	D / 36.6	D / 36.6	D / 42.1	C / 26.1	D / 45.4	D / 45.4
	SBR	B / 10.3	A / 8.2	B / 11.0	B / 11.0	B / 10.1	A / 7.4	A / 9.4	A / 9.4
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road/Payne Boulevard									
Overall		**A / 9.7**	**B / 10.0**	**D / 40.4**	**D / 37.6**	**B / 12.0**	**B / 12.7**	**C / 34.4**	**C / 31.1**
Route 66	EBL	A / 1.9	A / 2.1	A / 5.3	A / 5.9	A / 2.6	A / 2.7	A / 4.2	A / 3.9
	EBTR	A / 3.3	A / 3.4	A / 4.2	A / 4.0	B / 14.6	B / 15.6	D / 50.6	D / 46.0
Route 66	WBL	A / 1.5	A / 1.5	A / 1.5	A / 1.5	A / 2.0	A / 2.0	A / 2.3	A / 2.3
	WBTR	B / 12.5	B / 13.0	E / 57.1	D / 53.1	A / 8.4	A / 9.0	B / 12.1	B / 11.2
Payne Boulevard	NB	A / 1.6	A / 1.0	A / 5.0	A / 4.8	D / 39.6	D / 36.8	D / 43.4	D / 47.6
Middle Haddam Road	SB	D / 43.7	C / 34.7	D / 43.3	D / 45.7	A / 9.7	A / 7.2	B / 17.3	A / 7.0
Traffic Signal - Route 66 (Portland-Cobalt Rd/West High St) at Rte. 151 (Middle Haddam Rd)/Depot Hill Rd									
Overall		**C / 26.6**	**C / 31.2**	**E / 63.3**	**E / 63.3**	**C / 22.0**	**C / 22.5**	**F / 99.2**	**F / 99.2**
Route 66	EB	A / 8.7	B / 10.9	B / 11.3	B / 11.3	C / 24.1	C / 26.6	F / 144.4	F / 144.4
Route 66	WB	C / 24.6	D / 36.6	E / 69.8	E / 69.8	A / 5.6	A / 6.2	A / 9.5	A / 9.5
Route 151 (Middle	NBLT	E / 74.1	D / 55.0	F / 164.5	F / 164.5	E / 69.5	D / 54.8	E / 76.0	E / 76.0
Haddam Road)	NBR	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0
Depot Hill Road	SB	D / 45.3	C / 25.6	E / 78.6	E / 78.6	E / 65.9	D / 46.6	E / 62.5	E / 62.5
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue)/Park & Ride Driveway									
Overall		**C / 26.2**	**C / 27.2**	**E / 65.5**	**D / 50.3**	**B / 13.4**	**B / 13.0**	**C / 20.1**	**C / 20.3**
Route 66	EBLT	B / 14.0	B / 15.8	B / 13.5	C / 20.0	B / 15.6	B / 15.2	C / 24.6	C / 25.4
	EBR	A / 2.5	A / 3.1	A / 2.2	A / 3.0	A / 2.5	A / 2.6	A / 2.9	A / 2.9
Route 66	WBL	A / 9.0	B / 11.5	A / 8.3	B / 13.4	A / 7.7	A / 7.3	A / 8.3	A / 9.0
	WBTR	C / 26.8	C / 31.3	C / 30.3	D / 54.9	B / 10.6	B / 10.2	B / 13.4	B / 13.9
Route 16 (Middletown	NBLT	D / 45.8	D / 41.3	F / 189.7	F / 92.8	C / 33.3	C / 32.0	D / 51.3	D / 49.7
Avenue)	NBR	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.0	A / 0.1	A / 0.1
Park & Ride Driveway	SB	A / 0.0	A / 0.0	A / 0.0	A / 0.0	B / 17.3	B / 13.7	B / 19.3	B / 19.3

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE B1
Intersection Operation Summary - Vehicular Levels of Service / Average Delay (sec/veh)

		Weekday Morning Peak Hour				Weekday Afternoon Peak Hour			
	Lane Use	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized
Traffic Signal - Route 66 (West High Street) at Maple Street / North Maple Street / Old West High Street									
Overall		**B / 15.4**	**B / 14.7**	**C / 21.7**	**C / 21.7**	**B / 10.1**	**B / 10.3**	**B / 14.6**	**B / 14.6**
Route 66	EB	B / 12.7	B / 12.3	B / 18.7	B / 18.7	A / 9.0	A / 9.8	B / 13.9	B / 13.9
Route 66	WB	B / 13.5	B / 13.4	B / 18.7	B / 18.7	A / 7.7	A / 8.3	A / 9.9	A / 9.9
	WBR	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
Main Street	NBL	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
	NB	C / 24.6	C / 21.7	C / 29.5	C / 29.5	C / 21.7	B / 17.4	C / 25.3	C / 25.3
North Main Street	SB	C / 28.5	C / 25.4	D / 39.6	D / 39.6	C / 25.1	C / 21.1	D / 37.5	D / 37.5
Old West High Street	SEB	C / 29.0	C / 22.0	C / 34.0	C / 34.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
Traffic Signal - Route 66 (East Main St / West Main St) at Main Street / North Main Street									
Overall		**B / 18.2**	**B / 14.8**	**C / 21.6**	**C / 21.6**	**C / 21.7**	**B / 18.9**	**D / 35.5**	**D / 35.5**
Route 66	EBL	A / 6.3	A / 6.6	A / 7.9	A / 7.9	A / 8.9	B / 10.0	C / 28.9	C / 28.9
	EBTR	B / 14.2	B / 15.5	B / 19.7	B / 19.7	B / 19.3	C / 20.2	D / 35.6	D / 35.6
Route 66	WBL	A / 7.1	A / 3.3	A / 5.6	A / 5.6	A / 5.5	A / 6.2	B / 17.7	B / 17.7
	WBTR	B / 18.3	B / 12.2	C / 22.3	C / 22.3	B / 18.9	B / 15.6	D / 42.0	D / 42.0
Main Street	NBL	C / 29.0	C / 22.8	C / 28.1	C / 28.1	C / 26.1	C / 20.8	C / 23.2	C / 23.2
	NBTR	C / 20.2	B / 15.9	C / 24.4	C / 24.4	D / 41.4	C / 33.4	D / 43.1	D / 43.1
North Main Street	SBL	C / 32.1	C / 26.1	C / 30.6	C / 30.6	C / 29.1	C / 23.9	C / 25.7	C / 25.7
	SBTR	C / 22.6	B / 17.5	C / 24.8	C / 24.8	C / 33.8	C / 24.1	C / 31.7	C / 31.7
Traffic Signal - Route 66 (East High St.) at East Hampton Mall Shopping Center Dwy / Eversource Dwy									
Overall		**A / 9.0**	**A / 8.5**	**B / 10.2**	**B / 10.2**	**B / 13.9**	**B / 12.2**	**B / 17.1**	**B / 17.1**
Route 66	EBL	A / 3.7	A / 3.7	A / 3.5	A / 3.5	A / 5.0	A / 4.3	A / 6.0	A / 6.0
	EBT	A / 9.0	A / 8.5	B / 10.3	B / 10.3	B / 10.2	A / 8.2	B / 13.3	B / 13.3
Route 66	WBL	A / 2.0	A / 2.3	A / 2.1	A / 2.1	A / 3.2	A / 3.5	A / 3.2	A / 3.2
	WBT	A / 6.0	A / 6.2	A / 7.7	A / 7.7	B / 12.7	B / 12.4	B / 17.6	B / 17.6
Eversource Driveway	NBT	D / 40.3	C / 32.9	D / 40.6	D / 40.6	C / 33.3	C / 27.1	C / 34.2	C / 34.2
East Hampton Mall	SBT	D / 45.1	D / 36.3	D / 45.2	D / 45.2	D / 48.9	D / 39.5	D / 48.8	D / 48.8
Shopping Center Dwy.	SBR	A / 0.7	A / 0.5	A / 0.8	A / 0.8	A / 9.8	A / 6.4	B / 10.3	B / 10.3
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)									
Overall		**B / 13.4**	**B / 12.6**	**B / 16.9**	**B / 16.9**	**B / 15.8**	**B / 13.5**	**D / 44.3**	**C / 22.3**
Route 66	EB	C / 22.6	C / 20.8	C / 29.5	C / 29.5	C / 29.0	C / 23.1	F / 99.8	C / 33.7
Route 66	WBL	A / 4.7	A / 4.9	A / 6.4	A / 6.4	A / 8.0	A / 9.2	B / 18.4	C / 31.3
	WBTR	A / 5.2	A / 5.3	A / 6.0	A / 6.0	A / 4.9	A / 4.9	A / 7.5	A / 5.6
Route 196 (Lake View St.)	NBL	C / 26.9	C / 23.5	C / 32.2	C / 32.2	C / 31.1	C / 25.8	C / 34.5	D / 45.9
	NBR	A / 8.8	A / 8.4	A / 9.6	A / 9.6	A / 9.1	A / 8.1	A / 9.1	B / 11.6

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE B2

Intersection Operation Summary - Vehicular 50th / 95th Percentile Queue (In Feet)

			Weekday Morning Peak Hour				Weekday Afternoon Peak Hour			
	Lane Use	Available Storage	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized
Traffic Signal - Route 66 at Route 17A (Main Street)										
Route 66	WB	>750	355 / 444	394 / 357	~613 / m#552	~839 / #977	181 / 196	213 / 150	253 / 41	226 / 260
Route 66	NB	510	65 / 101	67 / 105	75 / 114	130 / 181	167 / #252	155 / 214	197 / #308	183 / 249
Route 17A	SB	510	132 / 186	128 / 178	~350 / #470	~523 / #484	56 / 100	55 / 98	142 / #328	139 / #317
Traffic Signal - Route 66 (Marlborough Street) at High Street										
Route 66	EBL	225	9 / m25	9 / m25	23 / m82	50 / 118	12 / m21	12 / m21	26 / m33	37 / 72
	EBT	>1000	44 / 88	43 / 88	87 / m160	133 / 222	193 / m318	193 / m334	~438 / m#543	514 / #854
Route 66	WBT	150	31 / 67	11 / 40	~553 / m#689	~725 / m#902	0 / 25	53 / 59	24 / #80	12 / 16
High Street	SB	>500	49 / 106	44 / 101	64 / 129	106 / 182	91 / 151	88 / 148	118 / 184	159 / 237
Traffic Signal - Route 66 (Marlborough Street) at Airline Avenue										
Route 66	EB	145	21 / 33	21 / 33	27 / 37	35 / 45	56 / 68	55 / 68	~563 / m#693	~688 / m#918
Route 66	WBL	175	1 / m3	4 / m0	1 / m5	5 / m8	1 / m3	2 / m17	0 / m1	0 / m11
	WBT	>500	190 / 71	313 / 2	424 / #735	591 / #849	23 / 39	53 / 196	21 / #32	374 / 445
Airline Avenue	NB	>500	20 / 52	20 / 52	29 / 64	39 / 80	24 / 60	24 / 60	28 / 67	44 / 92
Traffic Signal - Route 66 (Marlborough Street) at Portland Shopping Center Driveway										
Route 66	EBL	350	1 / 6	1 / 0	1 / m21	0 / m8	35 / m76	9 / m31	46 / m51	1 / m24
	EBTR	>500	0 / 35	0 / 130	0 / 186	1 / 1	211 / 387	43 / 110	424 / m431	2 / m38
Route 66	WBTR	370	0 / 437	0 / 455	0 / 599	333 / 583	101 / 173	154 / 242	172 / 305	187 / 305
Portland Shopping	SBL	155	3 / 15	3 / 15	10 / 31	13 / 36	54 / 98	54 / 98	53 / 96	68 / 117
Center Dwy.	SBR	155	0 / 8	0 / 8	0 / 14	0 / 16	0 / 27	0 / 27	0 / 28	0 / 32
Traffic Signal - Route 66 (Marlborough St / Portland-Cobalt Rd) at Grove Street / Grandview Terrace										
Route 66	EBL	125	1 / 0	0 / 1	1 / m0	1 / 9	1 / m1	3 / m4	1 / m3	2 / m4
	EBTR	370	22 / 35	5 / 10	2 / 4	40 / 206	127 / 55	270 / 357	3 / 152	376 / 616
Route 66	WBL	150	0 / 1	0 / 1	0 / 1	0 / 1	1 / 3	1 / 3	1 / 3	1 / 3
	WBTR	>500	95 / 217	95 / 217	182 / 440	182 / 422	41 / 99	41 / 99	64 / 155	64 / 152
Grove Street	NB	>500	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 0	0 / 1	0 / 9
Grandview Terrace	SB	>500	3 / 15	3 / 15	5 / 21	7 / 25	1 / 25	1 / 25	1 / 28	2 / 32
Traffic Signal - Route 66 (Portland-Cobalt Road) at Route 17 (Gospel Lane)										
Route 66	EBL	200	32 / 75	23 / 60	49 / 103	49 / 103	68 / 134	44 / 99	97 / #197	97 / #197
	EBT	>500	21 / 42	20 / 41	35 / 68	35 / 68	98 / 175	84 / 160	155 / 270	155 / 270
Route 66	WBT	>750	138 / 268	131 / #280	297 / #556	297 / #556	95 / 152	76 / 131	147 / 225	147 / 225
	WBR	200	0 / 33	0 / 34	5 / 45	5 / 45	0 / 29	0 / 29	0 / 32	0 / 32
Route 17	SBL	>500	35 / 81	25 / 61	40 / 88	40 / 88	69 / 126	44 / 88	80 / 141	80 / 141
	SBR	100	0 / 43	0 / 36	0 / 51	0 / 51	0 / 38	0 / 30	0 / 47	0 / 47
Traffic Signal - Route 66 (Portland-Cobalt Road) at Middle Haddam Road / Payne Boulevard										
Route 66	EBL	175	2 / 5	1 / 5	3 / 6	3 / 6	11 / 20	11 / 21	14 / 29	14 / 27
	EBTR	>1500	58 / 142	0 / 148	95 / 227	95 / 224	343 / #1002	343 / #977	~971 / #1469	~1012 / #1499
Route 66	WBL	300	0 / 1	0 / 1	0 / 1	0 / 1	0 / 2	0 / 2	0 / 2	0 / 2
	WBTR	>2000	307 / #922	0 / #848	~1258 / #1475	~1303 / #1514	156 / 247	156 / 250	254 / 437	254 / 422
Payne Boulevard	NB	>500	0 / 0	0 / 0	0 / 8	0 / 7	9 / 34	9 / 32	12 / 41	13 / 43
Middle Haddam Road	SB	>500	2 / 11	1 / 10	2 / 11	2 / 11	0 / 24	0 / 19	2 / 48	0 / 18
Traffic Signal - Route 66 (Portland-Cobalt Rd / West High St) at Rte. 151 (Middle Haddam Rd) / Depot Hill Rd										
Route 66	EB	>2500	142 / 193	121 / 231	247 / 327	247 / 327	612 / #1244	577 / #1067	~1591 / #2030	~1591 / #2030
Route 66	WB	>1500	584 / 789	494 / #923	~1233 / #1442	~1233 / #1442	114 / 201	108 / 198	220 / 400	220 / 400
Middle Haddam Road	NBLT	>500	150 / #270	102 / 171	~247 / #404	~247 / #404	53 / 102	39 / 82	86 / 149	86 / 149
	NBR	65	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Depot Hill Road	SB	>500	49 / 102	29 / 67	74 / #175	74 / #175	50 / 100	36 / 80	70 / 128	70 / 128
Traffic Signal - Route 66 (West High Street) at Route 16 (Middletown Avenue) / Park & Ride Driveway										
Route 66	EBLT	>750	86 / 133	97 / 155	127 / 189	172 / 254	139 / 321	135 / 265	330 / 507	351 / 532
	EBR	250	0 / 26	0 / 32	0 / 30	0 / 39	0 / 38	0 / 36	0 / 42	0 / 44
Route 66	WBL	125	1 / 6	1 / 7	2 / 9	3 / 12	0 / 4	0 / 4	1 / 4	1 / 5
	WBTR	>500	216 / 318	245 / #385	329 / 481	445 / #681	70 / 165	68 / 134	156 / 236	166 / 249
Route 16	NBLT	>750	167 / #450	183 / #352	~402 / #625	~374 / #554	66 / 194	62 / #161	164 / #324	170 / #323
	NBR	100	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Park & Ride Driveway	SB	75	0 / 0	0 / 0	0 / 0	0 / 0	1 / 11	1 / 8	2 / 11	2 / 11
Traffic Signal - Route 66 (West High Street) at Maple Street / North Maple Street / Old West High Street										
Route 66	EB	>500	74 / 251	72 / 233	154 / #474	154 / #474	99 / 205	99 / 209	183 / 401	183 / 401
Route 66	WB	>750	96 / 312	92 / #306	186 / #551	186 / #551	80 / 163	80 / 164	139 / 285	139 / 285
Maple Street	NB	>500	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
North Maple Street	SB	>500	30 / 108	30 / 86	77 / 157	77 / 157	24 / 82	26 / 60	59 / 112	59 / 112
Old West High Street	SEB	>500	0 / 5	0 / 4	0 / 5	0 / 5	0 / 0	0 / 0	0 / 0	0 / 0
Traffic Signal - Route 66 (East Main St / West Main St) at Main Street / North Main Street										
Route 66	EBL	275	7 / 21	7 / 19	10 / 28	10 / 28	28 / 64	31 / 55	47 / 128	47 / 128
	EBTR	>1000	140 / 251	136 / 227	217 / 405	217 / 405	181 / 348	195 / 286	315 / #678	315 / #678
Route 66	WBL	225	16 / 25	9 / 6	24 / m6	24 / m6	25 / m20	8 / m42	13 / m52	13 / m52
	WBTR	485	245 / 359	162 / 302	374 / #544	374 / #544	282 / #480	233 / 182	406 / #801	406 / #801
Main Street	NBL	225	16 / 40	13 / 34	24 / 49	24 / 49	14 / 33	10 / 30	17 / 37	17 / 37
	NBTR	>500	27 / 77	22 / 68	44 / 98	44 / 98	85 / 140	78 / 126	115 / 172	115 / 172
North Main Street	SBL	175	51 / 90	40 / 77	64 / 103	64 / 103	48 / 81	35 / 72	54 / 86	54 / 86
	SBTR	>500	33 / 91	24 / 76	53 / 117	53 / 117	76 / 136	47 / 118	101 / 165	101 / 165

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

TABLE B2

Intersection Operation Summary - Vehicular 50th / 95th Percentile Queue (In Feet)

			Weekday Morning Peak Hour				Weekday Afternoon Peak Hour			
	Lane Use	Available Storage	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized	2020 Corridor	2020 Optimized	2040 Future	2040 Optimized
Traffic Signal - Route 66 (East High Street) at East Hampton Mall Shopping Center Dwy/Eversource Dwy										
Route 66	EBL	225	2 / m11	1 / m10	4 / m7	4 / m7	7 / m19	7 / m12	5 / m21	5 / m21
	EBTR	485	135 / 369	69 / 353	233 / 402	233 / 402	126 / 292	112 / 215	180 / m467	180 / m467
Route 66	WBL	125	1 / 4	1 / 4	1 / 4	1 / 4	1 / 3	1 / 3	1 / 3	1 / 3
	WBTR	>1000	79 / 224	78 / 225	123 / 352	123 / 352	228 / 422	216 / 416	348 / #732	348 / #732
Eversource Driveway	NB	260	11 / 32	9 / 27	12 / 35	12 / 35	4 / 16	3 / 13	7 / 23	7 / 23
East Hampton Mall	SBL	140	24 / 56	20 / 49	25 / 56	25 / 56	62 / 109	51 / 94	60 / 107	60 / 107
Shopping Center Dwy	SBR	140	0 / 0	0 / 0	0 / 0	0 / 0	0 / 37	0 / 26	0 / 38	0 / 38
Traffic Signal - Route 66 (East High Street) at Route 196 (Lake View Street)										
Route 66	EB	>1000	143 / 280	132 / 228	239 / #486	239 / #486	216 / #479	179 / #349	~443 / #710	336 / #581
Route 66	WBL	250	10 / 28	10 / 23	15 / 39	15 / 39	27 / 82	27 / 59	72 / 173	98 / #227
	WBTR	>500	50 / 108	50 / 89	77 / 171	77 / 171	74 / 153	73 / 123	125 / 264	115 / 179
Route 196 (Lake View St.)	NBL	170	23 / 69	21 / 59	43 / 87	43 / 87	36 / 80	30 / 68	50 / 96	56 / #121
	NBR	>500	0 / 59	0 / 54	0 / 66	0 / 66	0 / 46	0 / 42	0 / 50	0 / 56

m: Volume for 95th percentile queue is metered by upstream signal.

#: 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

TR and LT denote shared "through-right" and shared "left-through" lanes

APPENDIX C

Capacity Analyses – 2040 Future Conditions

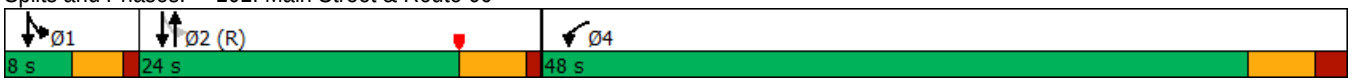
Tighe&Bond

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1780	100	320	680	120	880
Future Volume (vph)	1780	100	320	680	120	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	11	11
Storage Length (ft)	0	0		200	0	
Storage Lanes	2	0		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95
Frt	0.992			0.850		
Flt Protected	0.955					0.994
Satd. Flow (prot)	3358	0	3355	1501	0	3335
Flt Permitted	0.955					0.808
Satd. Flow (perm)	3358	0	3355	1501	0	2711
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	11			716		
Link Speed (mph)	35		35			30
Link Distance (ft)	2739		813			825
Travel Time (s)	53.4		15.8			18.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1874	105	337	716	126	926
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1979	0	337	716	0	1052
Turn Type	Prot		NA	Free	D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases				Free	2	
Detector Phase	4				1	
Switch Phase						
Minimum Initial (s)	10.0		15.0		4.0	
Minimum Split (s)	16.0		20.0		8.0	
Total Split (s)	48.0		24.0		8.0	
Total Split (%)	60.0%		30.0%		10.0%	
Yellow Time (s)	4.0		4.0		3.0	
All-Red Time (s)	2.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.0		5.0			
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		Max	
Act Effct Green (s)	42.0		19.0	80.0		24.0
Actuated g/C Ratio	0.52		0.24	1.00		0.30
v/c Ratio	1.12		0.42	0.48		1.25
Control Delay	72.4		27.8	1.1		147.8
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	72.4		27.8	1.1		147.8
LOS	E		C	A		F
Approach Delay	72.4		9.6			147.8
Approach LOS	E		A			F

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	~613		75	0		~350
Queue Length 95th (ft)	m#552		114	0		#470
Internal Link Dist (ft)	2659		733			745
Turn Bay Length (ft)				200		
Base Capacity (vph)	1768		796	1501		844
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	1.12		0.42	0.48		1.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay: 75.6		Intersection LOS: E	
Intersection Capacity Utilization 106.7%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 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: 101: Main Street & Route 66

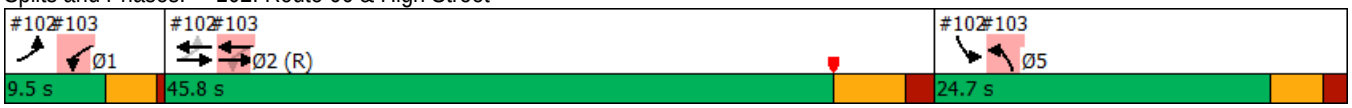


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	160	720	1660	190	80	160
Future Volume (vph)	160	720	1660	190	80	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	11
Storage Length (ft)	225			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.985		0.910	
Flt Protected	0.950				0.984	
Satd. Flow (prot)	1678	3355	3305	0	1854	0
Flt Permitted	0.091				0.984	
Satd. Flow (perm)	161	3355	3305	0	1854	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			22		120	
Link Speed (mph)		35	35		30	
Link Distance (ft)		2739	241		643	
Travel Time (s)		53.4	4.7		14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	170	766	1766	202	85	170
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	766	1968	0	255	0
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	2	2		5	
Permitted Phases	2					
Detector Phase	1				5	
Switch Phase						
Minimum Initial (s)	3.0	20.0	20.0		9.0	
Minimum Split (s)	6.5	26.0	26.0		13.7	
Total Split (s)	9.5	45.8	45.8		24.7	
Total Split (%)	11.9%	57.3%	57.3%		30.9%	
Yellow Time (s)	3.0	4.3	4.3		3.2	
All-Red Time (s)	0.5	1.7	1.7		1.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0		4.7	
Lead/Lag	Lead	Lag	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min		None	
Act Effct Green (s)	56.8	43.8	43.8		11.5	
Actuated g/C Ratio	0.71	0.55	0.55		0.14	
v/c Ratio	0.54	0.42	1.08		0.69	
Control Delay	18.2	10.8	53.5		26.8	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	18.2	10.8	53.5		26.8	
LOS	B	B	D		C	
Approach Delay		12.1	53.5		26.8	
Approach LOS		B	D		C	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	23	87	~553		64	
Queue Length 95th (ft)	m82	m160	m#689		129	
Internal Link Dist (ft)		2659	161		563	
Turn Bay Length (ft)	225					
Base Capacity (vph)	315	1835	1817		553	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.54	0.42	1.08		0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 39.1		Intersection LOS: D	
Intersection Capacity Utilization 87.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 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: 102: Route 66 & High Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	760	30	20	1760	60	20
Future Volume (vph)	760	30	20	1760	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994				0.966	
Flt Protected			0.950		0.964	
Satd. Flow (prot)	3335	0	1678	3355	1701	0
Flt Permitted			0.302		0.964	
Satd. Flow (perm)	3335	0	533	3355	1701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7				20	
Link Speed (mph)	35			35	25	
Link Distance (ft)	241			1093	405	
Travel Time (s)	4.7			21.3	11.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	784	31	21	1814	62	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	815	0	21	1814	83	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	2	5	
Permitted Phases			2			
Detector Phase			1		5	
Switch Phase						
Minimum Initial (s)	20.0		3.0	20.0	9.0	
Minimum Split (s)	26.0		6.5	26.0	13.7	
Total Split (s)	45.8		9.5	45.8	24.7	
Total Split (%)	57.3%		11.9%	57.3%	30.9%	
Yellow Time (s)	4.3		3.0	4.3	3.2	
All-Red Time (s)	1.7		0.5	1.7	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		3.5	6.0	4.7	
Lead/Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	43.8		56.8	43.8	11.5	
Actuated g/C Ratio	0.55		0.71	0.55	0.14	
v/c Ratio	0.45		0.04	0.99	0.32	
Control Delay	4.0		3.9	34.5	26.6	
Queue Delay	0.1		0.0	21.4	0.0	
Total Delay	4.1		3.9	55.9	26.6	
LOS	A		A	E	C	
Approach Delay	4.1			55.3	26.6	
Approach LOS	A			E	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	27		1	424	29	
Queue Length 95th (ft)	37		m5	#735	64	
Internal Link Dist (ft)	161			1013	325	
Turn Bay Length (ft)			175			
Base Capacity (vph)	1827		530	1835	440	
Starvation Cap Reductn	191		0	0	0	
Spillback Cap Reductn	0		0	119	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.50		0.04	1.06	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 39.2		Intersection LOS: D	
Intersection Capacity Utilization 65.1%		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.			

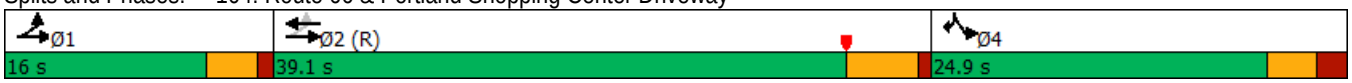
Splits and Phases: 103: Airline Avenue & Route 66

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	750	1710	30	20	10
Future Volume (vph)	30	750	1710	30	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	11
Storage Length (ft)	350			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1662	3323	3314	0	1604	1501
Flt Permitted	0.089				0.950	
Satd. Flow (perm)	156	3323	3314	0	1604	1501
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			3			10
Link Speed (mph)		35	35		10	
Link Distance (ft)		1093	417		223	
Travel Time (s)		21.3	8.1		15.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	4%
Adj. Flow (vph)	31	781	1781	31	21	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	781	1812	0	21	10
Turn Type	D.P+P	NA	NA		Prot	Prot
Protected Phases	1	1 2	2		4	4
Permitted Phases	2					
Detector Phase	1				4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0		9.0	9.0
Minimum Split (s)	9.0		20.0		21.0	21.0
Total Split (s)	16.0		39.1		24.9	24.9
Total Split (%)	20.0%		48.9%		31.1%	31.1%
Yellow Time (s)	3.0		4.3		3.0	3.0
All-Red Time (s)	1.0		0.7		1.9	1.9
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		5.0		4.9	4.9
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		C-Max		None	None
Act Effct Green (s)	68.8	72.8	68.3		9.0	9.0
Actuated g/C Ratio	0.86	0.91	0.85		0.11	0.11
v/c Ratio	0.13	0.26	0.64		0.12	0.06
Control Delay	6.0	3.8	11.2		33.7	18.5
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	6.0	3.8	11.3		33.7	18.5
LOS	A	A	B		C	B
Approach Delay		3.9	11.3		28.8	
Approach LOS		A	B		C	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	1	0	0		10	0
Queue Length 95th (ft)	m21	186	599		31	14
Internal Link Dist (ft)		1013	337		143	
Turn Bay Length (ft)	350					
Base Capacity (vph)	363	3025	2830		401	382
Starvation Cap Reductn	0	0	238		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.09	0.26	0.70		0.05	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 56 (70%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 64.0%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 104: Route 66 & Portland Shopping Center Driveway

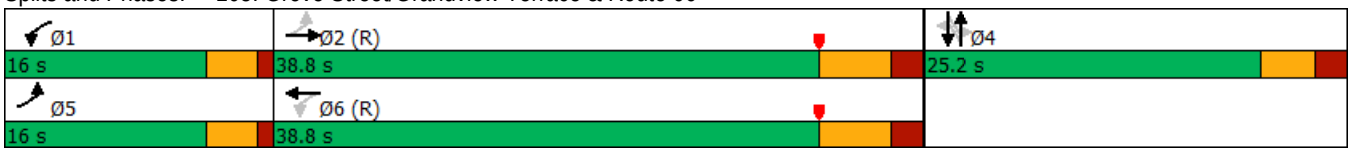


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	750	10	3	1730	1	20	0	10	10	0	0
Future Volume (vph)	10	750	10	3	1730	1	20	0	10	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	125		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			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		0.998						0.955				
Flt Protected	0.950			0.950				0.968			0.950	
Satd. Flow (prot)	1662	3317	0	1662	3323	0	0	1673	0	0	1719	0
Flt Permitted	0.081			0.341				0.901				
Satd. Flow (perm)	142	3317	0	596	3323	0	0	1557	0	0	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						100				
Link Speed (mph)		35			45			25			25	
Link Distance (ft)		417			1869			435			271	
Travel Time (s)		8.1			28.3			11.9			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	11	815	11	3	1880	1	22	0	11	11	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	826	0	3	1881	0	0	33	0	0	11	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases	2			6			4			4		
Detector Phase	5			1			4	4		4	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	7.0	21.3		7.0	21.3		23.2	23.2		23.2	23.2	
Total Split (s)	16.0	38.8		16.0	38.8		25.2	25.2		25.2	25.2	
Total Split (%)	20.0%	48.5%		20.0%	48.5%		31.5%	31.5%		31.5%	31.5%	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.3		4.0	6.3			5.2			5.2	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	68.5	67.8		68.3	67.7			6.1			6.1	
Actuated g/C Ratio	0.86	0.85		0.85	0.85			0.08			0.08	
v/c Ratio	0.05	0.29		0.01	0.67			0.16			0.08	
Control Delay	0.7	0.6		1.7	6.5			1.6			35.7	
Queue Delay	0.0	0.0		0.0	0.2			0.0			0.0	
Total Delay	0.7	0.6		1.7	6.7			1.6			35.7	
LOS	A	A		A	A			A			D	
Approach Delay		0.6			6.7			1.6			35.7	
Approach LOS		A			A			A			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	1	2		0	182			0			5	
Queue Length 95th (ft)	m0	4		1	440			0			21	
Internal Link Dist (ft)		337			1789			355			191	
Turn Bay Length (ft)	125			150								
Base Capacity (vph)	350	2810		675	2813			464			452	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	274			8			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.03	0.29		0.00	0.74			0.07			0.02	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 48 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 4.9		Intersection LOS: A	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 105: Grove Street/Grandview Terrace & Route 66



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Lane Configurations								
Traffic Volume (vph)	110	580	1400	230	90	160		
Future Volume (vph)	110	580	1400	230	90	160		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	11	11	11	11	11		
Storage Length (ft)	200			200	0	100		
Storage Lanes	1			1	1	1		
Taper Length (ft)	50				25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Frt				0.850		0.850		
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1646	3292	3292	1473	1646	1473		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1646	3292	3292	1473	1646	1473		
Right Turn on Red				Yes		Yes		
Satd. Flow (RTOR)				230		178		
Link Speed (mph)		45	35		45			
Link Distance (ft)		1735	1238		958			
Travel Time (s)		26.3	24.1		14.5			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%		
Adj. Flow (vph)	122	644	1556	256	100	178		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	122	644	1556	256	100	178		
Turn Type	Prot	NA	NA	Prot	Prot	Prot		
Protected Phases	1	1 2 3	2 3	2 3	4	4	2	3
Permitted Phases								
Detector Phase	1	1 2 3	2 3	2 3	4	4		
Switch Phase								
Minimum Initial (s)	5.0				7.0	7.0	15.0	3.0
Minimum Split (s)	10.0				20.0	20.0	21.0	9.0
Total Split (s)	18.0				20.0	20.0	32.0	9.0
Total Split (%)	22.8%				25.3%	25.3%	41%	11%
Yellow Time (s)	3.0				3.0	3.0	4.0	4.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0				0.0	0.0		
Total Lost Time (s)	5.0				5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes
Recall Mode	None				None	None	Min	None
Act Effct Green (s)	8.9	50.1	35.2	35.2	8.8	8.8		
Actuated g/C Ratio	0.13	0.73	0.51	0.51	0.13	0.13		
v/c Ratio	0.58	0.27	0.93	0.30	0.48	0.52		
Control Delay	39.7	3.7	28.9	3.5	36.6	11.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	39.7	3.7	28.9	3.5	36.6	11.0		
LOS	D	A	C	A	D	B		
Approach Delay		9.4	25.3		20.2			
Approach LOS		A	C		C			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Queue Length 50th (ft)	49	35	297	5	40	0		
Queue Length 95th (ft)	103	68	#556	45	88	51		
Internal Link Dist (ft)		1655	1158		878			
Turn Bay Length (ft)	200			200		100		
Base Capacity (vph)	311	2348	1678	863	359	460		
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	0.39	0.27	0.93	0.30	0.28	0.39		

Intersection Summary			
Area Type:	Other		
Cycle Length: 79			
Actuated Cycle Length: 69			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 64.0%		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 66 & Gospel Lane (Route 17)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	600	2	2	1460	0	30	0	10	0	3	0
Future Volume (vph)	30	600	2	2	1460	0	30	0	10	0	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	193		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.965				
Flt Protected	0.950			0.950				0.964				
Satd. Flow (prot)	1678	1766	0	1678	1766	0	0	1643	0	0	1766	0
Flt Permitted	0.050			0.403				0.851				
Satd. Flow (perm)	88	1766	0	712	1766	0	0	1450	0	0	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								84				
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		293			793			336			474	
Travel Time (s)		4.4			12.0			9.2			12.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	32	638	2	2	1553	0	32	0	11	0	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	640	0	2	1553	0	0	43	0	0	3	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA			NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		
Detector Phase	1	6		5	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.6	22.0		8.6	22.0		19.6	19.6		19.6	19.6	
Total Split (s)	14.6	77.0		14.6	77.0		20.6	20.6		20.6	20.6	
Total Split (%)	13.0%	68.6%		13.0%	68.6%		18.4%	18.4%		18.4%	18.4%	
Yellow Time (s)	3.6	5.0		3.6	5.0		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	7.0		4.6	7.0			5.6			5.6	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	84.0	83.7		82.1	80.3			7.0			7.0	
Actuated g/C Ratio	0.87	0.86		0.85	0.83			0.07			0.07	
v/c Ratio	0.22	0.42		0.00	1.06			0.24			0.02	
Control Delay	5.3	4.2		1.5	57.1			5.0			43.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.3	4.2		1.5	57.1			5.0			43.3	
LOS	A	A		A	E			A			D	
Approach Delay		4.2			57.0			5.0			43.3	
Approach LOS		A			E			A			D	

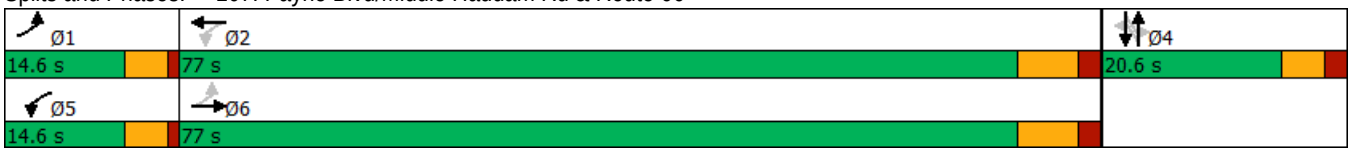
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	95		0	~1258			0			2	
Queue Length 95th (ft)	6	227		1	#1475			8			11	
Internal Link Dist (ft)		213			713			256			394	
Turn Bay Length (ft)	193			300								
Base Capacity (vph)	241	1527		724	1466			296			273	
Starvation 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	0.13	0.42		0.00	1.06			0.15			0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112.2			
Actuated Cycle Length: 96.8			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 40.4		Intersection LOS: D	
Intersection Capacity Utilization 96.3%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: Payne Blvd/Middle Haddam Rd & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	540	60	3	1170	2	210	10	3	50	10	40
Future Volume (vph)	1	540	60	3	1170	2	210	10	3	50	10	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	13	13	12	13	12
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987							0.850		0.946	
Flt Protected								0.954			0.975	
Satd. Flow (prot)	0	1743	0	0	1766	0	0	1801	1605	0	1741	0
Flt Permitted		0.999			0.999			0.657			0.403	
Satd. Flow (perm)	0	1741	0	0	1764	0	0	1240	1605	0	720	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		10							48		22	
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1284			1455			649			549	
Travel Time (s)		25.0			28.3			12.6			15.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	614	68	3	1330	2	239	11	3	57	11	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	683	0	0	1335	0	0	250	3	0	113	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4		4	4		
Detector Phase	2	2		2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.6	23.6		23.6	23.6		12.5	12.5	12.5	12.5	12.5	
Total Split (s)	98.6	98.6		98.6	98.6		29.5	29.5	29.5	29.5	29.5	
Total Split (%)	77.0%	77.0%		77.0%	77.0%		23.0%	23.0%	23.0%	23.0%	23.0%	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	4.3	4.3		4.3	4.3		3.3	3.3	3.3	3.3	3.3	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		8.6			8.6			7.5	7.5		7.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Act Effct Green (s)		90.0			90.0			22.0	22.0		22.0	
Actuated g/C Ratio		0.70			0.70			0.17	0.17		0.17	
v/c Ratio		0.56			1.08			1.18	0.01		0.80	
Control Delay		11.3			69.8			164.5	0.0		78.6	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		11.3			69.8			164.5	0.0		78.6	
LOS		B			E			F	A		E	
Approach Delay		11.3			69.8			162.5			78.6	
Approach LOS		B			E			F			E	

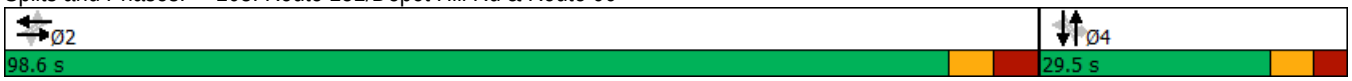
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		247			~1233			~247	0		74	
Queue Length 95th (ft)		327			#1442			#404	0		#175	
Internal Link Dist (ft)		1204			1375			569			469	
Turn Bay Length (ft)									100			
Base Capacity (vph)		1226			1239			212	315		141	
Starvation 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		0.56			1.08			1.18	0.01		0.80	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128.1			
Actuated Cycle Length: 128.1			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 63.3		Intersection LOS: E	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 108: Route 151/Depot Hill Rd & Route 66



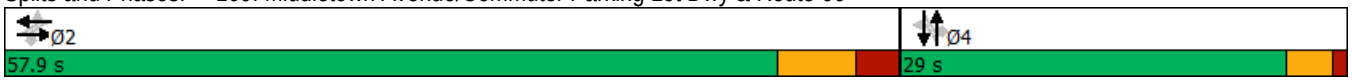
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	390	270	10	720	1	510	0	2	0	0	1
Future Volume (vph)	0	390	270	10	720	1	510	0	2	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		250	125		0	0		100	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.865	
Flt Protected				0.950				0.950				
Satd. Flow (prot)	0	1766	1501	1678	1766	0	0	1678	1501	0	1528	0
Flt Permitted				0.452				0.757				
Satd. Flow (perm)	0	1766	1501	798	1766	0	0	1337	1501	0	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			307						62		169	
Link Speed (mph)		45			45			50			15	
Link Distance (ft)		546			525			823			174	
Travel Time (s)		8.3			8.0			11.2			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	443	307	11	818	1	580	0	2	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	443	307	11	819	0	0	580	2	0	1	0
Turn Type		NA	Perm	Perm	NA		Perm	NA	Perm		NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.9	22.9	22.9	22.9	22.9		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	57.9	57.9	57.9	57.9	57.9		29.0	29.0	29.0	29.0	29.0	
Total Split (%)	66.6%	66.6%	66.6%	66.6%	66.6%		33.4%	33.4%	33.4%	33.4%	33.4%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	2.9	2.9		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		0.0	
Total Lost Time (s)		7.9	7.9	7.9	7.9			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None	None	None	None	
Act Effct Green (s)		40.2	40.2	40.2	40.2			25.4	25.4		25.4	
Actuated g/C Ratio		0.52	0.52	0.52	0.52			0.33	0.33		0.33	
v/c Ratio		0.49	0.33	0.03	0.90			1.33	0.00		0.00	
Control Delay		13.5	2.2	8.3	30.3			189.7	0.0		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		13.5	2.2	8.3	30.3			189.7	0.0		0.0	
LOS		B	A	A	C			F	A		A	
Approach Delay		8.9			30.1			189.0				
Approach LOS		A			C			F				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		127	0	2	329			~402	0		0	
Queue Length 95th (ft)		189	30	9	481			#625	0		0	
Internal Link Dist (ft)		466			445			743			94	
Turn Bay Length (ft)			250	125					100			
Base Capacity (vph)		1156	1088	522	1156			437	532		613	
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		0.38	0.28	0.02	0.71			1.33	0.00		0.00	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.9			
Actuated Cycle Length: 77.7			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 65.5		Intersection LOS: E	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 109: Middletown Avenue/Commuter Parking Lot Dwy & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	480	1	10	620	10	10	60	20	50	40	70
Future Volume (vph)	60	480	1	10	620	10	10	60	20	50	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	11	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.998			0.970			0.941	
Flt Protected		0.994			0.999			0.994			0.985	
Satd. Flow (prot)	0	1722	0	0	1728	0	0	1671	0	0	1606	0
Flt Permitted		0.860			0.988			0.964			0.882	
Satd. Flow (perm)	0	1490	0	0	1708	0	0	1620	0	0	1438	0
Right Turn on Red			No			No			No			
Satd. Flow (RTOR)												
Link Speed (mph)		45			30			25			25	
Link Distance (ft)		2724			782			976			892	
Travel Time (s)		41.3			17.8			26.6			24.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	71	565	1	12	729	12	12	71	24	59	47	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	637	0	0	753	0	0	107	0	0	188	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		16.9	16.9		16.9	16.9	
Total Split (s)	52.2	52.2		52.2	52.2		24.9	24.9		24.9	24.9	
Total Split (%)	55.8%	55.8%		55.8%	55.8%		26.6%	26.6%		26.6%	26.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.2		3.2	3.2		1.6	1.6		1.6	1.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.2			7.2			4.9			4.9	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		41.0			41.0			13.9			13.9	
Actuated g/C Ratio		0.59			0.59			0.20			0.20	
v/c Ratio		0.73			0.75			0.33			0.66	
Control Delay		18.7			18.7			29.5			39.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.7			18.7			29.5			39.6	
LOS		B			B			C			D	
Approach Delay		18.7			18.7			29.5			39.6	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		154			186			41			77	
Queue Length 95th (ft)		#474			#551			92			157	
Internal Link Dist (ft)		2644			702			896			812	

Lane Group	SEL	SER
Lane Configurations		
Traffic Volume (vph)	0	1
Future Volume (vph)	0	1
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	10	12
Lane Util. Factor	1.00	1.00
Frt	0.865	
Flt Protected		
Satd. Flow (prot)	1447	0
Flt Permitted		
Satd. Flow (perm)	1447	0
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)	25	
Link Distance (ft)	421	
Travel Time (s)	11.5	
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	6%	6%
Adj. Flow (vph)	0	1
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1	0
Turn Type	Prot	
Protected Phases	5	
Permitted Phases		
Detector Phase	5	
Switch Phase		
Minimum Initial (s)	9.0	
Minimum Split (s)	13.5	
Total Split (s)	16.5	
Total Split (%)	17.6%	
Yellow Time (s)	3.3	
All-Red Time (s)	1.2	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	4.5	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Recall Mode	None	
Act Effct Green (s)	9.4	
Actuated g/C Ratio	0.14	
v/c Ratio	0.01	
Control Delay	34.0	
Queue Delay	0.0	
Total Delay	34.0	
LOS	C	
Approach Delay	34.0	
Approach LOS	C	
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	5	
Internal Link Dist (ft)	341	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1003			1149			484			430	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.64			0.66			0.22			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 93.6			
Actuated Cycle Length: 69.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 110: Maple Street/North Maple Street & Route 66 & Old West High Street

Lane Group	SEL	SER
Turn Bay Length (ft)		
Base Capacity (vph)	259	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

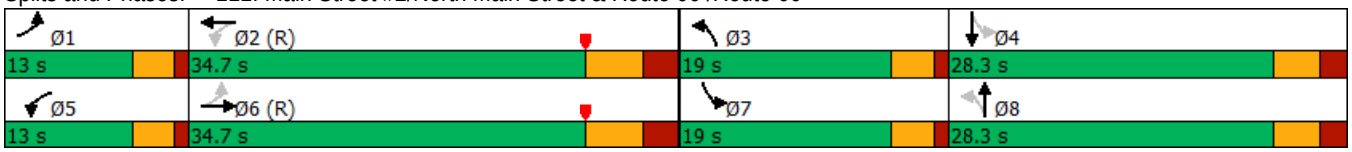
Intersection Summary

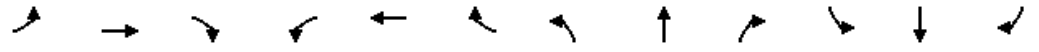
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	500	20	70	500	100	50	60	120	120	60	110
Future Volume (vph)	50	500	20	70	500	100	50	60	120	120	60	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12	12	12	12	12	12	12
Storage Length (ft)	275		0	225		0	225		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			75			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.994			0.975			0.902			0.903	
Flt Protected	0.950			0.950			0.950	0.999		0.950		
Satd. Flow (prot)	1662	1739	0	1662	1705	0	1633	1549	0	1719	1634	0
Flt Permitted	0.262			0.319			0.641	0.994		0.626		
Satd. Flow (perm)	458	1739	0	558	1705	0	1102	1541	0	1133	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11			115			92	
Link Speed (mph)		30			30			30			25	
Link Distance (ft)		594			597			644			540	
Travel Time (s)		13.5			13.6			14.6			14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	54	543	22	76	543	109	54	65	130	130	65	120
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	54	565	0	76	652	0	49	200	0	130	185	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		4.0	8.0		4.0	8.0	
Minimum Split (s)	8.0	21.6		8.0	21.6		8.0	13.3		8.0	13.3	
Total Split (s)	13.0	34.7		13.0	34.7		19.0	28.3		19.0	28.3	
Total Split (%)	13.7%	36.5%		13.7%	36.5%		20.0%	29.8%		20.0%	29.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.3		3.0	3.3	
All-Red Time (s)	1.0	2.6		1.0	2.6		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.6		4.0	6.6		4.0	5.3		4.0	5.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	59.1	52.0		60.0	52.4		16.7	12.7		24.2	16.1	
Actuated g/C Ratio	0.62	0.55		0.63	0.55		0.18	0.13		0.25	0.17	
v/c Ratio	0.15	0.59		0.18	0.69		0.21	0.66		0.37	0.53	
Control Delay	7.9	19.7		5.6	22.3		28.1	24.4		30.6	24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.9	19.7		5.6	22.3		28.1	24.4		30.6	24.8	
LOS	A	B		A	C		C	C		C	C	
Approach Delay		18.7			20.6			25.1			27.2	
Approach LOS		B			C			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	10	217		24	374		24	44		64	53	
Queue Length 95th (ft)	28	405		m6	#544		49	98		103	117	
Internal Link Dist (ft)		514			517			564			460	
Turn Bay Length (ft)	275			225			225			175		
Base Capacity (vph)	411	952		469	945		358	516		381	465	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.59		0.16	0.69		0.14	0.39		0.34	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 6 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 70.0%		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: 111: Main Street #2/North Main Street & Route 66 /Route 66



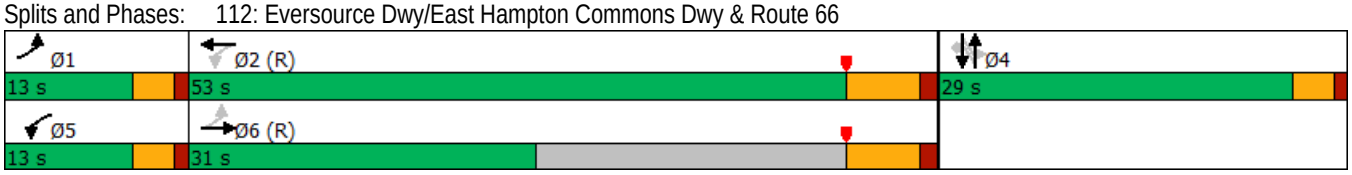


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	10	10	650	50	10	0	10	40	0	20
Future Volume (vph)	20	710	10	10	650	50	10	0	10	40	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	225		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	75			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989			0.932				0.850
Flt Protected	0.950			0.950				0.976			0.950	
Satd. Flow (prot)	1662	1806	0	1662	1790	0	0	1646	0	0	1719	1538
Flt Permitted	0.310			0.314				0.851			0.743	
Satd. Flow (perm)	542	1806	0	549	1790	0	0	1435	0	0	1344	1538
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			6							86
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		597			1042			185			376	
Travel Time (s)		13.6			23.7			5.0			10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	772	11	11	707	54	11	0	11	43	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	783	0	11	761	0	0	22	0	0	43	22
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	18.0		5.0	18.0		9.0	9.0		9.0	9.0	9.0
Minimum Split (s)	9.0	24.5		9.0	24.5		13.0	13.0		13.0	13.0	13.0
Total Split (s)	13.0	31.0		13.0	53.0		29.0	29.0		29.0	29.0	29.0
Total Split (%)	13.7%	32.6%		13.7%	55.8%		30.5%	30.5%		30.5%	30.5%	30.5%
Yellow Time (s)	3.0	5.2		3.0	5.2		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.3		1.0	1.3		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	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5			4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	79.0	76.8		78.1	74.9			9.8			9.8	9.8
Actuated g/C Ratio	0.83	0.81		0.82	0.79			0.10			0.10	0.10
v/c Ratio	0.04	0.54		0.02	0.54			0.15			0.31	0.09
Control Delay	3.5	10.0		2.1	7.7			40.6			45.2	0.8
Queue Delay	0.0	0.4		0.0	0.0			0.0			0.0	0.0
Total Delay	3.5	10.3		2.1	7.7			40.6			45.2	0.8
LOS	A	B		A	A			D			D	A
Approach Delay		10.1			7.6			40.6			30.2	
Approach LOS		B			A			D			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	4	233		1	123			12			25	0
Queue Length 95th (ft)	m7	402		4	352			35			56	0
Internal Link Dist (ft)		517			962			105			296	
Turn Bay Length (ft)	225			125								
Base Capacity (vph)	561	1459		565	1412			377			353	468
Starvation Cap Reductn	0	237		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	0.04	0.64		0.02	0.54			0.06			0.12	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow, Master Intersection			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 112: Eversource Dwy/East Hampton Commons Dwy & Route 66



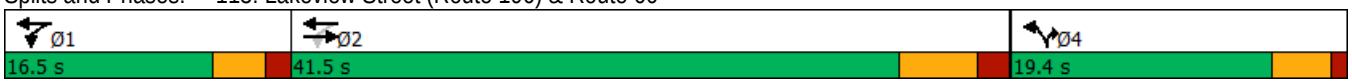
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	50	150	560	100	310
Future Volume (vph)	610	50	150	560	100	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	12
Storage Length (ft)		0	250		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			40		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1791	0	1662	1749	1662	1538
Flt Permitted			0.185		0.950	
Satd. Flow (perm)	1791	0	324	1749	1662	1538
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					323
Link Speed (mph)	30			30	25	
Link Distance (ft)	628			459	953	
Travel Time (s)	14.3			10.4	26.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	635	52	156	583	104	323
Shared Lane Traffic (%)						
Lane Group Flow (vph)	687	0	156	583	104	323
Turn Type	NA		D.P+P	NA	Prot	Prot
Protected Phases	2		1	1 2	4	4
Permitted Phases			2			
Detector Phase	2		1	1 2	4	4
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	9.0
Minimum Split (s)	21.5		9.5		13.4	13.4
Total Split (s)	41.5		16.5		19.4	19.4
Total Split (%)	53.6%		21.3%		25.1%	25.1%
Yellow Time (s)	4.5		3.0		3.4	3.4
All-Red Time (s)	2.0		1.5		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.5		4.5		4.4	4.4
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None		None	None
Act Effct Green (s)	30.1		42.8	47.4	10.9	10.9
Actuated g/C Ratio	0.45		0.64	0.70	0.16	0.16
v/c Ratio	0.86		0.37	0.47	0.39	0.62
Control Delay	29.5		6.4	6.0	32.2	9.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	29.5		6.4	6.0	32.2	9.6
LOS	C		A	A	C	A
Approach Delay	29.5			6.1	15.1	
Approach LOS	C			A	B	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	239		15	77	43	0
Queue Length 95th (ft)	#486		39	171	87	66
Internal Link Dist (ft)	548			379	873	
Turn Bay Length (ft)			250			
Base Capacity (vph)	955		457	1364	379	599
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	0.72		0.34	0.43	0.27	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 77.4			
Actuated Cycle Length: 67.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		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: 113: Lakeview Street (Route 196) & Route 66



APPENDIX D

Capacity Analyses – 2040 Future Optimized Conditions

Tighe&Bond

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	890	150	740	1680	160	620
Future Volume (vph)	890	150	740	1680	160	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	11	11
Storage Length (ft)	0	0		200	0	
Storage Lanes	2	0		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95
Frt	0.978			0.850		
Flt Protected	0.959					0.990
Satd. Flow (prot)	3389	0	3421	1531	0	3387
Flt Permitted	0.959					0.551
Satd. Flow (perm)	3389	0	3421	1531	0	1885
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	37			898		
Link Speed (mph)	35		35			30
Link Distance (ft)	2739		813			825
Travel Time (s)	53.4		15.8			18.8
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	918	155	763	1732	165	639
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1073	0	763	1732	0	804
Turn Type	Prot		NA	Free	D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases				Free	2	
Detector Phase	4				1	
Switch Phase						
Minimum Initial (s)	10.0		15.0		4.0	
Minimum Split (s)	16.0		20.0		8.0	
Total Split (s)	48.0		24.0		8.0	
Total Split (%)	60.0%		30.0%		10.0%	
Yellow Time (s)	4.0		4.0		3.0	
All-Red Time (s)	2.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.0		5.0			
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		Max	
Act Effct Green (s)	32.8		19.0	80.0		33.2
Actuated g/C Ratio	0.41		0.24	1.00		0.42
v/c Ratio	0.76		0.94	1.13		0.78
Control Delay	15.1		51.4	75.0		26.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	15.1		51.4	75.0		26.4
LOS	B		D	E		C
Approach Delay	15.1		67.8			26.4
Approach LOS	B		E			C
Queue Length 50th (ft)	253		197	~212		142

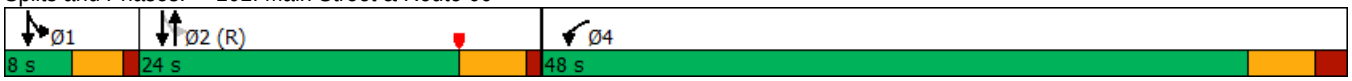
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	41		#308	#466		#328
Internal Link Dist (ft)	2659		733			745
Turn Bay Length (ft)				200		
Base Capacity (vph)	1796		812	1531		1030
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.60		0.94	1.13		0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 47.3		Intersection LOS: D	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Main Street & Route 66



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	210	1710	860	190	160	130
Future Volume (vph)	210	1710	860	190	160	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	11
Storage Length (ft)	225			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.973		0.939	
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1711	3421	3329	0	1929	0
Flt Permitted	0.188				0.973	
Satd. Flow (perm)	339	3421	3329	0	1929	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			47		49	
Link Speed (mph)		35	35		30	
Link Distance (ft)		2739	241		643	
Travel Time (s)		53.4	4.7		14.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	214	1745	878	194	163	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	214	1745	1072	0	296	0
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	2	2		5	
Permitted Phases	2					
Detector Phase	1				5	
Switch Phase						
Minimum Initial (s)	3.0	20.0	20.0		9.0	
Minimum Split (s)	6.5	26.0	26.0		13.7	
Total Split (s)	9.5	45.8	45.8		24.7	
Total Split (%)	11.9%	57.3%	57.3%		30.9%	
Yellow Time (s)	3.0	4.3	4.3		3.2	
All-Red Time (s)	0.5	1.7	1.7		1.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0		4.7	
Lead/Lag	Lead	Lag	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min		None	
Act Effct Green (s)	53.7	40.7	40.7		14.6	
Actuated g/C Ratio	0.67	0.51	0.51		0.18	
v/c Ratio	0.52	1.00	0.62		0.76	
Control Delay	6.5	29.9	6.5		37.9	
Queue Delay	0.0	36.1	0.0		0.0	
Total Delay	6.5	66.0	6.6		37.9	
LOS	A	E	A		D	
Approach Delay		59.5	6.6		37.9	
Approach LOS		E	A		D	
Queue Length 50th (ft)	26	~438	24		118	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 95th (ft)	m33	m#543	#80		184	
Internal Link Dist (ft)		2659	161		563	
Turn Bay Length (ft)	225					
Base Capacity (vph)	410	1740	1716		521	
Starvation Cap Reductn	0	0	8		0	
Spillback Cap Reductn	0	216	0		2	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.52	1.15	0.63		0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 40.5		Intersection LOS: D	
Intersection Capacity Utilization 73.0%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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: 102: Route 66 & High Street

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1770	90	20	1010	60	60
Future Volume (vph)	1770	90	20	1010	60	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	3397	0	1711	3421	1694	0
Flt Permitted			0.098		0.976	
Satd. Flow (perm)	3397	0	176	3421	1694	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9				60	
Link Speed (mph)	35			35	25	
Link Distance (ft)	241			1093	405	
Travel Time (s)	4.7			21.3	11.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1825	93	21	1041	62	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1918	0	21	1041	124	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	2	5	
Permitted Phases			2			
Detector Phase			1		5	
Switch Phase						
Minimum Initial (s)	20.0		3.0	20.0	9.0	
Minimum Split (s)	26.0		6.5	26.0	13.7	
Total Split (s)	45.8		9.5	45.8	24.7	
Total Split (%)	57.3%		11.9%	57.3%	30.9%	
Yellow Time (s)	4.3		3.0	4.3	3.2	
All-Red Time (s)	1.7		0.5	1.7	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		3.5	6.0	4.7	
Lead/Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	40.7		53.7	40.7	14.6	
Actuated g/C Ratio	0.51		0.67	0.51	0.18	
v/c Ratio	1.11		0.07	0.60	0.35	
Control Delay	66.2		1.3	6.0	17.4	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	66.2		1.3	6.0	17.4	
LOS	E		A	A	B	
Approach Delay	66.2			6.0	17.4	
Approach LOS	E			A	B	
Queue Length 50th (ft)	~563		0	21	28	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	m#693		m1	#32	67	
Internal Link Dist (ft)	161			1013	325	
Turn Bay Length (ft)			175			
Base Capacity (vph)	1732		322	1740	470	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	1.11		0.07	0.60	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 43.6		Intersection LOS: D	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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.

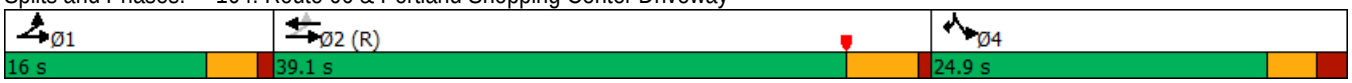
Splits and Phases: 103: Airline Avenue & Route 66

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	190	1600	990	70	110	50
Future Volume (vph)	190	1600	990	70	110	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	11
Storage Length (ft)	350			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1694	3388	3354	0	1636	1516
Flt Permitted	0.205				0.950	
Satd. Flow (perm)	366	3388	3354	0	1636	1516
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			51
Link Speed (mph)		35	35		10	
Link Distance (ft)		1093	417		223	
Travel Time (s)		21.3	8.1		15.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	194	1633	1010	71	112	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	194	1633	1081	0	112	51
Turn Type	D.P+P	NA	NA		Prot	Prot
Protected Phases	1	1 2	2		4	4
Permitted Phases	2					
Detector Phase	1				4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0		9.0	9.0
Minimum Split (s)	9.0		20.0		21.0	21.0
Total Split (s)	16.0		39.1		24.9	24.9
Total Split (%)	20.0%		48.9%		31.1%	31.1%
Yellow Time (s)	3.0		4.3		3.0	3.0
All-Red Time (s)	1.0		0.7		1.9	1.9
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		5.0		4.9	4.9
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		C-Max		None	None
Act Effct Green (s)	58.3	63.1	47.6		11.6	11.6
Actuated g/C Ratio	0.73	0.79	0.60		0.14	0.14
v/c Ratio	0.45	0.61	0.54		0.47	0.19
Control Delay	7.9	16.6	10.3		37.6	10.6
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	7.9	16.6	10.4		37.6	10.6
LOS	A	B	B		D	B
Approach Delay		15.7	10.4		29.1	
Approach LOS		B	B		C	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	46	424	172		53	0
Queue Length 95th (ft)	m51	m431	305		96	28
Internal Link Dist (ft)		1013	337		143	
Turn Bay Length (ft)	350					
Base Capacity (vph)	484	2672	1998		409	417
Starvation Cap Reductn	0	0	157		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.40	0.61	0.59		0.27	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 44 (55%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 59.2%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 104: Route 66 & Portland Shopping Center Driveway

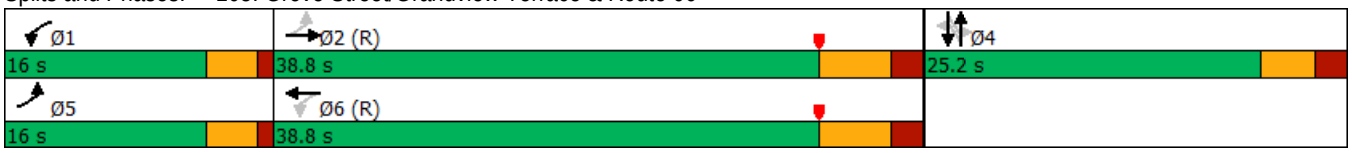


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1650	50	10	1010	3	20	0	20	2	1	30
Future Volume (vph)	20	1650	50	10	1010	3	20	0	20	2	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	125		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			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		0.996						0.932			0.877	
Flt Protected	0.950			0.950				0.976			0.997	
Satd. Flow (prot)	1694	3374	0	1694	3388	0	0	1678	0	0	1613	0
Flt Permitted	0.253			0.099				0.824			0.975	
Satd. Flow (perm)	451	3374	0	177	3388	0	0	1417	0	0	1577	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4						100			31	
Link Speed (mph)		35			45			25			25	
Link Distance (ft)		417			1869			435			271	
Travel Time (s)		8.1			28.3			11.9			7.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	21	1719	52	10	1052	3	21	0	21	2	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	1771	0	10	1055	0	0	42	0	0	34	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases	2			6			4			4		
Detector Phase	5			1			4	4		4	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	7.0	21.3		7.0	21.3		23.2	23.2		23.2	23.2	
Total Split (s)	16.0	38.8		16.0	38.8		25.2	25.2		25.2	25.2	
Total Split (%)	20.0%	48.5%		20.0%	48.5%		31.5%	31.5%		31.5%	31.5%	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.3		4.0	6.3			5.2			5.2	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	68.4	67.7		67.4	65.9			6.1			6.1	
Actuated g/C Ratio	0.86	0.85		0.84	0.82			0.08			0.08	
v/c Ratio	0.05	0.62		0.04	0.38			0.21			0.23	
Control Delay	1.1	2.7		2.0	4.3			2.4			18.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	1.1	2.7		2.0	4.3			2.4			18.5	
LOS	A	A		A	A			A			B	
Approach Delay		2.7			4.2			2.4			18.5	
Approach LOS		A			A			A			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	1	3		1	64			0			1	
Queue Length 95th (ft)	m3	152		3	155			1			28	
Internal Link Dist (ft)		337			1789			355			191	
Turn Bay Length (ft)	125			150								
Base Capacity (vph)	575	2855		380	2791			429			417	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	63			1			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.04	0.62		0.03	0.39			0.10			0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 52 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 3.4		Intersection LOS: A	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 105: Grove Street/Grandview Terrace & Route 66



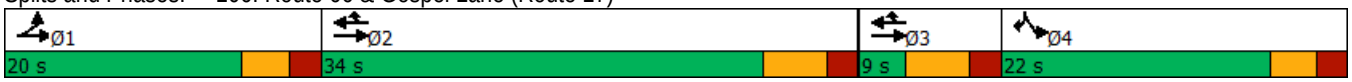
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Lane Configurations								
Traffic Volume (vph)	200	1450	800	140	160	140		
Future Volume (vph)	200	1450	800	140	160	140		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	11	11	11	11	11		
Storage Length (ft)	200			200	0	100		
Storage Lanes	1			1	1	1		
Taper Length (ft)	50				25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Frt				0.850		0.850		
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1711	3421	3421	1531	1711	1531		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1711	3421	3421	1531	1711	1531		
Right Turn on Red				Yes		Yes		
Satd. Flow (RTOR)				146		146		
Link Speed (mph)		45	35		45			
Link Distance (ft)		1735	1238		958			
Travel Time (s)		26.3	24.1		14.5			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Adj. Flow (vph)	208	1510	833	146	167	146		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	208	1510	833	146	167	146		
Turn Type	Prot	NA	NA	Prot	Prot	Prot		
Protected Phases	1	1 2 3	2 3	2 3	4	4	2	3
Permitted Phases								
Detector Phase	1	1 2 3	2 3	2 3	4	4		
Switch Phase								
Minimum Initial (s)	5.0				7.0	7.0	15.0	3.0
Minimum Split (s)	10.0				20.0	20.0	21.0	9.0
Total Split (s)	20.0				22.0	22.0	34.0	9.0
Total Split (%)	23.5%				25.9%	25.9%	40%	11%
Yellow Time (s)	3.0				3.0	3.0	4.0	4.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0				0.0	0.0		
Total Lost Time (s)	5.0				5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes
Recall Mode	None				None	None	Min	None
Act Effct Green (s)	15.0	58.1	37.1	37.1	11.7	11.7		
Actuated g/C Ratio	0.19	0.73	0.46	0.46	0.15	0.15		
v/c Ratio	0.65	0.61	0.52	0.19	0.67	0.42		
Control Delay	41.7	7.1	17.2	3.3	45.4	9.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	41.7	7.1	17.2	3.3	45.4	9.4		
LOS	D	A	B	A	D	A		
Approach Delay		11.3	15.1		28.6			
Approach LOS		B	B		C			
Queue Length 50th (ft)	97	155	147	0	80	0		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Queue Length 95th (ft)	#197	270	225	32	141	47		
Internal Link Dist (ft)		1655	1158		878			
Turn Bay Length (ft)	200			200		100		
Base Capacity (vph)	322	2489	1588	788	364	441		
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	0.65	0.61	0.52	0.19	0.46	0.33		

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 79.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 57.3%		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 66 & Gospel Lane (Route 17)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	1420	20	3	790	2	20	2	3	3	0	80
Future Volume (vph)	150	1420	20	3	790	2	20	2	3	3	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	193		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998						0.984			0.870	
Flt Protected	0.950			0.950				0.961			0.998	
Satd. Flow (prot)	1711	1797	0	1711	1801	0	0	1703	0	0	1563	0
Flt Permitted	0.243			0.059				0.698			0.986	
Satd. Flow (perm)	438	1797	0	106	1801	0	0	1237	0	0	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						3			84	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		293			793			336			474	
Travel Time (s)		4.4			12.0			9.2			12.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	1495	21	3	832	2	21	2	3	3	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	1516	0	3	834	0	0	26	0	0	87	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		
Detector Phase	1	6		5	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.6	22.0		8.6	22.0		19.6	19.6		19.6	19.6	
Total Split (s)	14.6	77.0		14.6	77.0		20.6	20.6		20.6	20.6	
Total Split (%)	13.0%	68.6%		13.0%	68.6%		18.4%	18.4%		18.4%	18.4%	
Yellow Time (s)	3.6	5.0		3.6	5.0		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	7.0		4.6	7.0			5.6			5.6	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	75.6	73.4		69.9	63.5			7.5			7.5	
Actuated g/C Ratio	0.83	0.81		0.77	0.70			0.08			0.08	
v/c Ratio	0.36	1.04		0.02	0.66			0.25			0.43	
Control Delay	4.2	50.6		2.3	12.1			43.4			17.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.2	50.6		2.3	12.1			43.4			17.3	
LOS	A	D		A	B			D			B	
Approach Delay		46.3			12.0			43.4			17.3	
Approach LOS		D			B			D			B	
Queue Length 50th (ft)	14	~971		0	254			12			2	

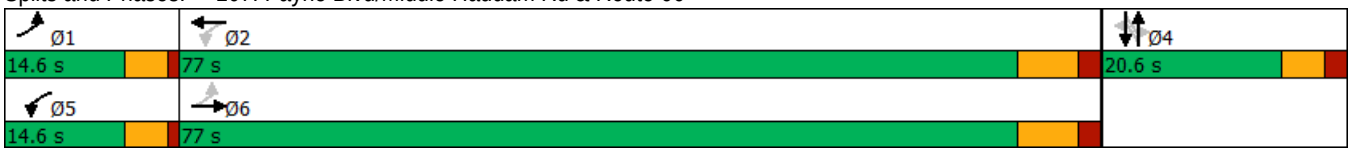
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	29	#1469		2	437			41			48	
Internal Link Dist (ft)		213			713			256			394	
Turn Bay Length (ft)	193			300								
Base Capacity (vph)	505	1452		265	1391			207			325	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.31	1.04		0.01	0.60			0.13			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112.2			
Actuated Cycle Length: 90.9			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: Payne Blvd/Middle Haddam Rd & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1260	190	10	670	5	100	4	3	60	20	10
Future Volume (vph)	40	1260	190	10	670	5	100	4	3	60	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	13	13	12	13	12
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.999				0.850		0.985	
Flt Protected		0.999			0.999			0.954			0.968	
Satd. Flow (prot)	0	1768	0	0	1797	0	0	1836	1636	0	1835	0
Flt Permitted		0.963			0.964			0.695			0.732	
Satd. Flow (perm)	0	1705	0	0	1734	0	0	1338	1636	0	1388	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		14							48		4	
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1284			1455			649			549	
Travel Time (s)		25.0			28.3			12.6			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1370	207	11	728	5	109	4	3	65	22	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1620	0	0	744	0	0	113	3	0	98	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4		4	4		
Detector Phase	2	2		2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.6	23.6		23.6	23.6		12.5	12.5	12.5	12.5	12.5	
Total Split (s)	98.6	98.6		98.6	98.6		29.5	29.5	29.5	29.5	29.5	
Total Split (%)	77.0%	77.0%		77.0%	77.0%		23.0%	23.0%	23.0%	23.0%	23.0%	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	4.3	4.3		4.3	4.3		3.3	3.3	3.3	3.3	3.3	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		8.6			8.6			7.5	7.5		7.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Act Effct Green (s)		91.4			91.4			14.3	14.3		14.3	
Actuated g/C Ratio		0.75			0.75			0.12	0.12		0.12	
v/c Ratio		1.26			0.57			0.72	0.01		0.59	
Control Delay		144.4			9.5			76.0	0.0		62.5	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		144.4			9.5			76.0	0.0		62.5	
LOS		F			A			E	A		E	
Approach Delay		144.4			9.5			74.0			62.5	
Approach LOS		F			A			E			E	
Queue Length 50th (ft)		~1591			220			86	0		70	

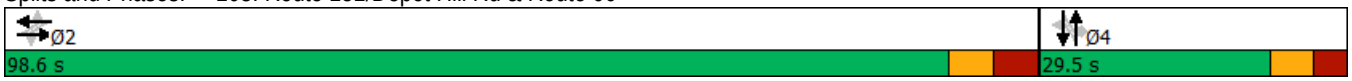
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		#2030			400			149	0		128	
Internal Link Dist (ft)		1204			1375			569			469	
Turn Bay Length (ft)									100			
Base Capacity (vph)		1282			1300			241	335		254	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		1.26			0.57			0.47	0.01		0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128.1			
Actuated Cycle Length: 121.8			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 99.2		Intersection LOS: F	
Intersection Capacity Utilization 125.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 108: Route 151/Depot Hill Rd & Route 66



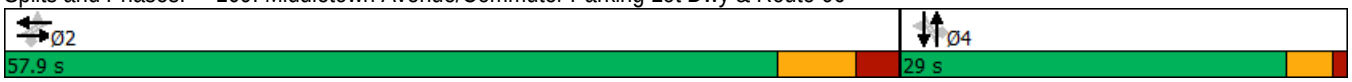
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	800	580	3	500	2	310	10	10	2	2	2
Future Volume (vph)	3	800	580	3	500	2	310	10	10	2	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		250	125		0	0		100	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.955	
Flt Protected				0.950				0.954			0.984	
Satd. Flow (prot)	0	1801	1531	1711	1799	0	0	1718	1531	0	1692	0
Flt Permitted		0.998		0.172				0.729			0.930	
Satd. Flow (perm)	0	1797	1531	310	1799	0	0	1313	1531	0	1599	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			598						62		2	
Link Speed (mph)		45			45			50			15	
Link Distance (ft)		546			525			823			174	
Travel Time (s)		8.3			8.0			11.2			7.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	3	825	598	3	515	2	320	10	10	2	2	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	828	598	3	517	0	0	330	10	0	6	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.9	22.9	22.9	22.9	22.9		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	57.9	57.9	57.9	57.9	57.9		29.0	29.0	29.0	29.0	29.0	
Total Split (%)	66.6%	66.6%	66.6%	66.6%	66.6%		33.4%	33.4%	33.4%	33.4%	33.4%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	2.9	2.9		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		0.0	
Total Lost Time (s)		7.9	7.9	7.9	7.9			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None	None	None	None	
Act Effct Green (s)		40.9	40.9	40.9	40.9			22.0	22.0		22.0	
Actuated g/C Ratio		0.54	0.54	0.54	0.54			0.29	0.29		0.29	
v/c Ratio		0.85	0.54	0.02	0.53			0.86	0.02		0.01	
Control Delay		24.6	2.9	8.3	13.4			51.3	0.1		19.3	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		24.6	2.9	8.3	13.4			51.3	0.1		19.3	
LOS		C	A	A	B			D	A		B	
Approach Delay		15.5			13.3			49.8			19.3	
Approach LOS		B			B			D			B	
Queue Length 50th (ft)		330	0	1	156			164	0		2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		507	42	4	236			#324	0		11	
Internal Link Dist (ft)		466			445			743			94	
Turn Bay Length (ft)			250	125					100			
Base Capacity (vph)		1240	1242	214	1242			457	573		558	
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		0.67	0.48	0.01	0.42			0.72	0.02		0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.9			
Actuated Cycle Length: 75.4			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 109: Middletown Avenue/Commuter Parking Lot Dwy & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	60	670	2	10	620	1	20	10	20	10	50	40
Future Volume (vph)	60	670	2	10	620	1	20	10	20	10	50	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	11	12	12	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996				0.965			0.952
Flt Protected		0.996			0.999				0.987			0.983
Satd. Flow (prot)	0	1793	0	0	1792	0	0	0	1715	0	0	1685
Flt Permitted		0.900			0.987				0.926			0.865
Satd. Flow (perm)	0	1621	0	0	1770	0	0	0	1609	0	0	1483
Right Turn on Red			No				No			No		
Satd. Flow (RTOR)												
Link Speed (mph)		45			30				25			25
Link Distance (ft)		2724			782				976			892
Travel Time (s)		41.3			17.8				26.6			24.3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	713	2	11	660	1	21	11	21	11	53	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	0	693	0	0	0	43	0	0	149
Turn Type	Perm	NA		Perm	NA			Perm	NA		Perm	NA
Protected Phases		2			2				4			4
Permitted Phases	2			2				4			4	
Detector Phase	2	2		2	2			4	4		4	4
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0			9.0	9.0		9.0	9.0
Minimum Split (s)	32.2	32.2		32.2	32.2			16.9	16.9		16.9	16.9
Total Split (s)	52.2	52.2		52.2	52.2			24.9	24.9		24.9	24.9
Total Split (%)	55.8%	55.8%		55.8%	55.8%			26.6%	26.6%		26.6%	26.6%
Yellow Time (s)	4.0	4.0		4.0	4.0			3.3	3.3		3.3	3.3
All-Red Time (s)	3.2	3.2		3.2	3.2			1.6	1.6		1.6	1.6
Lost Time Adjust (s)		0.0			0.0				0.0			0.0
Total Lost Time (s)		7.2			7.2				4.9			4.9
Lead/Lag								Lead	Lead		Lead	Lead
Lead-Lag Optimize?								Yes	Yes		Yes	Yes
Recall Mode	Min	Min		Min	Min			None	None		None	None
Act Effct Green (s)		47.9			47.9				12.0			12.0
Actuated g/C Ratio		0.66			0.66				0.17			0.17
v/c Ratio		0.72			0.59				0.16			0.60
Control Delay		13.9			9.9				25.3			37.5
Queue Delay		0.0			0.0				0.0			0.0
Total Delay		13.9			9.9				25.3			37.5
LOS		B			A				C			D
Approach Delay		13.9			9.9				25.3			37.5
Approach LOS		B			A				C			D
Queue Length 50th (ft)		183			139				16			59
Queue Length 95th (ft)		401			285				40			112
Internal Link Dist (ft)		2644			702				896			812
Turn Bay Length (ft)												

Lane Group	SBR	SEL
Lane Configurations		
Traffic Volume (vph)	50	0
Future Volume (vph)	50	0
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	10
Lane Util. Factor	1.00	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	0	1739
Flt Permitted		
Satd. Flow (perm)	0	1739
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		25
Link Distance (ft)		421
Travel Time (s)		11.5
Peak Hour Factor	0.94	0.94
Adj. Flow (vph)	53	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Turn Type		Prot
Protected Phases		5
Permitted Phases		
Detector Phase		5
Switch Phase		
Minimum Initial (s)		9.0
Minimum Split (s)		13.5
Total Split (s)		16.5
Total Split (%)		17.6%
Yellow Time (s)		3.3
All-Red Time (s)		1.2
Lost Time Adjust (s)		0.0
Total Lost Time (s)		4.5
Lead/Lag		Lag
Lead-Lag Optimize?		Yes
Recall Mode		None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		341
Turn Bay Length (ft)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL	SBT
Base Capacity (vph)		1077			1175				448			413
Starvation Cap Reductn		0			0				0			0
Spillback Cap Reductn		0			0				0			0
Storage Cap Reductn		0			0				0			0
Reduced v/c Ratio		0.72			0.59				0.10			0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 93.6			
Actuated Cycle Length: 72.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 110: Maple Street/North Maple Street & Route 66 & Old West High Street

Lane Group	SBR	SEL
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

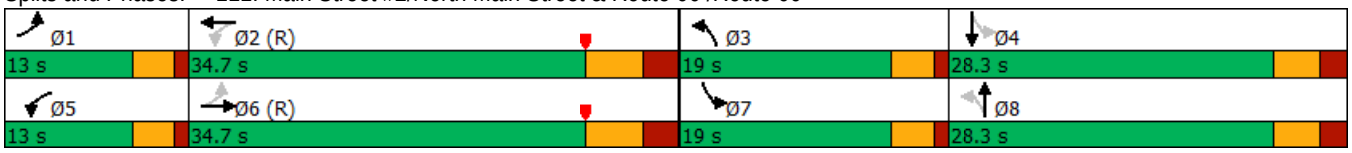
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	550	60	170	530	170	40	140	100	110	110	100
Future Volume (vph)	170	550	60	170	530	170	40	140	100	110	110	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12	12	12	12	12	12	12
Storage Length (ft)	275		0	225		0	225		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			75			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.985			0.964			0.939			0.929	
Flt Protected	0.950			0.950			0.950	0.999		0.950		
Satd. Flow (prot)	1711	1774	0	1711	1736	0	1681	1660	0	1770	1730	0
Flt Permitted	0.098			0.174			0.611	0.996		0.592		
Satd. Flow (perm)	176	1774	0	313	1736	0	1081	1655	0	1103	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			17			43			45	
Link Speed (mph)		30			30			30			25	
Link Distance (ft)		594			597			644			540	
Travel Time (s)		13.5			13.6			14.6			14.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	181	585	64	181	564	181	43	149	106	117	117	106
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	181	649	0	181	745	0	39	259	0	117	223	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		4.0	8.0		4.0	8.0	
Minimum Split (s)	8.0	21.6		8.0	21.6		8.0	13.3		8.0	13.3	
Total Split (s)	13.0	34.7		13.0	34.7		19.0	28.3		19.0	28.3	
Total Split (%)	13.7%	36.5%		13.7%	36.5%		20.0%	29.8%		20.0%	29.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.3		3.0	3.3	
All-Red Time (s)	1.0	2.6		1.0	2.6		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.6		4.0	6.6		4.0	5.3		4.0	5.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	55.2	42.3		54.0	41.7		21.3	17.4		28.2	20.7	
Actuated g/C Ratio	0.58	0.45		0.57	0.44		0.22	0.18		0.30	0.22	
v/c Ratio	0.68	0.82		0.57	0.97		0.14	0.77		0.30	0.54	
Control Delay	28.9	35.6		17.7	42.0		23.2	43.1		25.7	31.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.9	35.6		17.7	42.0		23.2	43.1		25.7	31.7	
LOS	C	D		B	D		C	D		C	C	
Approach Delay		34.1			37.3			40.5			29.6	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	47	315		13	406		17	115		54	101	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	128	#678		m52	#801		37	172		86	165	
Internal Link Dist (ft)		514			517			564			460	
Turn Bay Length (ft)	275			225			225			175		
Base Capacity (vph)	282	792		334	771		416	488		435	466	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.82		0.54	0.97		0.09	0.53		0.27	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 6 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
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: 111: Main Street #2/North Main Street & Route 66 /Route 66



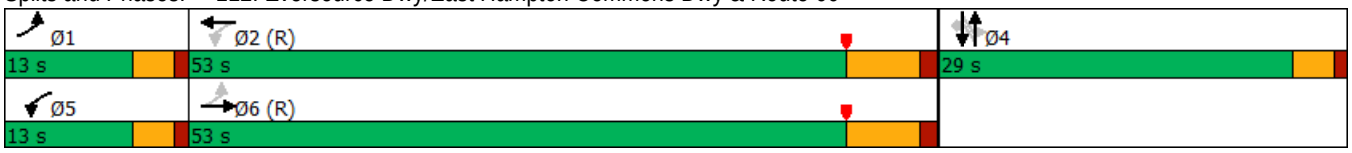
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	710	1	4	770	120	10	0	2	100	0	80
Future Volume (vph)	50	710	1	4	770	120	10	0	2	100	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	225		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	75			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.979				0.850
Flt Protected	0.950			0.950				0.959			0.950	
Satd. Flow (prot)	1711	1863	0	1711	1825	0	0	1749	0	0	1770	1583
Flt Permitted	0.168			0.320				0.801			0.749	
Satd. Flow (perm)	303	1863	0	576	1825	0	0	1461	0	0	1395	1583
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					12							86
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		597			1042			185			376	
Travel Time (s)		13.6			23.7			5.0			10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	747	1	4	811	126	11	0	2	105	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	748	0	4	937	0	0	13	0	0	105	84
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	18.0		5.0	18.0		9.0	9.0		9.0	9.0	9.0
Minimum Split (s)	9.0	24.5		9.0	24.5		13.0	13.0		13.0	13.0	13.0
Total Split (s)	13.0	53.0		13.0	53.0		29.0	29.0		29.0	29.0	29.0
Total Split (%)	13.7%	55.8%		13.7%	55.8%		30.5%	30.5%		30.5%	30.5%	30.5%
Yellow Time (s)	3.0	5.2		3.0	5.2		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.3		1.0	1.3		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	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5			4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	73.5	69.8		70.4	63.9			12.9			12.9	12.9
Actuated g/C Ratio	0.77	0.73		0.74	0.67			0.14			0.14	0.14
v/c Ratio	0.17	0.55		0.01	0.76			0.07			0.55	0.29
Control Delay	6.0	12.8		3.2	17.6			34.2			48.8	10.3
Queue Delay	0.0	0.5		0.0	0.0			0.0			0.0	0.0
Total Delay	6.0	13.3		3.2	17.6			34.2			48.8	10.3
LOS	A	B		A	B			C			D	B
Approach Delay		12.8			17.5			34.2			31.7	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	5	180		1	348			7			60	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m21	m467		3	#732			23			107	38
Internal Link Dist (ft)		517			962			105			296	
Turn Bay Length (ft)	225			125								
Base Capacity (vph)	369	1367		553	1231			384			367	479
Starvation Cap Reductn	0	244		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	0.14	0.67		0.01	0.76			0.03			0.29	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow, Master Intersection			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 74.9%		ICU Level of Service D	
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: 112: Eversource Dwy/East Hampton Commons Dwy & Route 66



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	650	120	320	740	110	170
Future Volume (vph)	650	120	320	740	110	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	12
Storage Length (ft)		0	250		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			40		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.979					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1824	0	1711	1801	1711	1583
Flt Permitted			0.142		0.950	
Satd. Flow (perm)	1824	0	256	1801	1711	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13					179
Link Speed (mph)	30			30	25	
Link Distance (ft)	628			459	953	
Travel Time (s)	14.3			10.4	26.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	126	337	779	116	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	810	0	337	779	116	179
Turn Type	NA		D.P+P	NA	Prot	Prot
Protected Phases	2		1	1 2	4	4
Permitted Phases			2			
Detector Phase	2		1	1 2	4	4
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	9.0
Minimum Split (s)	21.5		9.5		13.4	13.4
Total Split (s)	34.5		24.5		19.4	19.4
Total Split (%)	44.0%		31.3%		24.7%	24.7%
Yellow Time (s)	4.5		3.0		3.4	3.4
All-Red Time (s)	2.0		1.5		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.5		4.5		4.4	4.4
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None		None	None
Act Effct Green (s)	28.1		47.8	52.4	10.9	10.9
Actuated g/C Ratio	0.39		0.66	0.73	0.15	0.15
v/c Ratio	1.13		0.64	0.60	0.45	0.46
Control Delay	99.8		18.4	7.5	34.5	9.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	99.8		18.4	7.5	34.5	9.1
LOS	F		B	A	C	A
Approach Delay	99.8			10.8	19.1	
Approach LOS	F			B	B	
Queue Length 50th (ft)	~443		72	125	50	0

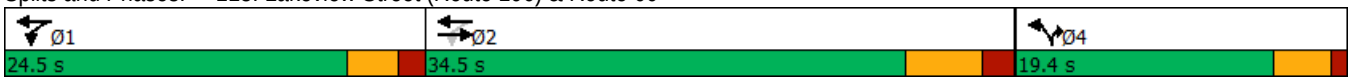
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	#710		173	264	96	50
Internal Link Dist (ft)	548			379	873	
Turn Bay Length (ft)			250			
Base Capacity (vph)	718		580	1297	356	472
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.13		0.58	0.60	0.33	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 78.4			
Actuated Cycle Length: 72.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 44.3		Intersection LOS: D	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 113: Lakeview Street (Route 196) & Route 66

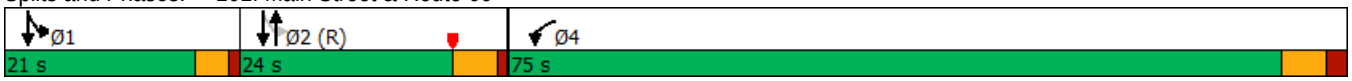


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1780	100	320	680	120	880
Future Volume (vph)	1780	100	320	680	120	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	11	11
Storage Length (ft)	0	0		200	0	
Storage Lanes	2	0		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95
Frt	0.992			0.850		
Flt Protected	0.955					0.994
Satd. Flow (prot)	3358	0	3355	1501	0	3335
Flt Permitted	0.955					0.712
Satd. Flow (perm)	3358	0	3355	1501	0	2389
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8			716		
Link Speed (mph)	35		35			30
Link Distance (ft)	2739		813			825
Travel Time (s)	53.4		15.8			18.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1874	105	337	716	126	926
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1979	0	337	716	0	1052
Turn Type	Prot		NA	Free	D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases				Free	2	
Detector Phase	4				1	
Switch Phase						
Minimum Initial (s)	10.0		15.0		4.0	
Minimum Split (s)	16.0		20.0		8.0	
Total Split (s)	75.0		24.0		21.0	
Total Split (%)	62.5%		20.0%		17.5%	
Yellow Time (s)	4.0		4.0		3.0	
All-Red Time (s)	2.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.0		5.0			
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		Max	
Act Effct Green (s)	69.0		19.0	120.0		37.0
Actuated g/C Ratio	0.58		0.16	1.00		0.31
v/c Ratio	1.02		0.63	0.48		1.21
Control Delay	52.4		53.3	1.1		139.3
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	52.4		53.3	1.1		139.3
LOS	D		D	A		F
Approach Delay	52.4		17.8			139.3
Approach LOS	D		B			F

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	~839		130	0		~523
Queue Length 95th (ft)	#977		181	0		#484
Internal Link Dist (ft)	2659		733			745
Turn Bay Length (ft)				200		
Base Capacity (vph)	1934		531	1501		870
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	1.02		0.63	0.48		1.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 65.9		Intersection LOS: E	
Intersection Capacity Utilization 106.7%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 101: Main Street & Route 66

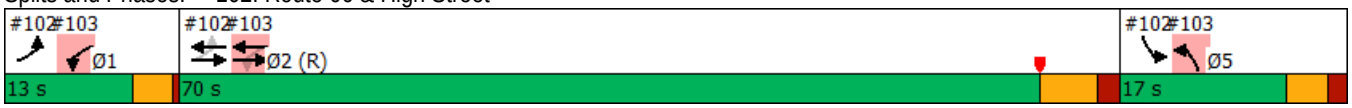


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	160	720	1660	190	80	160
Future Volume (vph)	160	720	1660	190	80	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	11
Storage Length (ft)	225			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.985		0.910	
Flt Protected	0.950				0.984	
Satd. Flow (prot)	1678	3355	3305	0	1854	0
Flt Permitted	0.069				0.984	
Satd. Flow (perm)	122	3355	3305	0	1854	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			24		82	
Link Speed (mph)		35	35		30	
Link Distance (ft)		2739	241		643	
Travel Time (s)		53.4	4.7		14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	170	766	1766	202	85	170
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	766	1968	0	255	0
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	2	2		5	
Permitted Phases	2					
Detector Phase	1				5	
Switch Phase						
Minimum Initial (s)	3.0	20.0	20.0		9.0	
Minimum Split (s)	6.5	26.0	26.0		13.7	
Total Split (s)	13.0	70.0	70.0		17.0	
Total Split (%)	13.0%	70.0%	70.0%		17.0%	
Yellow Time (s)	3.0	4.3	4.3		3.2	
All-Red Time (s)	0.5	1.7	1.7		1.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0		4.7	
Lead/Lag	Lead	Lag	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min		None	
Act Effct Green (s)	73.4	57.7	57.7		14.9	
Actuated g/C Ratio	0.73	0.58	0.58		0.15	
v/c Ratio	0.58	0.40	1.03		0.74	
Control Delay	25.3	13.8	32.8		40.0	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	25.3	13.8	32.8		40.0	
LOS	C	B	C		D	
Approach Delay		15.9	32.8		40.0	
Approach LOS		B	C		D	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	50	133	~725		106	
Queue Length 95th (ft)	118	222	m#902		182	
Internal Link Dist (ft)		2659	161		563	
Turn Bay Length (ft)	225					
Base Capacity (vph)	302	1936	1917		356	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.56	0.40	1.03		0.72	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 87.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 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: 102: Route 66 & High Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	760	30	20	1760	60	20
Future Volume (vph)	760	30	20	1760	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994				0.966	
Flt Protected			0.950		0.964	
Satd. Flow (prot)	3335	0	1678	3355	1701	0
Flt Permitted			0.301		0.964	
Satd. Flow (perm)	3335	0	532	3355	1701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	8				14	
Link Speed (mph)	35			35	25	
Link Distance (ft)	241			1093	405	
Travel Time (s)	4.7			21.3	11.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	784	31	21	1814	62	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	815	0	21	1814	83	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	2	5	
Permitted Phases			2			
Detector Phase			1		5	
Switch Phase						
Minimum Initial (s)	20.0		3.0	20.0	9.0	
Minimum Split (s)	26.0		6.5	26.0	13.7	
Total Split (s)	70.0		13.0	70.0	17.0	
Total Split (%)	70.0%		13.0%	70.0%	17.0%	
Yellow Time (s)	4.3		3.0	4.3	3.2	
All-Red Time (s)	1.7		0.5	1.7	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		3.5	6.0	4.7	
Lead/Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	57.7		73.4	57.7	14.9	
Actuated g/C Ratio	0.58		0.73	0.58	0.15	
v/c Ratio	0.42		0.04	0.94	0.31	
Control Delay	4.6		6.0	37.2	33.3	
Queue Delay	0.1		0.0	10.0	0.0	
Total Delay	4.7		6.0	47.2	33.3	
LOS	A		A	D	C	
Approach Delay	4.7			46.8	33.3	
Approach LOS	A			D	C	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	35		5	591	39	
Queue Length 95th (ft)	45		m8	#849	80	
Internal Link Dist (ft)	161			1013	325	
Turn Bay Length (ft)			175			
Base Capacity (vph)	1928		549	1936	275	
Starvation Cap Reductn	243		0	0	0	
Spillback Cap Reductn	0		0	137	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.48		0.04	1.01	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 65.1%		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.			

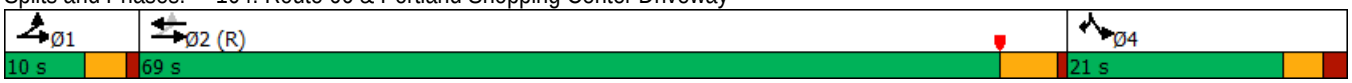
Splits and Phases: 103: Airline Avenue & Route 66

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	750	1710	30	20	10
Future Volume (vph)	30	750	1710	30	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	11
Storage Length (ft)	350			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1662	3323	3314	0	1604	1501
Flt Permitted	0.092				0.950	
Satd. Flow (perm)	161	3323	3314	0	1604	1501
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			3			10
Link Speed (mph)		35	35		10	
Link Distance (ft)		1093	417		223	
Travel Time (s)		21.3	8.1		15.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	4%
Adj. Flow (vph)	31	781	1781	31	21	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	781	1812	0	21	10
Turn Type	D.P+P	NA	NA		Prot	Prot
Protected Phases	1	1 2	2		4	4
Permitted Phases	2					
Detector Phase	1				4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0		9.0	9.0
Minimum Split (s)	9.0		20.0		21.0	21.0
Total Split (s)	10.0		69.0		21.0	21.0
Total Split (%)	10.0%		69.0%		21.0%	21.0%
Yellow Time (s)	3.0		4.3		3.0	3.0
All-Red Time (s)	1.0		0.7		1.9	1.9
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		5.0		4.9	4.9
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		C-Max		None	None
Act Effct Green (s)	85.2	89.2	82.5		9.0	9.0
Actuated g/C Ratio	0.85	0.89	0.82		0.09	0.09
v/c Ratio	0.14	0.26	0.66		0.14	0.07
Control Delay	4.0	0.2	10.5		44.5	23.1
Queue Delay	0.0	0.0	1.6		0.0	0.0
Total Delay	4.0	0.2	12.1		44.5	23.1
LOS	A	A	B		D	C
Approach Delay		0.4	12.1		37.6	
Approach LOS		A	B		D	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	0	1	333		13	0
Queue Length 95th (ft)	m8	1	583		36	16
Internal Link Dist (ft)		1013	337		143	
Turn Bay Length (ft)	350					
Base Capacity (vph)	229	2965	2734		258	250
Starvation Cap Reductn	0	0	690		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.26	0.89		0.08	0.04

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 64.0%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 104: Route 66 & Portland Shopping Center Driveway

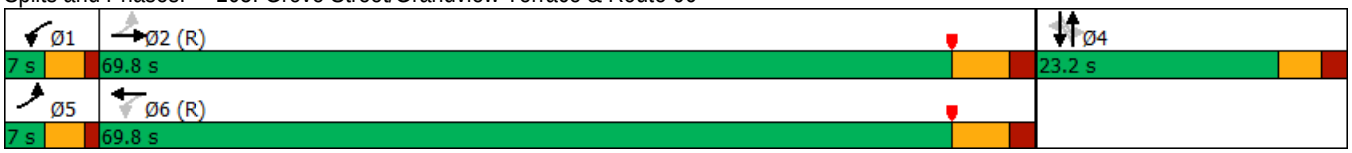


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	750	10	3	1730	1	20	0	10	10	0	0
Future Volume (vph)	10	750	10	3	1730	1	20	0	10	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	125		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			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		0.998						0.955				
Flt Protected	0.950			0.950				0.968			0.950	
Satd. Flow (prot)	1662	3317	0	1662	3323	0	0	1673	0	0	1719	0
Flt Permitted	0.090			0.341				0.877				
Satd. Flow (perm)	157	3317	0	596	3323	0	0	1516	0	0	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						80				
Link Speed (mph)		35			45			25			25	
Link Distance (ft)		417			1869			435			271	
Travel Time (s)		8.1			28.3			11.9			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	11	815	11	3	1880	1	22	0	11	11	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	826	0	3	1881	0	0	33	0	0	11	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases	2			6			4			4		
Detector Phase	5			1			4	4		4	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	7.0	21.3		7.0	21.3		23.2	23.2		23.2	23.2	
Total Split (s)	7.0	69.8		7.0	69.8		23.2	23.2		23.2	23.2	
Total Split (%)	7.0%	69.8%		7.0%	69.8%		23.2%	23.2%		23.2%	23.2%	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.3		4.0	6.3			5.2			5.2	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	88.4	87.7		88.3	87.6			6.2			6.2	
Actuated g/C Ratio	0.88	0.88		0.88	0.88			0.06			0.06	
v/c Ratio	0.05	0.28		0.01	0.65			0.20			0.10	
Control Delay	2.9	4.6		1.3	5.2			2.6			46.2	
Queue Delay	0.0	0.1		0.0	0.3			0.0			0.0	
Total Delay	2.9	4.7		1.3	5.5			2.6			46.2	
LOS	A	A		A	A			A			D	
Approach Delay		4.7			5.5			2.6			46.2	
Approach LOS		A			A			A			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	1	40		0	182			0			7	
Queue Length 95th (ft)	9	206		1	422			1			25	
Internal Link Dist (ft)		337			1789			355			191	
Turn Bay Length (ft)	125			150								
Base Capacity (vph)	203	2909		569	2912			338			325	
Starvation Cap Reductn	0	1022		0	0			0			0	
Spillback Cap Reductn	0	0		0	435			10			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.44		0.01	0.76			0.10			0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 105: Grove Street/Grandview Terrace & Route 66



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Lane Configurations								
Traffic Volume (vph)	110	580	1400	230	90	160		
Future Volume (vph)	110	580	1400	230	90	160		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	11	11	11	11	11		
Storage Length (ft)	200			200	0	100		
Storage Lanes	1			1	1	1		
Taper Length (ft)	50				25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Frt				0.850		0.850		
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1646	3292	3292	1473	1646	1473		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1646	3292	3292	1473	1646	1473		
Right Turn on Red				Yes		Yes		
Satd. Flow (RTOR)				230		178		
Link Speed (mph)		45	35		45			
Link Distance (ft)		1735	1238		958			
Travel Time (s)		26.3	24.1		14.5			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%		
Adj. Flow (vph)	122	644	1556	256	100	178		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	122	644	1556	256	100	178		
Turn Type	Prot	NA	NA	Prot	Prot	Prot		
Protected Phases	1	1 2 3	2 3	2 3	4	4	2	3
Permitted Phases								
Detector Phase	1	1 2 3	2 3	2 3	4	4		
Switch Phase								
Minimum Initial (s)	5.0				7.0	7.0	15.0	3.0
Minimum Split (s)	10.0				20.0	20.0	21.0	9.0
Total Split (s)	18.0				20.0	20.0	32.0	9.0
Total Split (%)	22.8%				25.3%	25.3%	41%	11%
Yellow Time (s)	3.0				3.0	3.0	4.0	4.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0				0.0	0.0		
Total Lost Time (s)	5.0				5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes
Recall Mode	None				None	None	Min	None
Act Effct Green (s)	8.9	50.1	35.2	35.2	8.8	8.8		
Actuated g/C Ratio	0.13	0.73	0.51	0.51	0.13	0.13		
v/c Ratio	0.58	0.27	0.93	0.30	0.48	0.52		
Control Delay	39.7	3.7	28.9	3.5	36.6	11.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	39.7	3.7	28.9	3.5	36.6	11.0		
LOS	D	A	C	A	D	B		
Approach Delay		9.4	25.3		20.2			
Approach LOS		A	C		C			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Queue Length 50th (ft)	49	35	297	5	40	0		
Queue Length 95th (ft)	103	68	#556	45	88	51		
Internal Link Dist (ft)		1655	1158		878			
Turn Bay Length (ft)	200			200		100		
Base Capacity (vph)	311	2348	1678	863	359	460		
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	0.39	0.27	0.93	0.30	0.28	0.39		

Intersection Summary			
Area Type:	Other		
Cycle Length: 79			
Actuated Cycle Length: 69			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 64.0%		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 66 & Gospel Lane (Route 17)

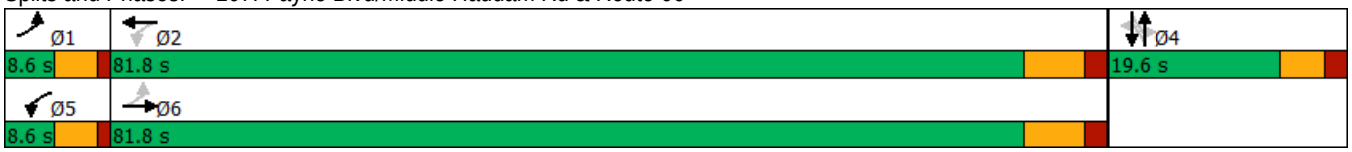
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	600	2	2	1460	0	30	0	10	0	3	0
Future Volume (vph)	30	600	2	2	1460	0	30	0	10	0	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	193		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.965				
Flt Protected	0.950			0.950				0.964				
Satd. Flow (prot)	1678	1766	0	1678	1766	0	0	1643	0	0	1766	0
Flt Permitted	0.047			0.403				0.851				
Satd. Flow (perm)	83	1766	0	712	1766	0	0	1450	0	0	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								85				
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		293			793			336			474	
Travel Time (s)		4.4			12.0			9.2			12.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	32	638	2	2	1553	0	32	0	11	0	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	640	0	2	1553	0	0	43	0	0	3	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA			NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		
Detector Phase	1	6		5	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.6	22.0		8.6	22.0		19.6	19.6		19.6	19.6	
Total Split (s)	8.6	81.8		8.6	81.8		19.6	19.6		19.6	19.6	
Total Split (%)	7.8%	74.4%		7.8%	74.4%		17.8%	17.8%		17.8%	17.8%	
Yellow Time (s)	3.6	5.0		3.6	5.0		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	7.0		4.6	7.0			5.6			5.6	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	88.7	88.5		87.0	85.2			7.0			7.0	
Actuated g/C Ratio	0.87	0.87		0.86	0.84			0.07			0.07	
v/c Ratio	0.24	0.42		0.00	1.05			0.24			0.02	
Control Delay	5.9	4.0		1.5	53.1			4.8			45.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.9	4.0		1.5	53.1			4.8			45.7	
LOS	A	A		A	D			A			D	
Approach Delay		4.1			53.0			4.8			45.7	
Approach LOS		A			D			A			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	3	95		0	~1303			0			2	
Queue Length 95th (ft)	6	224		1	#1514			7			11	
Internal Link Dist (ft)		213			713			256			394	
Turn Bay Length (ft)	193			300								
Base Capacity (vph)	135	1538		647	1480			273			244	
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	0.24	0.42		0.00	1.05			0.16			0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 101.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 37.6		Intersection LOS: D	
Intersection Capacity Utilization 96.3%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: Payne Blvd/Middle Haddam Rd & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	540	60	3	1170	2	210	10	3	50	10	40
Future Volume (vph)	1	540	60	3	1170	2	210	10	3	50	10	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	13	13	12	13	12
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987							0.850		0.946	
Flt Protected								0.954			0.975	
Satd. Flow (prot)	0	1743	0	0	1766	0	0	1801	1605	0	1741	0
Flt Permitted		0.999			0.999			0.657			0.403	
Satd. Flow (perm)	0	1741	0	0	1764	0	0	1240	1605	0	720	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		10							48		22	
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1284			1455			649			549	
Travel Time (s)		25.0			28.3			12.6			15.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	614	68	3	1330	2	239	11	3	57	11	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	683	0	0	1335	0	0	250	3	0	113	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4		4	4		
Detector Phase	2	2		2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.6	23.6		23.6	23.6		12.5	12.5	12.5	12.5	12.5	
Total Split (s)	98.6	98.6		98.6	98.6		29.5	29.5	29.5	29.5	29.5	
Total Split (%)	77.0%	77.0%		77.0%	77.0%		23.0%	23.0%	23.0%	23.0%	23.0%	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	4.3	4.3		4.3	4.3		3.3	3.3	3.3	3.3	3.3	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		8.6			8.6			7.5	7.5		7.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Act Effct Green (s)		90.0			90.0			22.0	22.0		22.0	
Actuated g/C Ratio		0.70			0.70			0.17	0.17		0.17	
v/c Ratio		0.56			1.08			1.18	0.01		0.80	
Control Delay		11.3			69.8			164.5	0.0		78.6	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		11.3			69.8			164.5	0.0		78.6	
LOS		B			E			F	A		E	
Approach Delay		11.3			69.8			162.5			78.6	
Approach LOS		B			E			F			E	

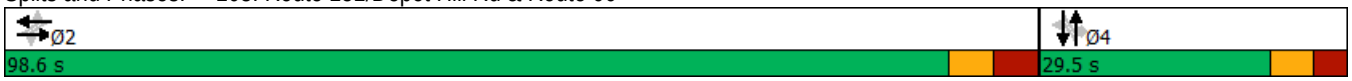
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		247			~1233			~247	0		74	
Queue Length 95th (ft)		327			#1442			#404	0		#175	
Internal Link Dist (ft)		1204			1375			569			469	
Turn Bay Length (ft)									100			
Base Capacity (vph)		1226			1239			212	315		141	
Starvation 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		0.56			1.08			1.18	0.01		0.80	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128.1			
Actuated Cycle Length: 128.1			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 63.3		Intersection LOS: E	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 108: Route 151/Depot Hill Rd & Route 66



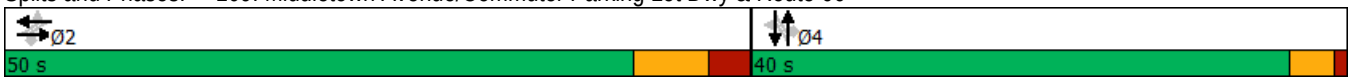
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	390	270	10	720	1	510	0	2	0	0	1
Future Volume (vph)	0	390	270	10	720	1	510	0	2	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		250	125		0	0		100	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850		0.865	
Flt Protected				0.950				0.950				
Satd. Flow (prot)	0	1766	1501	1678	1766	0	0	1678	1501	0	1528	0
Flt Permitted				0.413				0.757				
Satd. Flow (perm)	0	1766	1501	729	1766	0	0	1337	1501	0	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			307						59		108	
Link Speed (mph)		45			45			50			15	
Link Distance (ft)		546			525			823			174	
Travel Time (s)		8.3			8.0			11.2			7.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	443	307	11	818	1	580	0	2	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	443	307	11	819	0	0	580	2	0	1	0
Turn Type		NA	Perm	Perm	NA		Perm	NA	Perm		NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.9	22.9	22.9	22.9	22.9		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	50.0	50.0	50.0	50.0	50.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	55.6%	55.6%	55.6%	55.6%	55.6%		44.4%	44.4%	44.4%	44.4%	44.4%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	2.9	2.9		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		0.0	
Total Lost Time (s)		7.9	7.9	7.9	7.9			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None	None	None	None	
Act Effct Green (s)		42.1	42.1	42.1	42.1			36.0	36.0		36.0	
Actuated g/C Ratio		0.47	0.47	0.47	0.47			0.40	0.40		0.40	
v/c Ratio		0.54	0.35	0.03	0.99			1.09	0.00		0.00	
Control Delay		20.0	3.0	13.4	54.9			92.8	0.0		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		20.0	3.0	13.4	54.9			92.8	0.0		0.0	
LOS		C	A	B	D			F	A		A	
Approach Delay		13.1			54.3			92.5				
Approach LOS		B			D			F				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		172	0	3	445			~374	0		0	
Queue Length 95th (ft)		254	39	12	#681			#554	0		0	
Internal Link Dist (ft)		466			445			743			94	
Turn Bay Length (ft)			250	125					100			
Base Capacity (vph)		826	865	341	826			534	635		676	
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		0.54	0.35	0.03	0.99			1.09	0.00		0.00	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 50.3		Intersection LOS: D	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 109: Middletown Avenue/Commuter Parking Lot Dwy & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	480	1	10	620	10	10	60	20	50	40	70
Future Volume (vph)	60	480	1	10	620	10	10	60	20	50	40	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	11	12	12	11	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.998			0.970			0.941	
Flt Protected		0.994			0.999			0.994			0.985	
Satd. Flow (prot)	0	1722	0	0	1728	0	0	1671	0	0	1606	0
Flt Permitted		0.860			0.988			0.964			0.882	
Satd. Flow (perm)	0	1490	0	0	1708	0	0	1620	0	0	1438	0
Right Turn on Red			No			No			No			
Satd. Flow (RTOR)												
Link Speed (mph)		45			30			25			25	
Link Distance (ft)		2724			782			976			892	
Travel Time (s)		41.3			17.8			26.6			24.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	71	565	1	12	729	12	12	71	24	59	47	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	637	0	0	753	0	0	107	0	0	188	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		9.0	9.0		9.0	9.0	
Minimum Split (s)	32.2	32.2		32.2	32.2		16.9	16.9		16.9	16.9	
Total Split (s)	52.2	52.2		52.2	52.2		24.9	24.9		24.9	24.9	
Total Split (%)	55.8%	55.8%		55.8%	55.8%		26.6%	26.6%		26.6%	26.6%	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.2		3.2	3.2		1.6	1.6		1.6	1.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.2			7.2			4.9			4.9	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		41.0			41.0			13.9			13.9	
Actuated g/C Ratio		0.59			0.59			0.20			0.20	
v/c Ratio		0.73			0.75			0.33			0.66	
Control Delay		18.7			18.7			29.5			39.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.7			18.7			29.5			39.6	
LOS		B			B			C			D	
Approach Delay		18.7			18.7			29.5			39.6	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		154			186			41			77	
Queue Length 95th (ft)		#474			#551			92			157	
Internal Link Dist (ft)		2644			702			896			812	

Lane Group	SEL	SER
Lane Configurations		
Traffic Volume (vph)	0	1
Future Volume (vph)	0	1
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	10	12
Lane Util. Factor	1.00	1.00
Frt	0.865	
Flt Protected		
Satd. Flow (prot)	1447	0
Flt Permitted		
Satd. Flow (perm)	1447	0
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)	25	
Link Distance (ft)	421	
Travel Time (s)	11.5	
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	6%	6%
Adj. Flow (vph)	0	1
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1	0
Turn Type	Prot	
Protected Phases	5	
Permitted Phases		
Detector Phase	5	
Switch Phase		
Minimum Initial (s)	9.0	
Minimum Split (s)	13.5	
Total Split (s)	16.5	
Total Split (%)	17.6%	
Yellow Time (s)	3.3	
All-Red Time (s)	1.2	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	4.5	
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Recall Mode	None	
Act Effct Green (s)	9.4	
Actuated g/C Ratio	0.14	
v/c Ratio	0.01	
Control Delay	34.0	
Queue Delay	0.0	
Total Delay	34.0	
LOS	C	
Approach Delay	34.0	
Approach LOS	C	
Queue Length 50th (ft)	0	
Queue Length 95th (ft)	5	
Internal Link Dist (ft)	341	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1003			1149			484			430	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.64			0.66			0.22			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 93.6			
Actuated Cycle Length: 69.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 110: Maple Street/North Maple Street & Route 66 & Old West High Street

Lane Group	SEL	SER
Turn Bay Length (ft)		
Base Capacity (vph)	259	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.00	

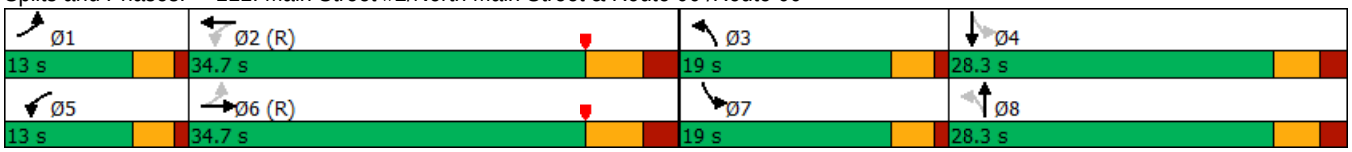
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	500	20	70	500	100	50	60	120	120	60	110
Future Volume (vph)	50	500	20	70	500	100	50	60	120	120	60	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12	12	12	12	12	12	12
Storage Length (ft)	275		0	225		0	225		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			75			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.994			0.975			0.902			0.903	
Flt Protected	0.950			0.950			0.950	0.999		0.950		
Satd. Flow (prot)	1662	1739	0	1662	1705	0	1633	1549	0	1719	1634	0
Flt Permitted	0.262			0.319			0.641	0.994		0.626		
Satd. Flow (perm)	458	1739	0	558	1705	0	1102	1541	0	1133	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11			115			92	
Link Speed (mph)		30			30			30			25	
Link Distance (ft)		594			597			644			540	
Travel Time (s)		13.5			13.6			14.6			14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	54	543	22	76	543	109	54	65	130	130	65	120
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	54	565	0	76	652	0	49	200	0	130	185	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		4.0	8.0		4.0	8.0	
Minimum Split (s)	8.0	21.6		8.0	21.6		8.0	13.3		8.0	13.3	
Total Split (s)	13.0	34.7		13.0	34.7		19.0	28.3		19.0	28.3	
Total Split (%)	13.7%	36.5%		13.7%	36.5%		20.0%	29.8%		20.0%	29.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.3		3.0	3.3	
All-Red Time (s)	1.0	2.6		1.0	2.6		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.6		4.0	6.6		4.0	5.3		4.0	5.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	59.1	52.0		60.0	52.4		16.7	12.7		24.2	16.1	
Actuated g/C Ratio	0.62	0.55		0.63	0.55		0.18	0.13		0.25	0.17	
v/c Ratio	0.15	0.59		0.18	0.69		0.21	0.66		0.37	0.53	
Control Delay	7.9	19.7		5.6	22.3		28.1	24.4		30.6	24.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.9	19.7		5.6	22.3		28.1	24.4		30.6	24.8	
LOS	A	B		A	C		C	C		C	C	
Approach Delay		18.7			20.6			25.1			27.2	
Approach LOS		B			C			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	10	217		24	374		24	44		64	53	
Queue Length 95th (ft)	28	405		m6	#544		49	98		103	117	
Internal Link Dist (ft)		514			517			564			460	
Turn Bay Length (ft)	275			225			225			175		
Base Capacity (vph)	411	952		469	945		358	516		381	465	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.59		0.16	0.69		0.14	0.39		0.34	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 6 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 70.0%		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: 111: Main Street #2/North Main Street & Route 66 /Route 66

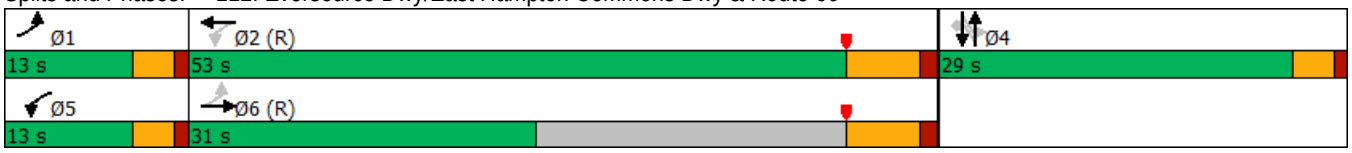


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	10	10	650	50	10	0	10	40	0	20
Future Volume (vph)	20	710	10	10	650	50	10	0	10	40	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	225		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	75			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989			0.932				0.850
Flt Protected	0.950			0.950				0.976			0.950	
Satd. Flow (prot)	1662	1806	0	1662	1790	0	0	1646	0	0	1719	1538
Flt Permitted	0.310			0.314				0.851			0.743	
Satd. Flow (perm)	542	1806	0	549	1790	0	0	1435	0	0	1344	1538
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			6							86
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		597			1042			185			376	
Travel Time (s)		13.6			23.7			5.0			10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	22	772	11	11	707	54	11	0	11	43	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	783	0	11	761	0	0	22	0	0	43	22
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	18.0		5.0	18.0		9.0	9.0		9.0	9.0	9.0
Minimum Split (s)	9.0	24.5		9.0	24.5		13.0	13.0		13.0	13.0	13.0
Total Split (s)	13.0	31.0		13.0	53.0		29.0	29.0		29.0	29.0	29.0
Total Split (%)	13.7%	32.6%		13.7%	55.8%		30.5%	30.5%		30.5%	30.5%	30.5%
Yellow Time (s)	3.0	5.2		3.0	5.2		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.3		1.0	1.3		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	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5			4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	79.0	76.8		78.1	74.9			9.8			9.8	9.8
Actuated g/C Ratio	0.83	0.81		0.82	0.79			0.10			0.10	0.10
v/c Ratio	0.04	0.54		0.02	0.54			0.15			0.31	0.09
Control Delay	3.5	10.0		2.1	7.7			40.6			45.2	0.8
Queue Delay	0.0	0.4		0.0	0.0			0.0			0.0	0.0
Total Delay	3.5	10.3		2.1	7.7			40.6			45.2	0.8
LOS	A	B		A	A			D			D	A
Approach Delay		10.1			7.6			40.6			30.2	
Approach LOS		B			A			D			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	4	233		1	123			12			25	0
Queue Length 95th (ft)	m7	402		4	352			35			56	0
Internal Link Dist (ft)		517			962			105			296	
Turn Bay Length (ft)	225			125								
Base Capacity (vph)	561	1459		565	1412			377			353	468
Starvation Cap Reductn	0	237		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	0.04	0.64		0.02	0.54			0.06			0.12	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow, Master Intersection			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 112: Eversource Dwy/East Hampton Commons Dwy & Route 66



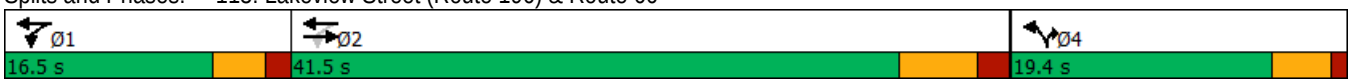
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	610	50	150	560	100	310
Future Volume (vph)	610	50	150	560	100	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	12
Storage Length (ft)		0	250		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			40		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1791	0	1662	1749	1662	1538
Flt Permitted			0.185		0.950	
Satd. Flow (perm)	1791	0	324	1749	1662	1538
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					323
Link Speed (mph)	30			30	25	
Link Distance (ft)	628			459	953	
Travel Time (s)	14.3			10.4	26.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	635	52	156	583	104	323
Shared Lane Traffic (%)						
Lane Group Flow (vph)	687	0	156	583	104	323
Turn Type	NA		D.P+P	NA	Prot	Prot
Protected Phases	2		1	1 2	4	4
Permitted Phases			2			
Detector Phase	2		1	1 2	4	4
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	9.0
Minimum Split (s)	21.5		9.5		13.4	13.4
Total Split (s)	41.5		16.5		19.4	19.4
Total Split (%)	53.6%		21.3%		25.1%	25.1%
Yellow Time (s)	4.5		3.0		3.4	3.4
All-Red Time (s)	2.0		1.5		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.5		4.5		4.4	4.4
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None		None	None
Act Effct Green (s)	30.1		42.8	47.4	10.9	10.9
Actuated g/C Ratio	0.45		0.64	0.70	0.16	0.16
v/c Ratio	0.86		0.37	0.47	0.39	0.62
Control Delay	29.5		6.4	6.0	32.2	9.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	29.5		6.4	6.0	32.2	9.6
LOS	C		A	A	C	A
Approach Delay	29.5			6.1	15.1	
Approach LOS	C			A	B	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 50th (ft)	239		15	77	43	0
Queue Length 95th (ft)	#486		39	171	87	66
Internal Link Dist (ft)	548			379	873	
Turn Bay Length (ft)			250			
Base Capacity (vph)	955		457	1364	379	599
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	0.72		0.34	0.43	0.27	0.54

Intersection Summary			
Area Type:	Other		
Cycle Length: 77.4			
Actuated Cycle Length: 67.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		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: 113: Lakeview Street (Route 196) & Route 66



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	890	150	740	1680	160	620
Future Volume (vph)	890	150	740	1680	160	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	11	11	11
Storage Length (ft)	0	0		200	0	
Storage Lanes	2	0		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95
Frt	0.978			0.850		
Flt Protected	0.959					0.990
Satd. Flow (prot)	3389	0	3421	1531	0	3387
Flt Permitted	0.959					0.550
Satd. Flow (perm)	3389	0	3421	1531	0	1882
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	33			887		
Link Speed (mph)	35		35			30
Link Distance (ft)	2739		813			825
Travel Time (s)	53.4		15.8			18.8
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	918	155	763	1732	165	639
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1073	0	763	1732	0	804
Turn Type	Prot		NA	Free	D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases				Free	2	
Detector Phase	4				1	
Switch Phase						
Minimum Initial (s)	10.0		15.0		4.0	
Minimum Split (s)	16.0		20.0		8.0	
Total Split (s)	44.0		28.0		8.0	
Total Split (%)	55.0%		35.0%		10.0%	
Yellow Time (s)	4.0		4.0		3.0	
All-Red Time (s)	2.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	6.0		5.0			
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		Max	
Act Effct Green (s)	32.0		23.0	80.0		34.0
Actuated g/C Ratio	0.40		0.29	1.00		0.42
v/c Ratio	0.78		0.78	1.13		0.81
Control Delay	24.3		32.6	75.0		28.3
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	24.3		32.6	75.0		28.3
LOS	C		C	E		C
Approach Delay	24.3		62.1			28.3
Approach LOS	C		E			C
Queue Length 50th (ft)	226		183	~212		139

APPENDIX D

Capacity Analyses – 2040 Future Optimized Conditions

Tighe&Bond

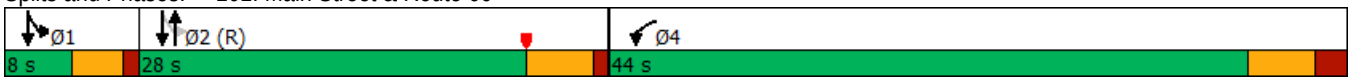
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	260		249	#466		#317
Internal Link Dist (ft)	2659		733			745
Turn Bay Length (ft)				200		
Base Capacity (vph)	1627		983	1531		989
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.66		0.78	1.13		0.81

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 46.6	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 101: Main Street & Route 66

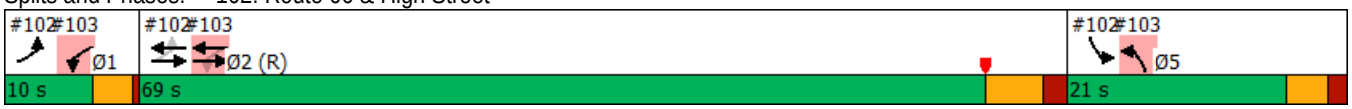


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	210	1710	860	190	160	130
Future Volume (vph)	210	1710	860	190	160	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	11
Storage Length (ft)	225			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.973		0.939	
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1711	3421	3329	0	1929	0
Flt Permitted	0.196				0.973	
Satd. Flow (perm)	353	3421	3329	0	1929	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			51		35	
Link Speed (mph)		35	35		30	
Link Distance (ft)		2739	241		643	
Travel Time (s)		53.4	4.7		14.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	214	1745	878	194	163	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	214	1745	1072	0	296	0
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	2	2		5	
Permitted Phases	2					
Detector Phase	1				5	
Switch Phase						
Minimum Initial (s)	3.0	20.0	20.0		9.0	
Minimum Split (s)	6.5	26.0	26.0		13.7	
Total Split (s)	10.0	69.0	69.0		21.0	
Total Split (%)	10.0%	69.0%	69.0%		21.0%	
Yellow Time (s)	3.0	4.3	4.3		3.2	
All-Red Time (s)	0.5	1.7	1.7		1.5	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.5	6.0	6.0		4.7	
Lead/Lag	Lead	Lag	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	C-Min	C-Min		None	
Act Effct Green (s)	69.7	54.9	54.9		18.6	
Actuated g/C Ratio	0.70	0.55	0.55		0.19	
v/c Ratio	0.52	0.93	0.58		0.76	
Control Delay	9.8	33.3	3.4		46.7	
Queue Delay	0.0	9.1	0.0		0.0	
Total Delay	9.8	42.4	3.4		46.7	
LOS	A	D	A		D	
Approach Delay		38.8	3.4		46.7	
Approach LOS		D	A		D	
Queue Length 50th (ft)	37	514	12		159	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 95th (ft)	72	#854	16		237	
Internal Link Dist (ft)		2659	161		563	
Turn Bay Length (ft)	225					
Base Capacity (vph)	416	1878	1850		402	
Starvation Cap Reductn	0	0	9		0	
Spillback Cap Reductn	0	138	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.51	1.00	0.58		0.74	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 73.0%		ICU Level of Service D	
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 66 & High Street



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1770	90	20	1010	60	60
Future Volume (vph)	1770	90	20	1010	60	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.932	
Flt Protected			0.950		0.976	
Satd. Flow (prot)	3397	0	1711	3421	1694	0
Flt Permitted			0.073		0.976	
Satd. Flow (perm)	3397	0	131	3421	1694	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	10				43	
Link Speed (mph)	35			35	25	
Link Distance (ft)	241			1093	405	
Travel Time (s)	4.7			21.3	11.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1825	93	21	1041	62	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1918	0	21	1041	124	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	2	5	
Permitted Phases			2			
Detector Phase			1		5	
Switch Phase						
Minimum Initial (s)	20.0		3.0	20.0	9.0	
Minimum Split (s)	26.0		6.5	26.0	13.7	
Total Split (s)	69.0		10.0	69.0	21.0	
Total Split (%)	69.0%		10.0%	69.0%	21.0%	
Yellow Time (s)	4.3		3.0	4.3	3.2	
All-Red Time (s)	1.7		0.5	1.7	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		3.5	6.0	4.7	
Lead/Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	54.9		69.7	54.9	18.6	
Actuated g/C Ratio	0.55		0.70	0.55	0.19	
v/c Ratio	1.03		0.07	0.55	0.35	
Control Delay	33.8		8.7	30.2	24.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	33.8		8.7	30.2	24.8	
LOS	C		A	C	C	
Approach Delay	33.8			29.7	24.8	
Approach LOS	C			C	C	
Queue Length 50th (ft)	~688		0	374	44	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	m#918		m11	445	92	
Internal Link Dist (ft)	161			1013	325	
Turn Bay Length (ft)			175			
Base Capacity (vph)	1869		289	1878	363	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	1.03		0.07	0.55	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
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.

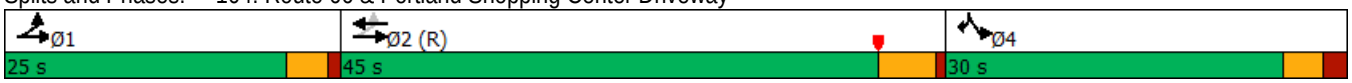
Splits and Phases: 103: Airline Avenue & Route 66

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	190	1600	990	70	110	50
Future Volume (vph)	190	1600	990	70	110	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	11
Storage Length (ft)	350			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.990			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1694	3388	3354	0	1636	1516
Flt Permitted	0.209				0.950	
Satd. Flow (perm)	373	3388	3354	0	1636	1516
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9			51
Link Speed (mph)		35	35		10	
Link Distance (ft)		1093	417		223	
Travel Time (s)		21.3	8.1		15.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	194	1633	1010	71	112	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	194	1633	1081	0	112	51
Turn Type	D.P+P	NA	NA		Prot	Prot
Protected Phases	1	1 2	2		4	4
Permitted Phases	2					
Detector Phase	1				4	4
Switch Phase						
Minimum Initial (s)	5.0		15.0		9.0	9.0
Minimum Split (s)	9.0		20.0		21.0	21.0
Total Split (s)	25.0		45.0		30.0	30.0
Total Split (%)	25.0%		45.0%		30.0%	30.0%
Yellow Time (s)	3.0		4.3		3.0	3.0
All-Red Time (s)	1.0		0.7		1.9	1.9
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		5.0		4.9	4.9
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		C-Max		None	None
Act Effct Green (s)	74.3	78.3	61.2		12.8	12.8
Actuated g/C Ratio	0.74	0.78	0.61		0.13	0.13
v/c Ratio	0.44	0.62	0.53		0.54	0.21
Control Delay	8.0	2.5	14.0		49.7	12.7
Queue Delay	0.0	0.7	0.4		0.0	0.0
Total Delay	8.0	3.2	14.4		49.7	12.7
LOS	A	A	B		D	B
Approach Delay		3.8	14.4		38.1	
Approach LOS		A	B		D	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Length 50th (ft)	1	2	187		68	0
Queue Length 95th (ft)	m24	m38	305		117	32
Internal Link Dist (ft)		1013	337		143	
Turn Bay Length (ft)	350					
Base Capacity (vph)	568	2652	2055		410	418
Starvation Cap Reductn	0	0	453		0	0
Spillback Cap Reductn	0	608	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.34	0.80	0.67		0.27	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 59.2%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 104: Route 66 & Portland Shopping Center Driveway

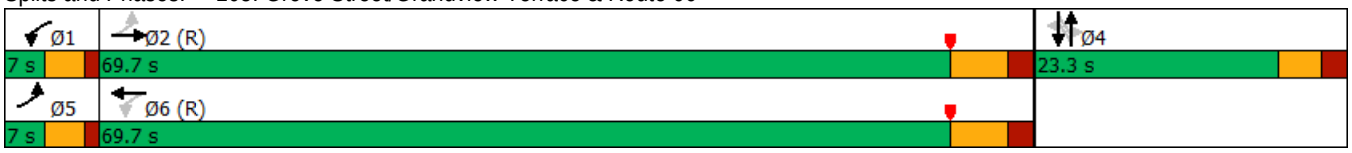


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1650	50	10	1010	3	20	0	20	2	1	30
Future Volume (vph)	20	1650	50	10	1010	3	20	0	20	2	1	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	125		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	50			50			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		0.996						0.932			0.877	
Flt Protected	0.950			0.950				0.976			0.997	
Satd. Flow (prot)	1694	3374	0	1694	3388	0	0	1678	0	0	1613	0
Flt Permitted	0.256			0.104				0.824			0.976	
Satd. Flow (perm)	456	3374	0	185	3388	0	0	1417	0	0	1579	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			1			80			31	
Link Speed (mph)		35			45			25			25	
Link Distance (ft)		417			1869			435			271	
Travel Time (s)		8.1			28.3			11.9			7.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	21	1719	52	10	1052	3	21	0	21	2	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	1771	0	10	1055	0	0	42	0	0	34	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases	2			6			4			4		
Detector Phase	5			1			4	4		4	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	7.0	21.3		7.0	21.3		23.2	23.2		23.2	23.2	
Total Split (s)	7.0	69.7		7.0	69.7		23.3	23.3		23.3	23.3	
Total Split (%)	7.0%	69.7%		7.0%	69.7%		23.3%	23.3%		23.3%	23.3%	
Yellow Time (s)	3.0	4.3		3.0	4.3		3.2	3.2		3.2	3.2	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.3		4.0	6.3			5.2			5.2	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	86.0	84.0		85.2	82.3			6.2			6.2	
Actuated g/C Ratio	0.86	0.84		0.85	0.82			0.06			0.06	
v/c Ratio	0.05	0.62		0.05	0.38			0.26			0.27	
Control Delay	2.5	11.8		1.7	3.8			6.2			22.9	
Queue Delay	0.0	0.6		0.0	0.0			0.0			0.0	
Total Delay	2.5	12.3		1.7	3.8			6.2			22.9	
LOS	A	B		A	A			A			C	
Approach Delay		12.2			3.8			6.2			22.9	
Approach LOS		B			A			A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	2	376		1	64			0			2	
Queue Length 95th (ft)	m4	616		3	152			9			32	
Internal Link Dist (ft)		337			1789			355			191	
Turn Bay Length (ft)	125			150								
Base Capacity (vph)	446	2835		222	2790			321			311	
Starvation Cap Reductn	0	581		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	0.05	0.79		0.05	0.38			0.13			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 105: Grove Street/Grandview Terrace & Route 66



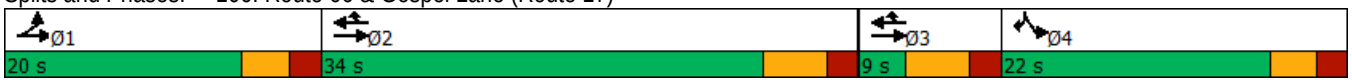
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Lane Configurations								
Traffic Volume (vph)	200	1450	800	140	160	140		
Future Volume (vph)	200	1450	800	140	160	140		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	11	11	11	11	11	11		
Storage Length (ft)	200			200	0	100		
Storage Lanes	1			1	1	1		
Taper Length (ft)	50				25			
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00		
Frt				0.850		0.850		
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1711	3421	3421	1531	1711	1531		
Flt Permitted	0.950				0.950			
Satd. Flow (perm)	1711	3421	3421	1531	1711	1531		
Right Turn on Red				Yes		Yes		
Satd. Flow (RTOR)				146		146		
Link Speed (mph)		45	35		45			
Link Distance (ft)		1735	1238		958			
Travel Time (s)		26.3	24.1		14.5			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Adj. Flow (vph)	208	1510	833	146	167	146		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	208	1510	833	146	167	146		
Turn Type	Prot	NA	NA	Prot	Prot	Prot		
Protected Phases	1	1 2 3	2 3	2 3	4	4	2	3
Permitted Phases								
Detector Phase	1	1 2 3	2 3	2 3	4	4		
Switch Phase								
Minimum Initial (s)	5.0				7.0	7.0	15.0	3.0
Minimum Split (s)	10.0				20.0	20.0	21.0	9.0
Total Split (s)	20.0				22.0	22.0	34.0	9.0
Total Split (%)	23.5%				25.9%	25.9%	40%	11%
Yellow Time (s)	3.0				3.0	3.0	4.0	4.0
All-Red Time (s)	2.0				2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0				0.0	0.0		
Total Lost Time (s)	5.0				5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes				Yes	Yes	Yes	Yes
Recall Mode	None				None	None	Min	None
Act Effct Green (s)	15.0	58.1	37.1	37.1	11.7	11.7		
Actuated g/C Ratio	0.19	0.73	0.46	0.46	0.15	0.15		
v/c Ratio	0.65	0.61	0.52	0.19	0.67	0.42		
Control Delay	41.7	7.1	17.2	3.3	45.4	9.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	41.7	7.1	17.2	3.3	45.4	9.4		
LOS	D	A	B	A	D	A		
Approach Delay		11.3	15.1		28.6			
Approach LOS		B	B		C			
Queue Length 50th (ft)	97	155	147	0	80	0		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	Ø2	Ø3
Queue Length 95th (ft)	#197	270	225	32	141	47		
Internal Link Dist (ft)		1655	1158		878			
Turn Bay Length (ft)	200			200		100		
Base Capacity (vph)	322	2489	1588	788	364	441		
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	0.65	0.61	0.52	0.19	0.46	0.33		

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 79.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 57.3%		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 66 & Gospel Lane (Route 17)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	1420	20	3	790	2	20	2	3	3	0	80
Future Volume (vph)	150	1420	20	3	790	2	20	2	3	3	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	193		0	300		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998						0.984			0.870	
Flt Protected	0.950			0.950				0.961			0.998	
Satd. Flow (prot)	1711	1797	0	1711	1801	0	0	1703	0	0	1563	0
Flt Permitted	0.251			0.055				0.660			0.986	
Satd. Flow (perm)	452	1797	0	99	1801	0	0	1169	0	0	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						3			131	
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		293			793			336			474	
Travel Time (s)		4.4			12.0			9.2			12.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	1495	21	3	832	2	21	2	3	3	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	1516	0	3	834	0	0	26	0	0	87	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		
Detector Phase	1	6		5	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.6	22.0		8.6	22.0		19.6	19.6		19.6	19.6	
Total Split (s)	13.9	81.8		8.6	76.5		19.6	19.6		19.6	19.6	
Total Split (%)	12.6%	74.4%		7.8%	69.5%		17.8%	17.8%		17.8%	17.8%	
Yellow Time (s)	3.6	5.0		3.6	5.0		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	7.0		4.6	7.0			5.6			5.6	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	80.4	78.2		74.8	68.4			7.4			7.4	
Actuated g/C Ratio	0.84	0.82		0.78	0.72			0.08			0.08	
v/c Ratio	0.35	1.03		0.02	0.65			0.28			0.36	
Control Delay	3.9	46.0		2.3	11.2			47.6			7.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	3.9	46.0		2.3	11.2			47.6			7.0	
LOS	A	D		A	B			D			A	
Approach Delay		42.0			11.2			47.6			7.0	
Approach LOS		D			B			D			A	
Queue Length 50th (ft)	14	~1012		0	254			13			0	

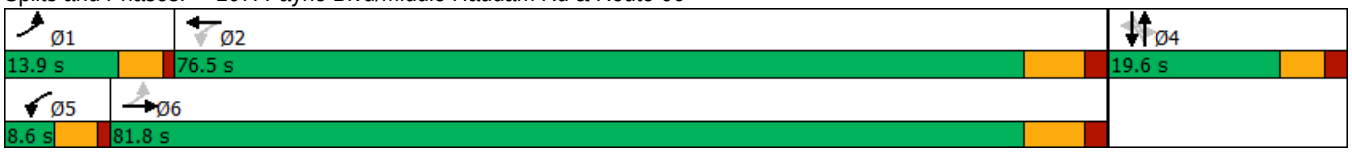
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	27	#1499		2	422			43			18	
Internal Link Dist (ft)		213			713			256			394	
Turn Bay Length (ft)	193			300								
Base Capacity (vph)	504	1470		145	1340			173			338	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.31	1.03		0.02	0.62			0.15			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 95.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 31.1		Intersection LOS: C	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 107: Payne Blvd/Middle Haddam Rd & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	1260	190	10	670	5	100	4	3	60	20	10
Future Volume (vph)	40	1260	190	10	670	5	100	4	3	60	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	13	13	12	13	12
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.999				0.850		0.985	
Flt Protected		0.999			0.999			0.954			0.968	
Satd. Flow (prot)	0	1768	0	0	1797	0	0	1836	1636	0	1835	0
Flt Permitted		0.963			0.964			0.695			0.732	
Satd. Flow (perm)	0	1705	0	0	1734	0	0	1338	1636	0	1388	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		14							48		4	
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1284			1455			649			549	
Travel Time (s)		25.0			28.3			12.6			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1370	207	11	728	5	109	4	3	65	22	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1620	0	0	744	0	0	113	3	0	98	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4		4	4		
Detector Phase	2	2		2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.6	23.6		23.6	23.6		12.5	12.5	12.5	12.5	12.5	
Total Split (s)	98.6	98.6		98.6	98.6		29.5	29.5	29.5	29.5	29.5	
Total Split (%)	77.0%	77.0%		77.0%	77.0%		23.0%	23.0%	23.0%	23.0%	23.0%	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.2	4.2	4.2	4.2	4.2	
All-Red Time (s)	4.3	4.3		4.3	4.3		3.3	3.3	3.3	3.3	3.3	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		8.6			8.6			7.5	7.5		7.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None	None	None	None	
Act Effct Green (s)		91.4			91.4			14.3	14.3		14.3	
Actuated g/C Ratio		0.75			0.75			0.12	0.12		0.12	
v/c Ratio		1.26			0.57			0.72	0.01		0.59	
Control Delay		144.4			9.5			76.0	0.0		62.5	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		144.4			9.5			76.0	0.0		62.5	
LOS		F			A			E	A		E	
Approach Delay		144.4			9.5			74.0			62.5	
Approach LOS		F			A			E			E	
Queue Length 50th (ft)		~1591			220			86	0		70	

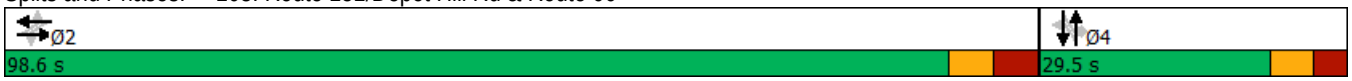
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		#2030			400			149	0		128	
Internal Link Dist (ft)		1204			1375			569			469	
Turn Bay Length (ft)									100			
Base Capacity (vph)		1282			1300			241	335		254	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		1.26			0.57			0.47	0.01		0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128.1			
Actuated Cycle Length: 121.8			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 99.2		Intersection LOS: F	
Intersection Capacity Utilization 125.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 108: Route 151/Depot Hill Rd & Route 66



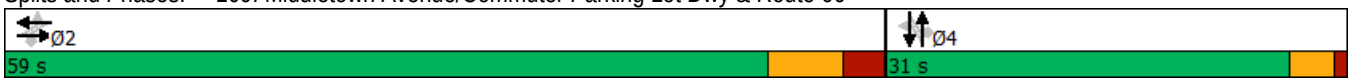
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	800	580	3	500	2	310	10	10	2	2	2
Future Volume (vph)	3	800	580	3	500	2	310	10	10	2	2	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	0		250	125		0	0		100	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850		0.955	
Flt Protected				0.950				0.954			0.984	
Satd. Flow (prot)	0	1801	1531	1711	1799	0	0	1718	1531	0	1692	0
Flt Permitted		0.998		0.171				0.729			0.932	
Satd. Flow (perm)	0	1797	1531	308	1799	0	0	1313	1531	0	1603	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			598						59		2	
Link Speed (mph)		45			45			50			15	
Link Distance (ft)		546			525			823			174	
Travel Time (s)		8.3			8.0			11.2			7.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	3	825	598	3	515	2	320	10	10	2	2	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	828	598	3	517	0	0	330	10	0	6	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.9	22.9	22.9	22.9	22.9		21.0	21.0	21.0	21.0	21.0	
Total Split (s)	59.0	59.0	59.0	59.0	59.0		31.0	31.0	31.0	31.0	31.0	
Total Split (%)	65.6%	65.6%	65.6%	65.6%	65.6%		34.4%	34.4%	34.4%	34.4%	34.4%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	2.9	2.9		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		0.0	
Total Lost Time (s)		7.9	7.9	7.9	7.9			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None	None	None	None	
Act Effct Green (s)		42.0	42.0	42.0	42.0			22.9	22.9		22.9	
Actuated g/C Ratio		0.54	0.54	0.54	0.54			0.30	0.30		0.30	
v/c Ratio		0.85	0.54	0.02	0.53			0.85	0.02		0.01	
Control Delay		25.4	2.9	9.0	13.9			49.7	0.1		19.3	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		25.4	2.9	9.0	13.9			49.7	0.1		19.3	
LOS		C	A	A	B			D	A		B	
Approach Delay		15.9			13.9			48.2			19.3	
Approach LOS		B			B			D			B	
Queue Length 50th (ft)		351	0	1	166			170	0		2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		532	44	5	249			#323	0		11	
Internal Link Dist (ft)		466			445			743			94	
Turn Bay Length (ft)			250	125					100			
Base Capacity (vph)		1237	1240	211	1238			482	600		591	
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		0.67	0.48	0.01	0.42			0.68	0.02		0.01	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 109: Middletown Avenue/Commuter Parking Lot Dwy & Route 66



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	60	670	2	10	620	1	20	10	20	10	50	40
Future Volume (vph)	60	670	2	10	620	1	20	10	20	10	50	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	11	12	12	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996				0.965			0.952
Flt Protected		0.996			0.999				0.987			0.983
Satd. Flow (prot)	0	1793	0	0	1792	0	0	0	1715	0	0	1685
Flt Permitted		0.900			0.987				0.926			0.865
Satd. Flow (perm)	0	1621	0	0	1770	0	0	0	1609	0	0	1483
Right Turn on Red			No				No			No		
Satd. Flow (RTOR)												
Link Speed (mph)		45			30				25			25
Link Distance (ft)		2724			782				976			892
Travel Time (s)		41.3			17.8				26.6			24.3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	713	2	11	660	1	21	11	21	11	53	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	0	693	0	0	0	43	0	0	149
Turn Type	Perm	NA		Perm	NA			Perm	NA		Perm	NA
Protected Phases		2			2				4			4
Permitted Phases	2			2				4			4	
Detector Phase	2	2		2	2			4	4		4	4
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0			9.0	9.0		9.0	9.0
Minimum Split (s)	32.2	32.2		32.2	32.2			16.9	16.9		16.9	16.9
Total Split (s)	52.2	52.2		52.2	52.2			24.9	24.9		24.9	24.9
Total Split (%)	55.8%	55.8%		55.8%	55.8%			26.6%	26.6%		26.6%	26.6%
Yellow Time (s)	4.0	4.0		4.0	4.0			3.3	3.3		3.3	3.3
All-Red Time (s)	3.2	3.2		3.2	3.2			1.6	1.6		1.6	1.6
Lost Time Adjust (s)		0.0			0.0				0.0			0.0
Total Lost Time (s)		7.2			7.2				4.9			4.9
Lead/Lag								Lead	Lead		Lead	Lead
Lead-Lag Optimize?								Yes	Yes		Yes	Yes
Recall Mode	Min	Min		Min	Min			None	None		None	None
Act Effct Green (s)		47.9			47.9				12.0			12.0
Actuated g/C Ratio		0.66			0.66				0.17			0.17
v/c Ratio		0.72			0.59				0.16			0.60
Control Delay		13.9			9.9				25.3			37.5
Queue Delay		0.0			0.0				0.0			0.0
Total Delay		13.9			9.9				25.3			37.5
LOS		B			A				C			D
Approach Delay		13.9			9.9				25.3			37.5
Approach LOS		B			A				C			D
Queue Length 50th (ft)		183			139				16			59
Queue Length 95th (ft)		401			285				40			112
Internal Link Dist (ft)		2644			702				896			812
Turn Bay Length (ft)												

Lane Group	SBR	SEL
Lane Configurations		
Traffic Volume (vph)	50	0
Future Volume (vph)	50	0
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	12	10
Lane Util. Factor	1.00	1.00
Frt		
Flt Protected		
Satd. Flow (prot)	0	1739
Flt Permitted		
Satd. Flow (perm)	0	1739
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		25
Link Distance (ft)		421
Travel Time (s)		11.5
Peak Hour Factor	0.94	0.94
Adj. Flow (vph)	53	0
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	0
Turn Type		Prot
Protected Phases		5
Permitted Phases		
Detector Phase		5
Switch Phase		
Minimum Initial (s)		9.0
Minimum Split (s)		13.5
Total Split (s)		16.5
Total Split (%)		17.6%
Yellow Time (s)		3.3
All-Red Time (s)		1.2
Lost Time Adjust (s)		0.0
Total Lost Time (s)		4.5
Lead/Lag		Lag
Lead-Lag Optimize?		Yes
Recall Mode		None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		341
Turn Bay Length (ft)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL	SBT
Base Capacity (vph)		1077			1175				448			413
Starvation Cap Reductn		0			0				0			0
Spillback Cap Reductn		0			0				0			0
Storage Cap Reductn		0			0				0			0
Reduced v/c Ratio		0.72			0.59				0.10			0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 93.6			
Actuated Cycle Length: 72.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 110: Maple Street/North Maple Street & Route 66 & Old West High Street

Lane Group	SBR	SEL
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

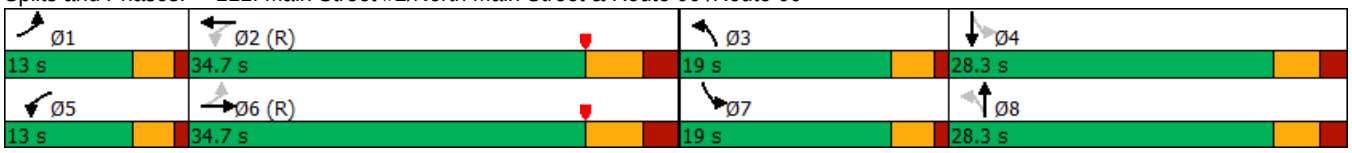
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	550	60	170	530	170	40	140	100	110	110	100
Future Volume (vph)	170	550	60	170	530	170	40	140	100	110	110	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	11	12	12	12	12	12	12	12
Storage Length (ft)	275		0	225		0	225		0	175		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			75			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.985			0.964			0.939			0.929	
Flt Protected	0.950			0.950			0.950	0.999		0.950		
Satd. Flow (prot)	1711	1774	0	1711	1736	0	1681	1660	0	1770	1730	0
Flt Permitted	0.098			0.174			0.611	0.996		0.592		
Satd. Flow (perm)	176	1774	0	313	1736	0	1081	1655	0	1103	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			17			43			45	
Link Speed (mph)		30			30			30			25	
Link Distance (ft)		594			597			644			540	
Travel Time (s)		13.5			13.6			14.6			14.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	181	585	64	181	564	181	43	149	106	117	117	106
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	181	649	0	181	745	0	39	259	0	117	223	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0		4.0	8.0		4.0	8.0	
Minimum Split (s)	8.0	21.6		8.0	21.6		8.0	13.3		8.0	13.3	
Total Split (s)	13.0	34.7		13.0	34.7		19.0	28.3		19.0	28.3	
Total Split (%)	13.7%	36.5%		13.7%	36.5%		20.0%	29.8%		20.0%	29.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.3		3.0	3.3	
All-Red Time (s)	1.0	2.6		1.0	2.6		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.6		4.0	6.6		4.0	5.3		4.0	5.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	55.2	42.3		54.0	41.7		21.3	17.4		28.2	20.7	
Actuated g/C Ratio	0.58	0.45		0.57	0.44		0.22	0.18		0.30	0.22	
v/c Ratio	0.68	0.82		0.57	0.97		0.14	0.77		0.30	0.54	
Control Delay	28.9	35.6		17.7	42.0		23.2	43.1		25.7	31.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.9	35.6		17.7	42.0		23.2	43.1		25.7	31.7	
LOS	C	D		B	D		C	D		C	C	
Approach Delay		34.1			37.3			40.5			29.6	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	47	315		13	406		17	115		54	101	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	128	#678		m52	#801		37	172		86	165	
Internal Link Dist (ft)		514			517			564			460	
Turn Bay Length (ft)	275			225			225			175		
Base Capacity (vph)	282	792		334	771		416	488		435	466	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.82		0.54	0.97		0.09	0.53		0.27	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 6 (6%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
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: 111: Main Street #2/North Main Street & Route 66 /Route 66



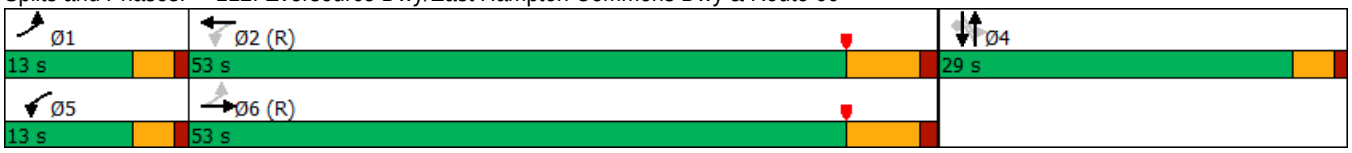
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	710	1	4	770	120	10	0	2	100	0	80
Future Volume (vph)	50	710	1	4	770	120	10	0	2	100	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	11	12	12	12	12	12	12	12	12
Storage Length (ft)	225		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	75			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.979				0.850
Flt Protected	0.950			0.950				0.959			0.950	
Satd. Flow (prot)	1711	1863	0	1711	1825	0	0	1749	0	0	1770	1583
Flt Permitted	0.168			0.320				0.801			0.749	
Satd. Flow (perm)	303	1863	0	576	1825	0	0	1461	0	0	1395	1583
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					12							86
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		597			1042			185			376	
Travel Time (s)		13.6			23.7			5.0			10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	747	1	4	811	126	11	0	2	105	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	748	0	4	937	0	0	13	0	0	105	84
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	18.0		5.0	18.0		9.0	9.0		9.0	9.0	9.0
Minimum Split (s)	9.0	24.5		9.0	24.5		13.0	13.0		13.0	13.0	13.0
Total Split (s)	13.0	53.0		13.0	53.0		29.0	29.0		29.0	29.0	29.0
Total Split (%)	13.7%	55.8%		13.7%	55.8%		30.5%	30.5%		30.5%	30.5%	30.5%
Yellow Time (s)	3.0	5.2		3.0	5.2		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.3		1.0	1.3		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	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5			4.0			4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	None
Act Effct Green (s)	73.5	69.8		70.4	63.9			12.9			12.9	12.9
Actuated g/C Ratio	0.77	0.73		0.74	0.67			0.14			0.14	0.14
v/c Ratio	0.17	0.55		0.01	0.76			0.07			0.55	0.29
Control Delay	6.0	12.8		3.2	17.6			34.2			48.8	10.3
Queue Delay	0.0	0.5		0.0	0.0			0.0			0.0	0.0
Total Delay	6.0	13.3		3.2	17.6			34.2			48.8	10.3
LOS	A	B		A	B			C			D	B
Approach Delay		12.8			17.5			34.2			31.7	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	5	180		1	348			7			60	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m21	m467		3	#732			23			107	38
Internal Link Dist (ft)		517			962			105			296	
Turn Bay Length (ft)	225			125								
Base Capacity (vph)	369	1367		553	1231			384			367	479
Starvation Cap Reductn	0	244		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	0.14	0.67		0.01	0.76			0.03			0.29	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow, Master Intersection			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 74.9%		ICU Level of Service D	
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: 112: Eversource Dwy/East Hampton Commons Dwy & Route 66



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	650	120	320	740	110	170
Future Volume (vph)	650	120	320	740	110	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	12
Storage Length (ft)		0	250		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			40		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.979					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1824	0	1711	1801	1711	1583
Flt Permitted			0.110		0.950	
Satd. Flow (perm)	1824	0	198	1801	1711	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17					179
Link Speed (mph)	30			30	25	
Link Distance (ft)	628			459	953	
Travel Time (s)	14.3			10.4	26.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	126	337	779	116	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	810	0	337	779	116	179
Turn Type	NA		D.P+P	NA	Prot	Prot
Protected Phases	2		1	1 2	4	4
Permitted Phases			2			
Detector Phase	2		1	1 2	4	4
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	9.0
Minimum Split (s)	21.5		9.5		13.4	13.4
Total Split (s)	46.5		20.0		13.5	13.5
Total Split (%)	58.1%		25.0%		16.9%	16.9%
Yellow Time (s)	4.5		3.0		3.4	3.4
All-Red Time (s)	2.0		1.5		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.5		4.5		4.4	4.4
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None		None	None
Act Effct Green (s)	37.1		53.9	58.5	9.2	9.2
Actuated g/C Ratio	0.48		0.70	0.76	0.12	0.12
v/c Ratio	0.91		0.78	0.57	0.57	0.52
Control Delay	33.7		31.3	5.6	45.9	11.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	33.7		31.3	5.6	45.9	11.6
LOS	C		C	A	D	B
Approach Delay	33.7			13.3	25.1	
Approach LOS	C			B	C	
Queue Length 50th (ft)	336		98	115	56	0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	#581		#227	179	#121	56
Internal Link Dist (ft)	548			379	873	
Turn Bay Length (ft)			250			
Base Capacity (vph)	968		450	1444	204	347
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	0.84		0.75	0.54	0.57	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 76.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 22.3		Intersection LOS: C	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 113: Lakeview Street (Route 196) & Route 66