

APPENDIX J

Representative Inputs to and Outputs from the DYNEV II System

J. REPRESENTATIVE INPUTS TO AND OUTPUTS FROM THE DYNEV II SYSTEM

This appendix presents data input to and output from the DYNEV II System. Table J-1 provides the volume and queues for the ten highest volume signalized intersections in the study area. Refer to Table K-2 and the figures in Appendix K for a map showing the geographic location of each intersection.

Table J-2 provides source (vehicle loading) and destination information for several roadway segments (links) in the analysis network. Refer to Table K-1 and the figures in Appendix K for a map showing the geographic location of each link.

Table J-3 provides network-wide statistics (average travel time, average speed and number of vehicles) for an evacuation of the entire EPZ (Region R03) for each scenario. As expected, Scenarios 8 and 11, which are snow scenarios, exhibit the slowest average speed and longest average travel times.

Table J-4 provides statistics (average speed and travel time) for the major evacuation routes – US-44, Route 3, and Route 3A – for an evacuation of the entire EPZ (Region R03) under Scenario 1 conditions. As discussed in Section 7.3 and shown in Figures 7-3 through 7-9, Route 3A southbound is congested for most of the evacuation. As such, the average speeds are comparably slower (and travel times longer) than other evacuation routes.

Table J-5 provides the number of vehicles discharged and the cumulative percent of total vehicles discharged for each link exiting the analysis network, for an evacuation of the entire EPZ (Region R03) under Scenario 1 conditions. Refer to Table K-1 and the figures in Appendix K for a map showing the geographic location of each link.

Figure J-1 through Figure J-14 plot the trip generation time versus the ETE for each of the 14 Scenarios considered. The distance between the trip generation and ETE curves is the travel time. Plots of trip generation versus ETE are indicative of the level of traffic congestion during evacuation. For low population density sites, the curves are close together, indicating short travel times and minimal traffic congestion. For higher population density sites, the curves are farther apart indicating longer travel times and the presence of traffic congestion. As seen in Figure J-1 through Figure J-14, the curves are spatially separated as a result of the traffic congestion in the EPZ, which was discussed in detail in Section 7.3.

Table J-1. Characteristics of the Ten Highest Volume Signalized Intersections

Node	Location	Intersection Control	Approach (Up Node)	Total Volume (Veh)	Max. Turn Queue (Veh)
188	US-6 & Glen Charlie Rd.	Actuated	187	10,199	1549
			357	257	6
			359	728	20
			TOTAL	11,184	-
185	US-6 & Walmart Driveway	Actuated	184	10,406	1349
			617	0	0
			TOTAL	10,406	-
186	US-6 & Walmart Driveway	Actuated	185	10,322	1442
			618	0	0
			TOTAL	10,322	-
182	US-6 & Onset Ave.	Actuated	631	7,811	306
			351	105	4
			TOTAL	7,916	-
174	US-6 & Edge Hill Rd.	Actuated	173	7,211	0
			632	47	0
			TOTAL	7,258	-
176	US-6 & Nightingale Pond Rd.	Actuated	175	7,243	0
			476	13	0
			477	0	0
			TOTAL	7,256	-
173	US-6 & Bournedale Rd.	Actuated	472	6,019	0
			335	1,200	0
			TOTAL	7,219	-
180	US-6 & St. Margarets St.	Actuated	179	4,385	159
			348	432	15
			350	1,626	343
			TOTAL	6,443	-
151	SR 3A & Main St.	Actuated	150	6,280	70
			152	2	0
			TOTAL	6,282	-
485	SR 58 & SR 27	Actuated	136	2,762	1
			488	3,500	35
			TOTAL	6,262	-

Table J-2. Sample Simulation Model Input

Link Number	Vehicles Entering Network on this Link	Directional Preference	Destination Nodes	Destination Capacity
187	280	NW	8489	1,698
			8137	1,698
			8046	4,500
511	12	W	8651	1,698
			8061	1,698
			8709	1,698
784	224	S	8081	4,500
			8089	4,500
			8062	3,810
1021	114	W	8081	4,500
			8651	1,698
			8061	1,698
1053	164	W	8515	1,698
			8171	1,698
			8489	1,698
1043	199	NW	8046	4,500
			8155	1,698
			8554	1,698
324	13	S	8081	4,500
			8089	4,500
			8062	3,810
632	63	SW	8081	4,500
			8601	1,698
			8089	4,500
754	53	S	8062	3,810
905	30	NW	8155	1,698
			8554	1,698

Table J-3. Selected Model Outputs for the Evacuation of the Entire EPZ (Region R03)

Scenario	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Network-Wide Average Travel Time (Min/Veh-Mi)	2.9	3.4	3.1	3.6	3.2	2.6	3.1	3.2	2.8	3.2	3.1	3.1	3.7	3.3
Network-Wide Average Speed (mph)	20.7	17.9	19.5	16.7	18.9	23.0	19.4	18.9	21.1	18.6	19.7	19.6	16.4	18.4
Total Vehicles Exiting Network	98,830	99,304	99,758	100,437	76,669	94,631	95,108	93,848	93,396	93,160	92,319	73,868	89,054	99,192

Table J-4. Average Speed (mph) and Travel Time (min) for Major Evacuation Routes (Region R03, Scenario 1)

Route	Length (miles)	Elapsed Time (hours)							
		1	2	3	4	1	2	3	4
		Speed (mph)	Travel Time (min)	Speed	Travel Time	Speed	Travel Time	Speed	Travel Time
US-44 Westbound	7.0	22.9	18.2	8.0	52.2	10.3	40.7	70.0	6.0
Route 3 Northbound	13.5	28.1	28.8	25.6	31.5	68.9	11.7	69.6	11.6
Route 3 Southbound	6.9	66.2	6.3	65.9	6.3	70.0	5.9	69.9	6.0
Route 3A Northbound	15.3	29.2	31.4	35.9	25.6	36.2	25.3	37.9	24.2
Route 3A Southbound	10.8	7.4	87.0	4.4	146.8	12.3	52.4	46.2	14.0

Table J-5. Simulation Model Outputs at Network Exit Links for Region R03, Scenario 1

Network Exit Link	Elapsed Time (hours)			
	1	2	3	4
	Cumulative Vehicles Discharged by the Indicated Time Interval			
	Cumulative Percent of Vehicles Discharged by the Indicated Time			
2	3,162	7,002	9,388	9,919
	14%	13%	12%	10%
97	3,487	7,844	12,217	12,950
	16%	14%	15%	13%
128	1,130	2,659	4,226	5,797
	5%	5%	5%	6%
131	2,160	3,931	4,672	4,820
	10%	7%	6%	5%
169	2,665	6,677	9,527	11,099
	12%	12%	12%	12%
184	2,949	7,265	10,108	11,925
	13%	13%	12%	12%
307	1,012	2,566	4,094	5,590
	5%	5%	5%	6%
380	276	826	1,716	2,651
	1%	2%	2%	3%
657	447	1,223	1,982	2,595
	2%	2%	2%	3%
658	115	304	556	798
	1%	1%	1%	1%
665	864	2,452	3,998	5,343
	4%	4%	5%	6%
687	300	996	1,617	1,985
	1%	2%	2%	2%
702	32	124	177	188
	0%	0%	0%	0%
788	600	1,837	2,660	3,044
	3%	3%	3%	3%
789	562	1,623	2,574	3,219
	3%	3%	3%	3%
828	390	1,320	2,166	2,812
	2%	2%	3%	3%
883	310	1,003	1,465	1,526
	1%	2%	2%	2%

Network Exit Link	Elapsed Time (hours)			
	1	2	3	4
	Cumulative Vehicles Discharged by the Indicated Time Interval			
	Cumulative Percent of Vehicles Discharged by the Indicated Time			
898	448	1,318	1,955	2,217
	2%	2%	2%	2%
946	206	699	1,168	1,706
	1%	1%	1%	2%
1073	402	1,200	2,021	2,616
	2%	2%	2%	3%
1093	721	1,975	3,171	3,424
	3%	4%	4%	4%

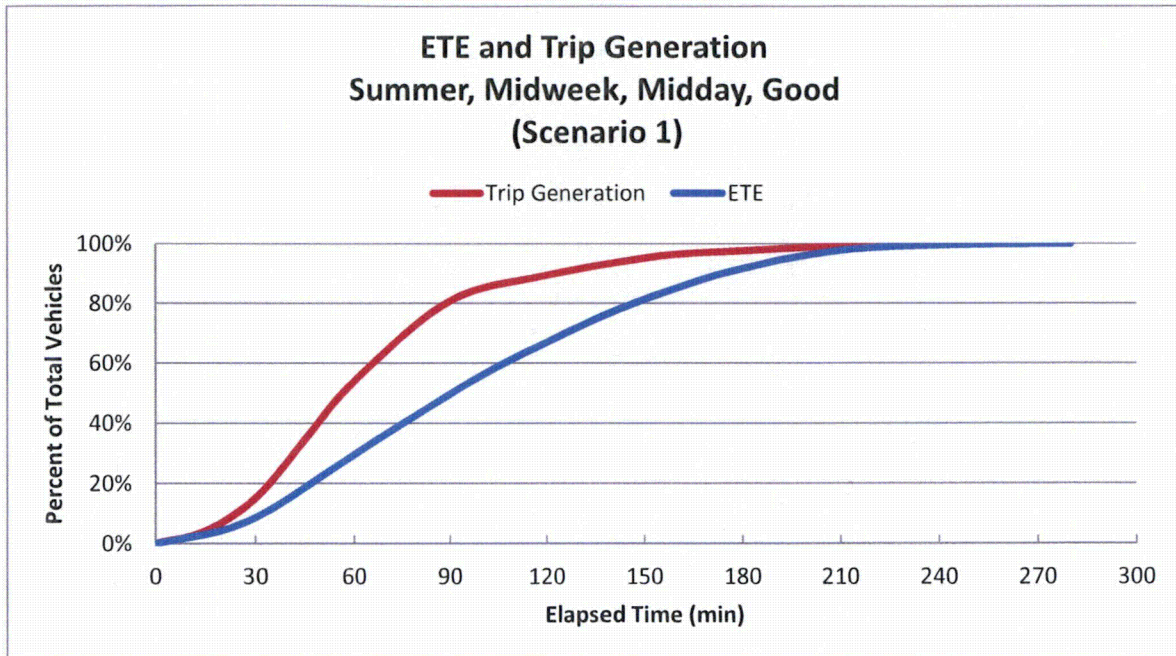


Figure J-1. ETE and Trip Generation: Summer, Midweek, Midday, Good Weather (Scenario 1)

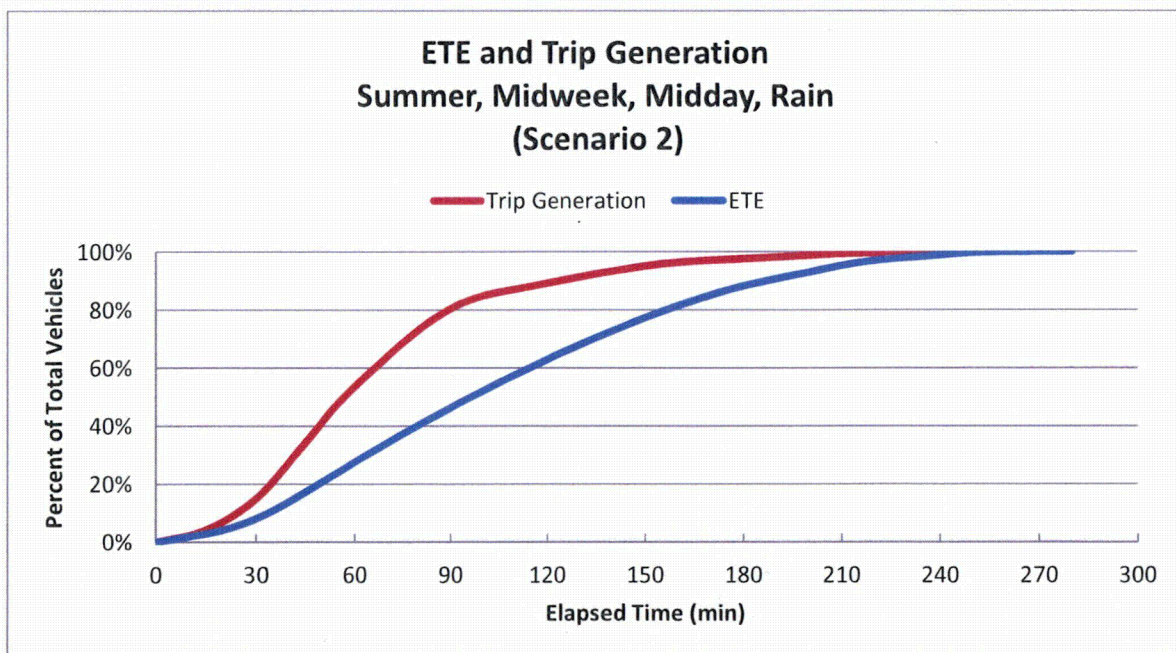


Figure J-2. ETE and Trip Generation: Summer, Midweek, Midday, Rain (Scenario 2)

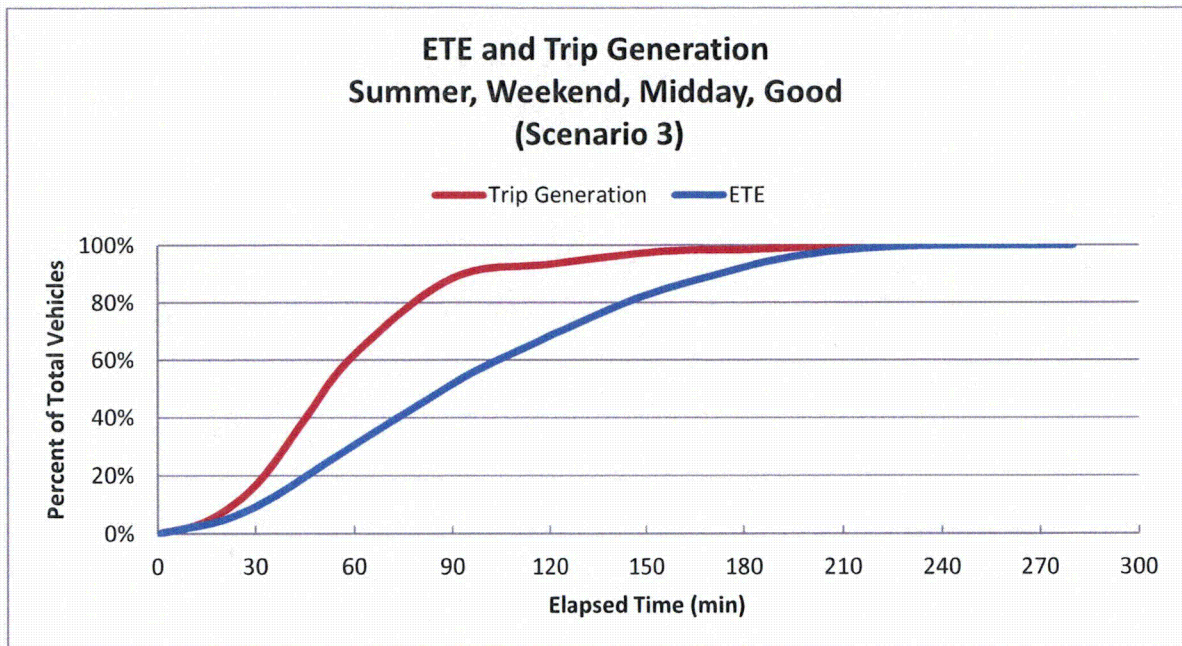


Figure J-3. ETE and Trip Generation: Summer, Weekend, Midday, Good Weather (Scenario 3)

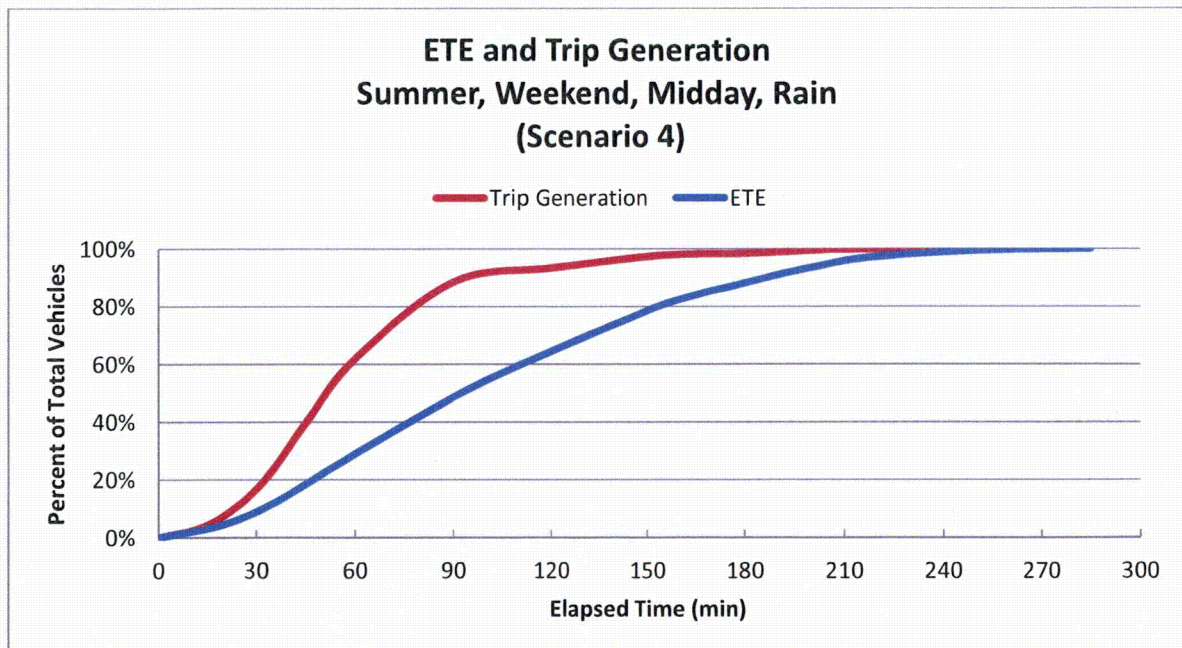


Figure J-4. ETE and Trip Generation: Summer, Weekend, Midday, Rain (Scenario 4)

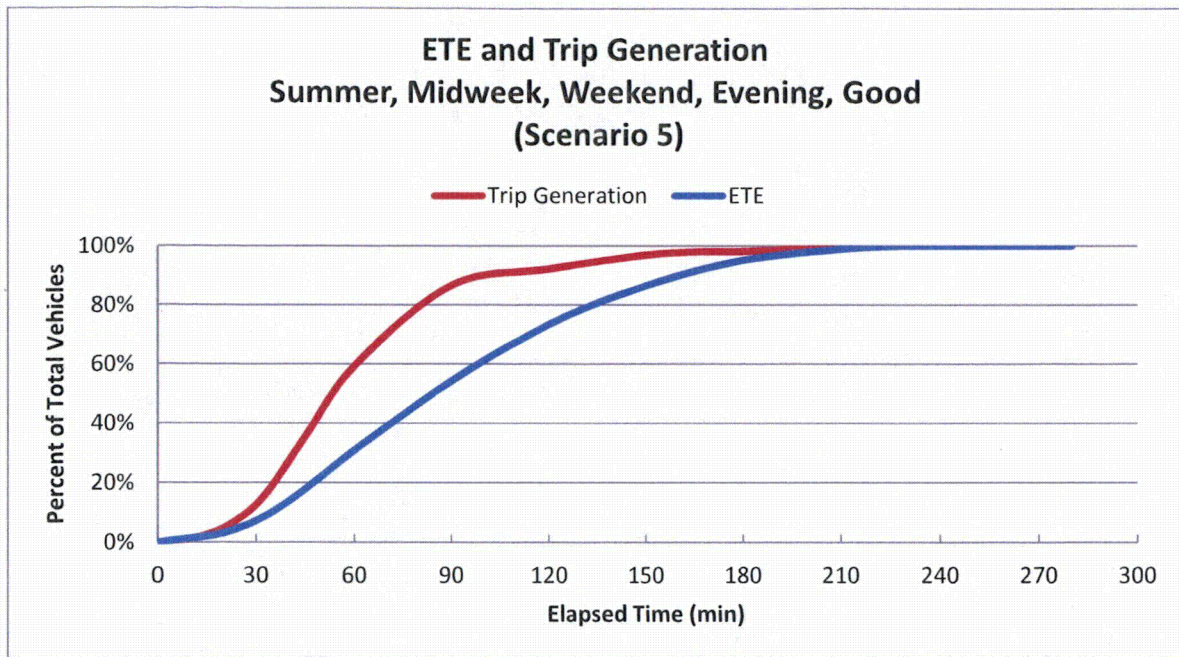


Figure J-5. ETE and Trip Generation: Summer, Midweek, Weekend, Evening, Good Weather (Scenario 5)

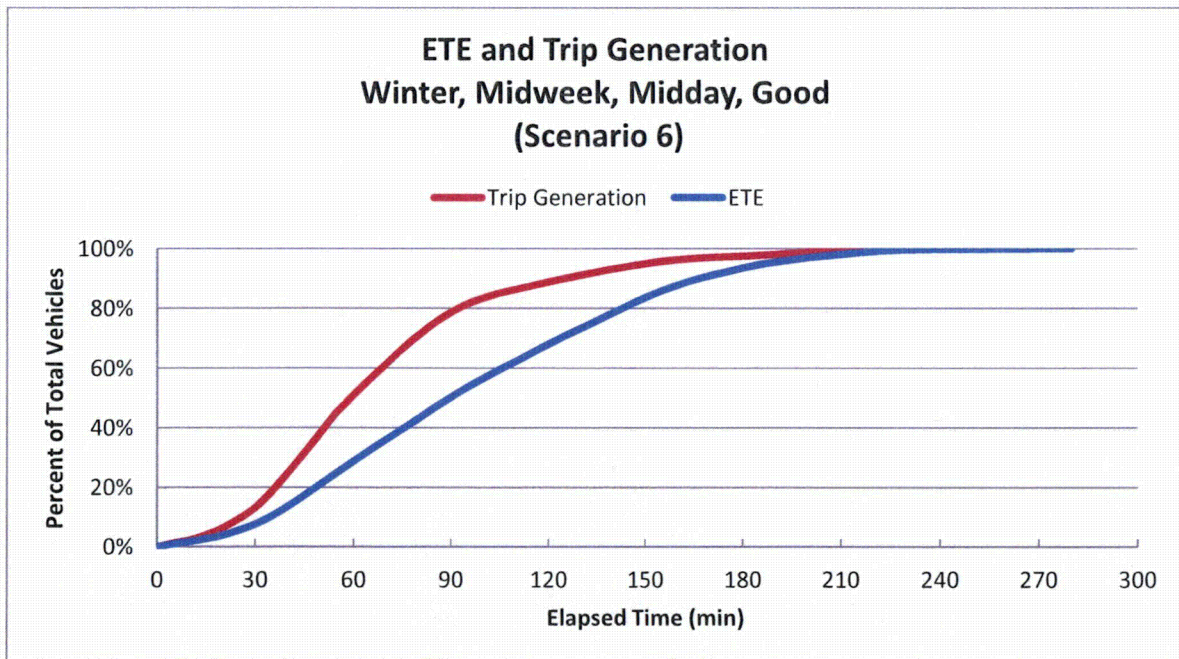


Figure J-6. ETE and Trip Generation: Winter, Midweek, Midday, Good Weather (Scenario 6)

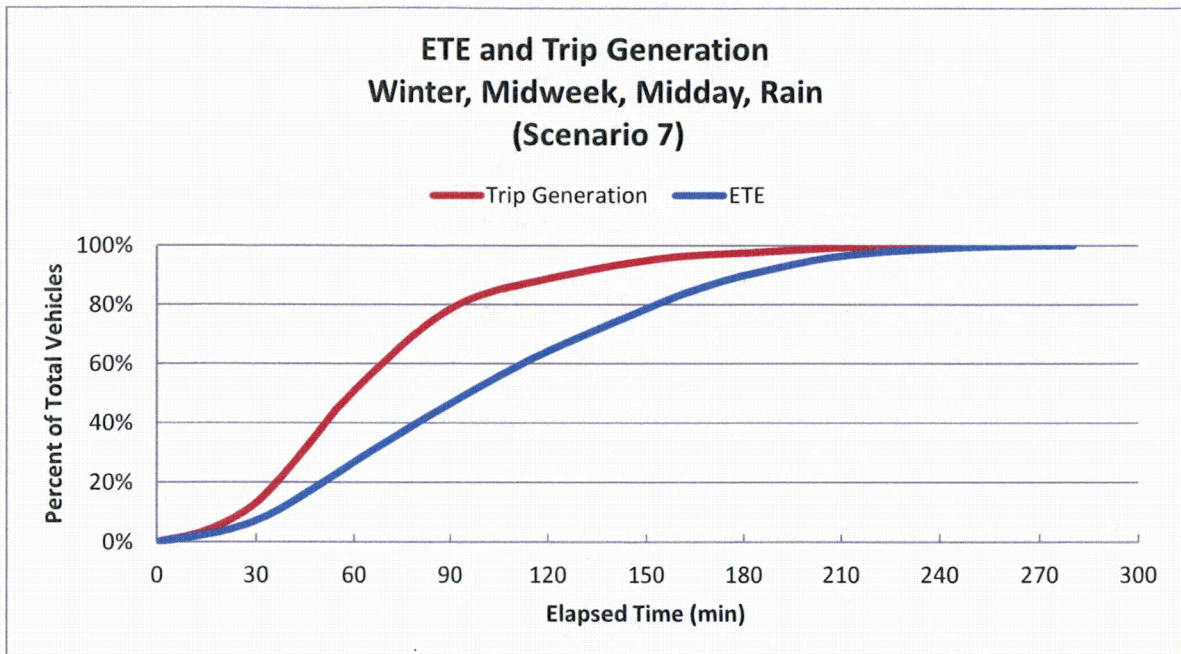


Figure J-7. ETE and Trip Generation: Winter, Midweek, Midday, Rain (Scenario 7)

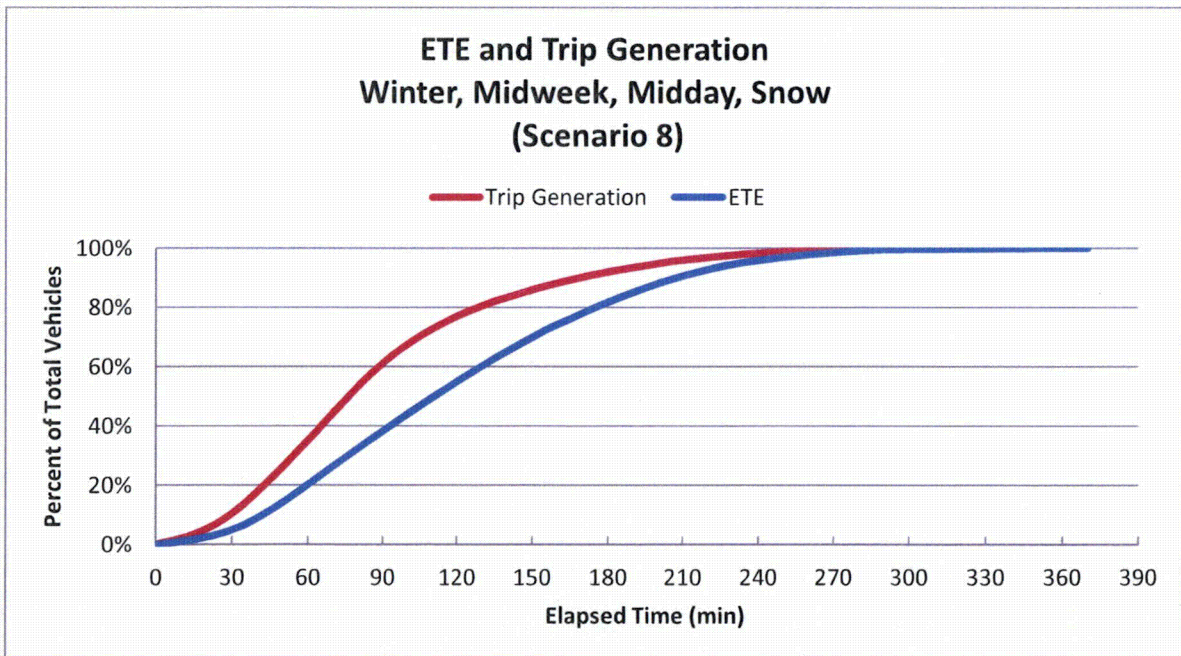


Figure J-8. ETE and Trip Generation: Winter, Midweek, Midday, Snow (Scenario 8)

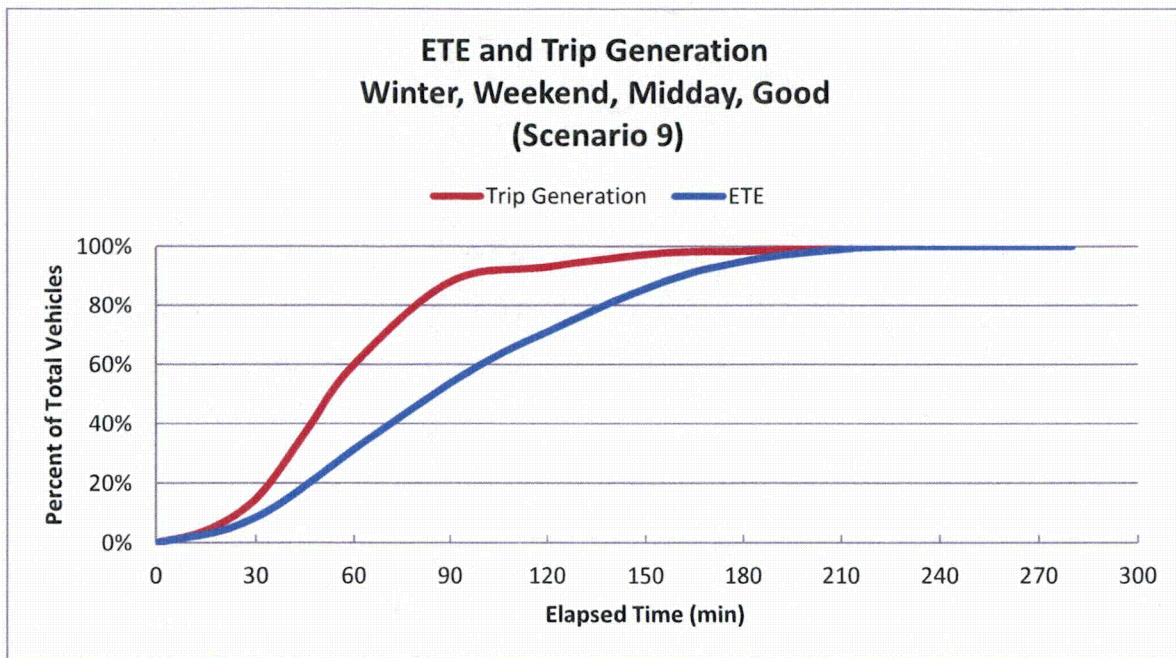


Figure J-9. ETE and Trip Generation: Winter, Weekend, Midday, Good Weather (Scenario 9)

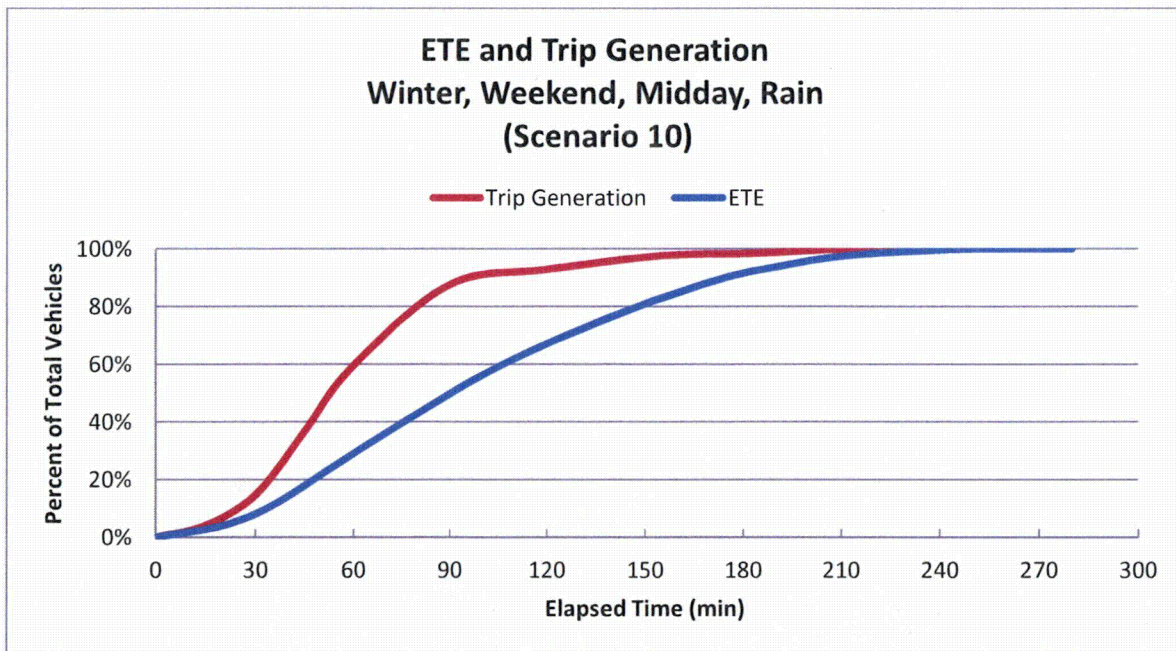


Figure J-10. ETE and Trip Generation: Winter, Weekend, Midday, Rain (Scenario 10)

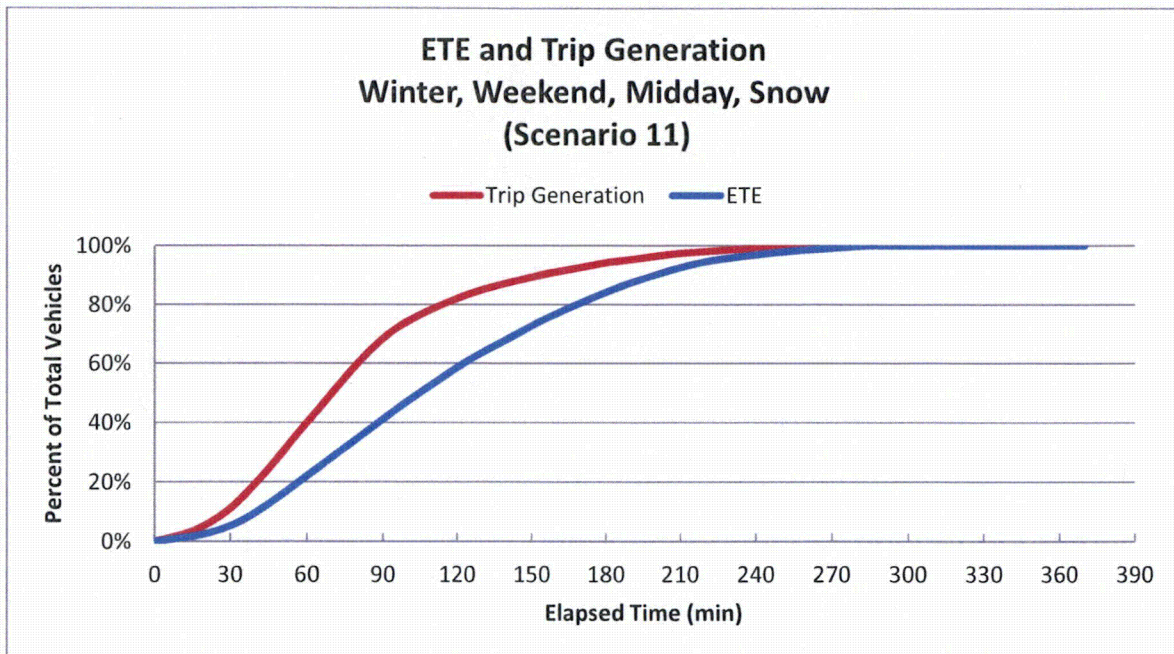


Figure J-11. ETE and Trip Generation: Winter, Weekend, Midday, Snow (Scenario 11)

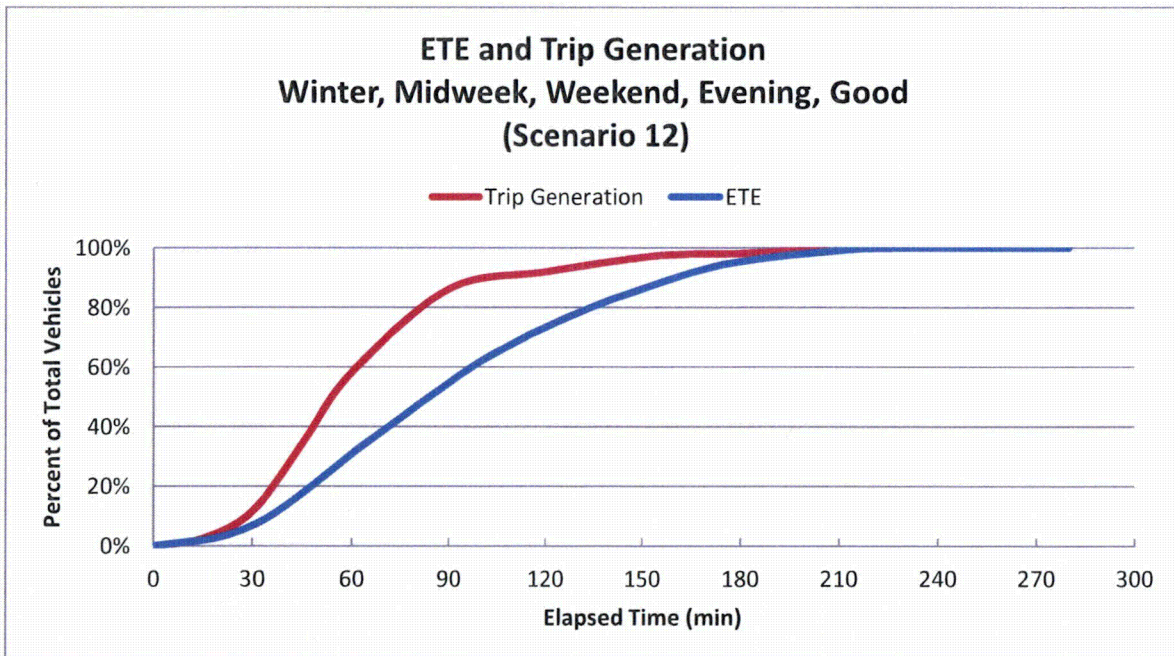


Figure J-12. ETE and Trip Generation: Winter, Midweek, Weekend, Evening, Good Weather (Scenario 12)

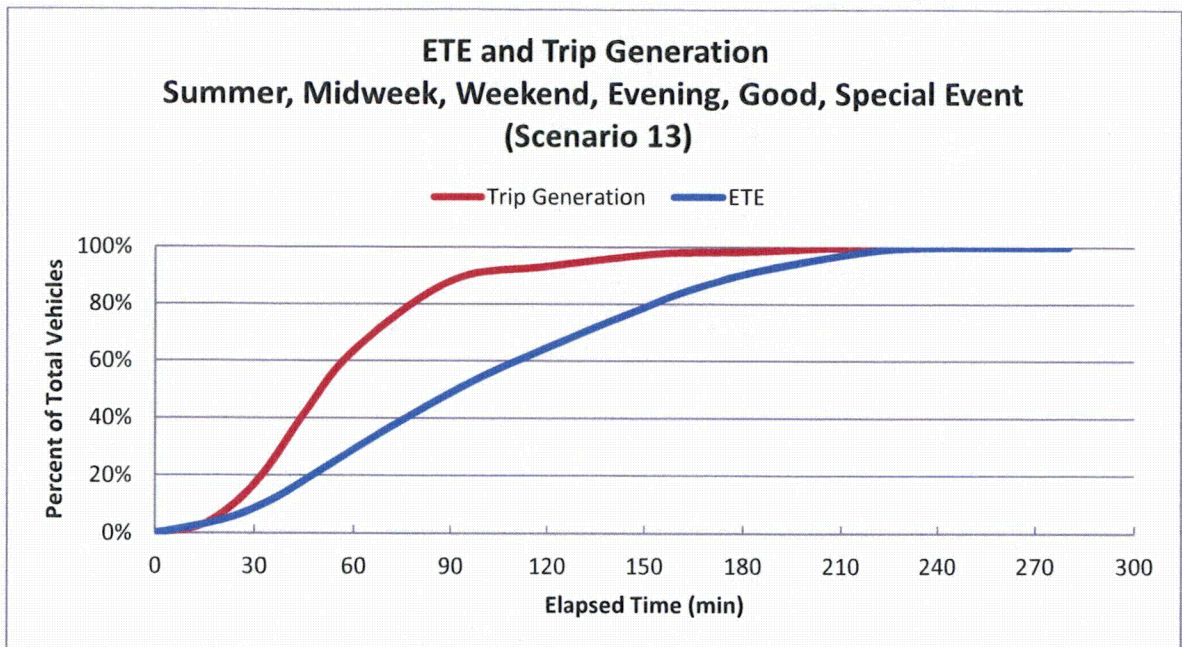


Figure J-13. ETE and Trip Generation: Summer, Weekend, Evening, Good Weather, Special Event (Scenario 13)

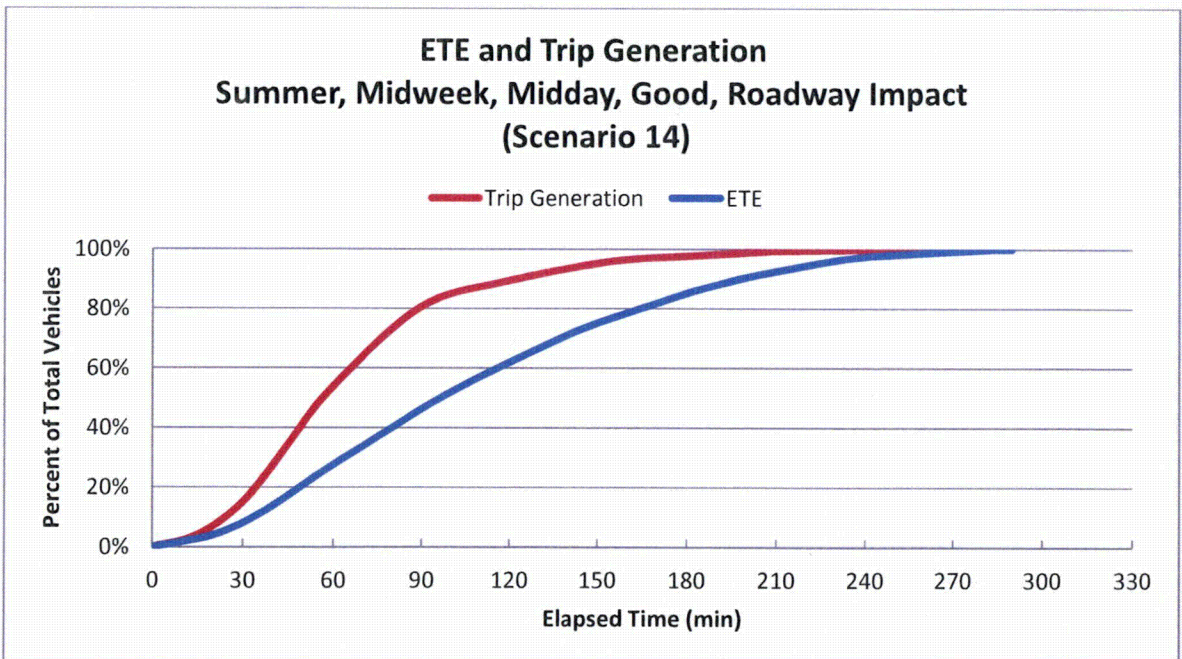


Figure J-14. ETE and Trip Generation: Summer, Midweek, Midday, Good Weather, Roadway Impact (Scenario 14)

APPENDIX K

Evacuation Roadway Network

K. EVACUATION ROADWAY NETWORK

As discussed in Section 1.3, a link-node analysis network was constructed to model the roadway network within the study area. Figure K-1 provides an overview of the link-node analysis network. The figure has been divided up into 21 more detailed figures (Figure K-2 through Figure K-21) which show each of the links and nodes in the network.

The analysis network was calibrated using the observations made during the field survey conducted in December 2011. Table K-1 lists the characteristics of each roadway section modeled in the ETE analysis. Each link is identified by its road name and the upstream and downstream node numbers. The geographic location of each link can be observed by referencing the grid map number provided in Table K-1. The roadway type identified in Table K-1 is based on the following criteria:

- Freeway: limited access highway, 2 or more lanes in each direction, high free flow speeds
- Freeway ramp: ramp on to or off of a limited access highway
- Major arterial: 3 or more lanes in each direction
- Minor arterial: 2 or more lanes in each direction
- Collector: single lane in each direction
- Local roadways: single lane in each direction, local roads with low free flow speeds

The term, "No. of Lanes" in Table K-1 identifies the number of lanes that extend throughout the length of the link. Many links have additional lanes on the immediate approach to an intersection (turn pockets); these have been recorded and entered into the input stream for the DYNEV II System.

As discussed in Section 1.3, lane width and shoulder width were not physically measured during the road survey. Rather, estimates of these measures were based on visual observations and recorded images.

Table K-2 identifies each node in the network that is controlled and the type of control (stop sign, yield sign, pre-timed signal, actuated signal, traffic control point) at that node. Uncontrolled nodes are not included in Table K-2. The location of each node can be observed by referencing the grid map number provided.

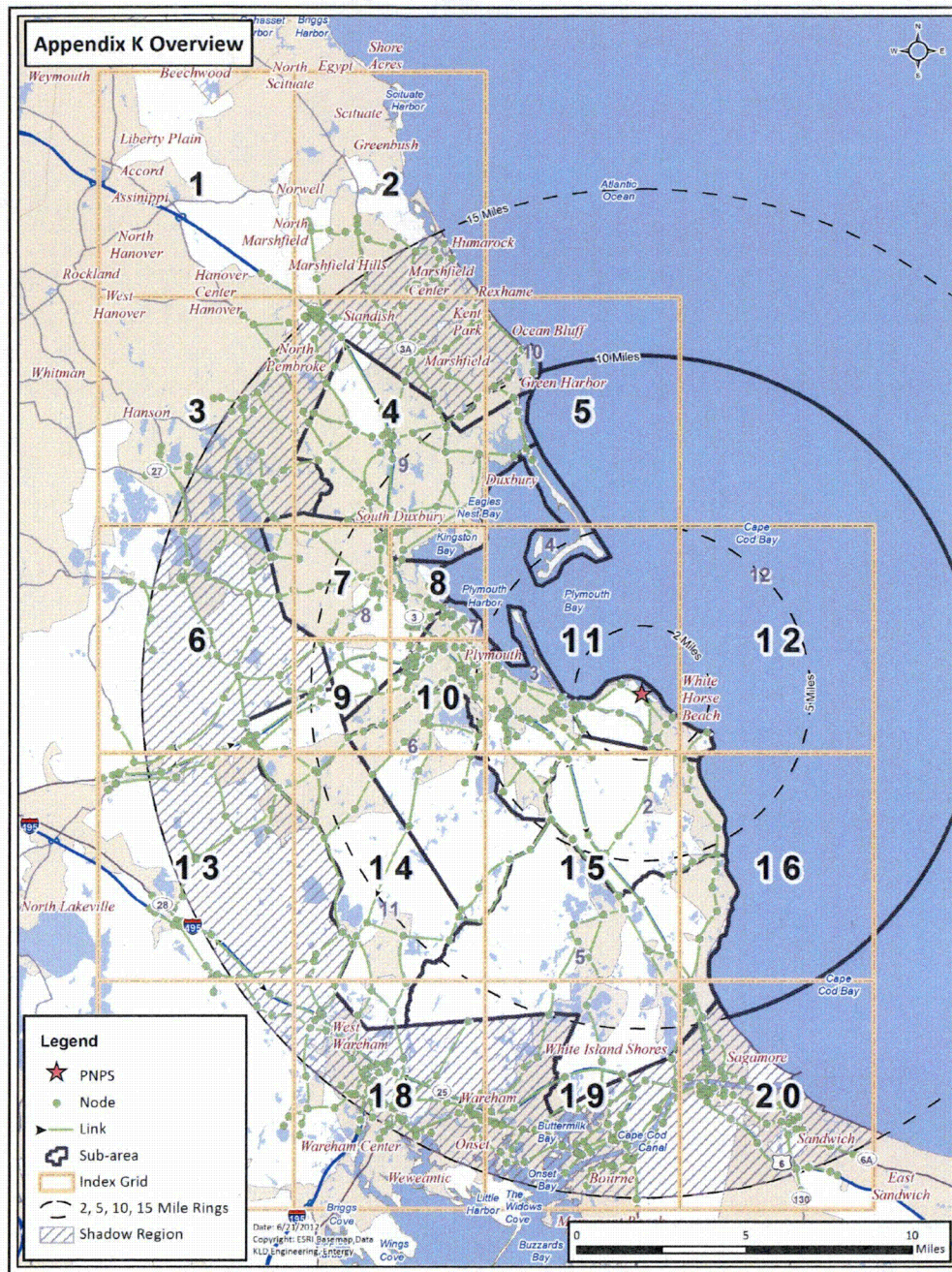


Figure K-1. Salem-Hope Creek NGS Link-Node Analysis Network

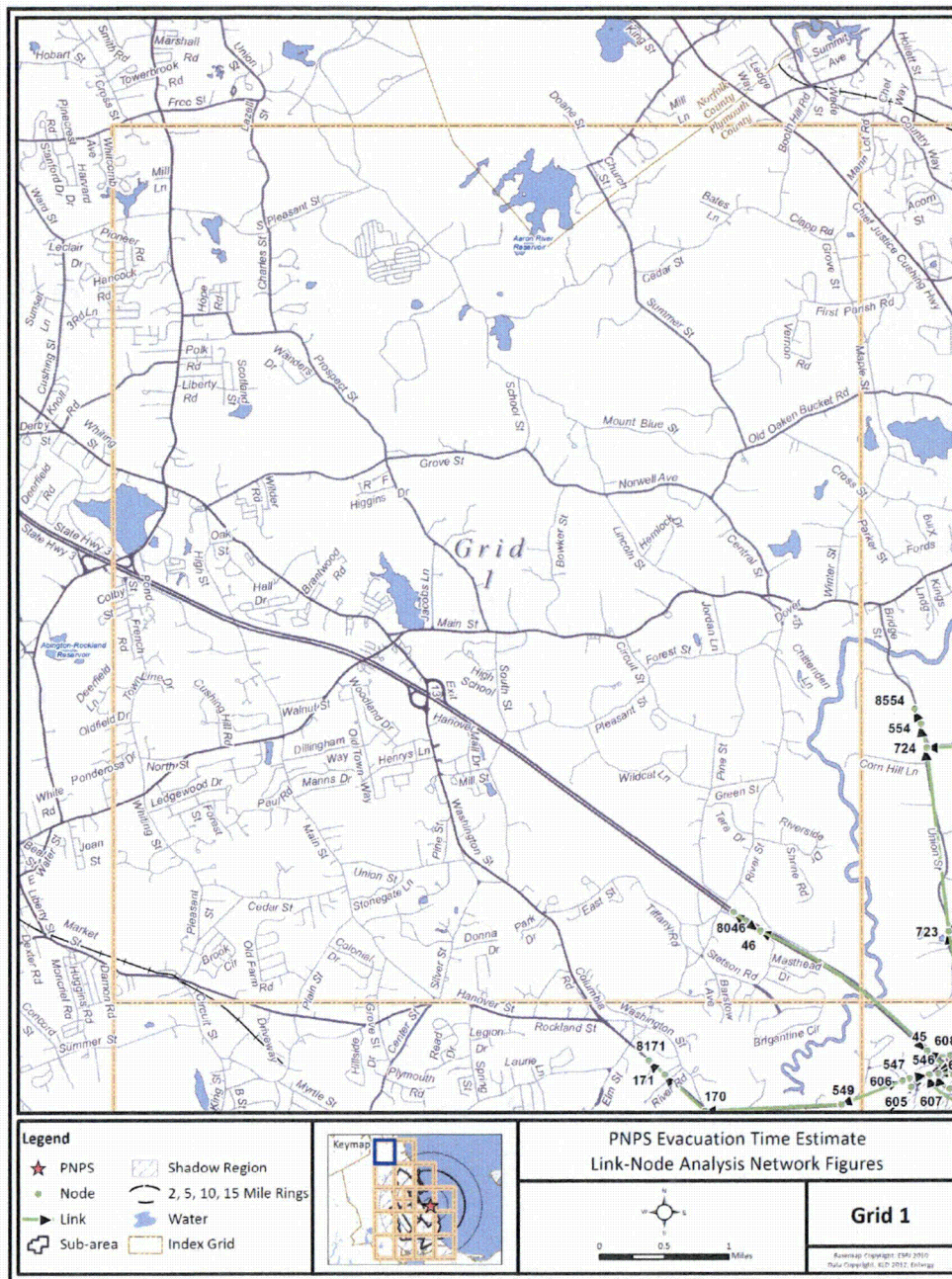


Figure K-2. Link-Node Analysis Network – Grid 1



Figure K-3. Link-Node Analysis Network – Grid 2

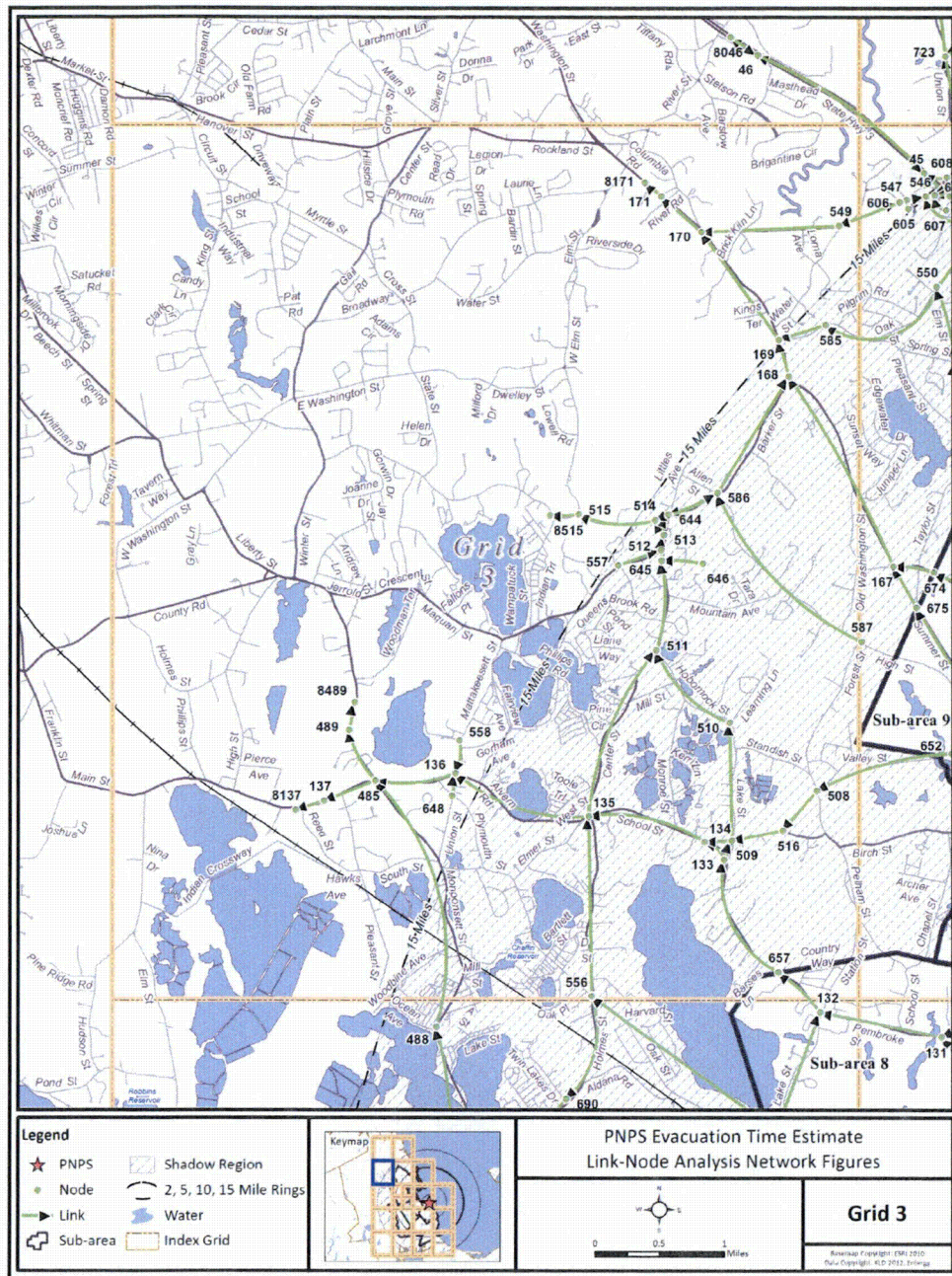


Figure K-4. Link-Node Analysis Network – Grid 3

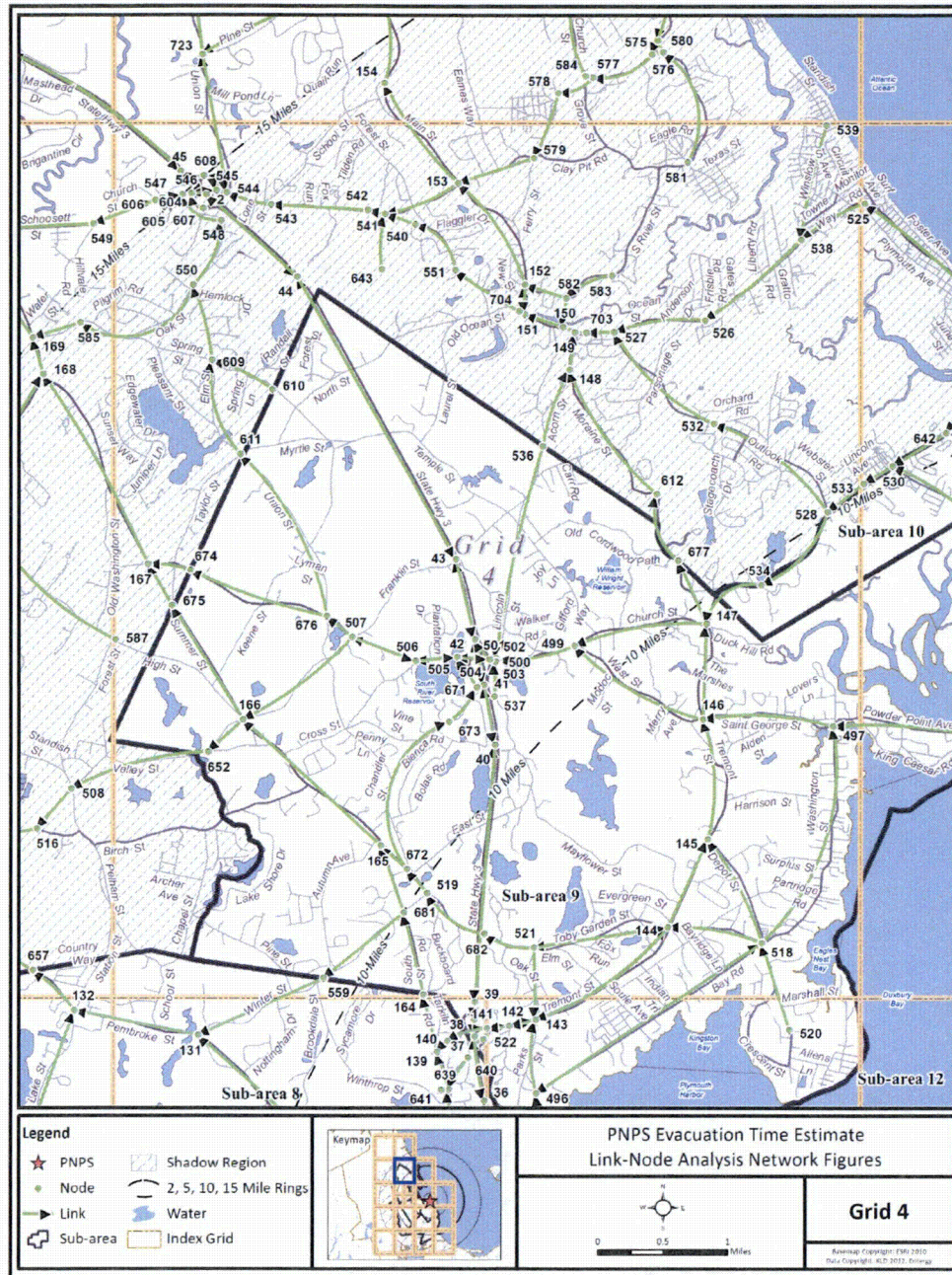


Figure K-5. Link-Node Analysis Network – Grid 4



Figure K-6. Link-Node Analysis Network – Grid 5

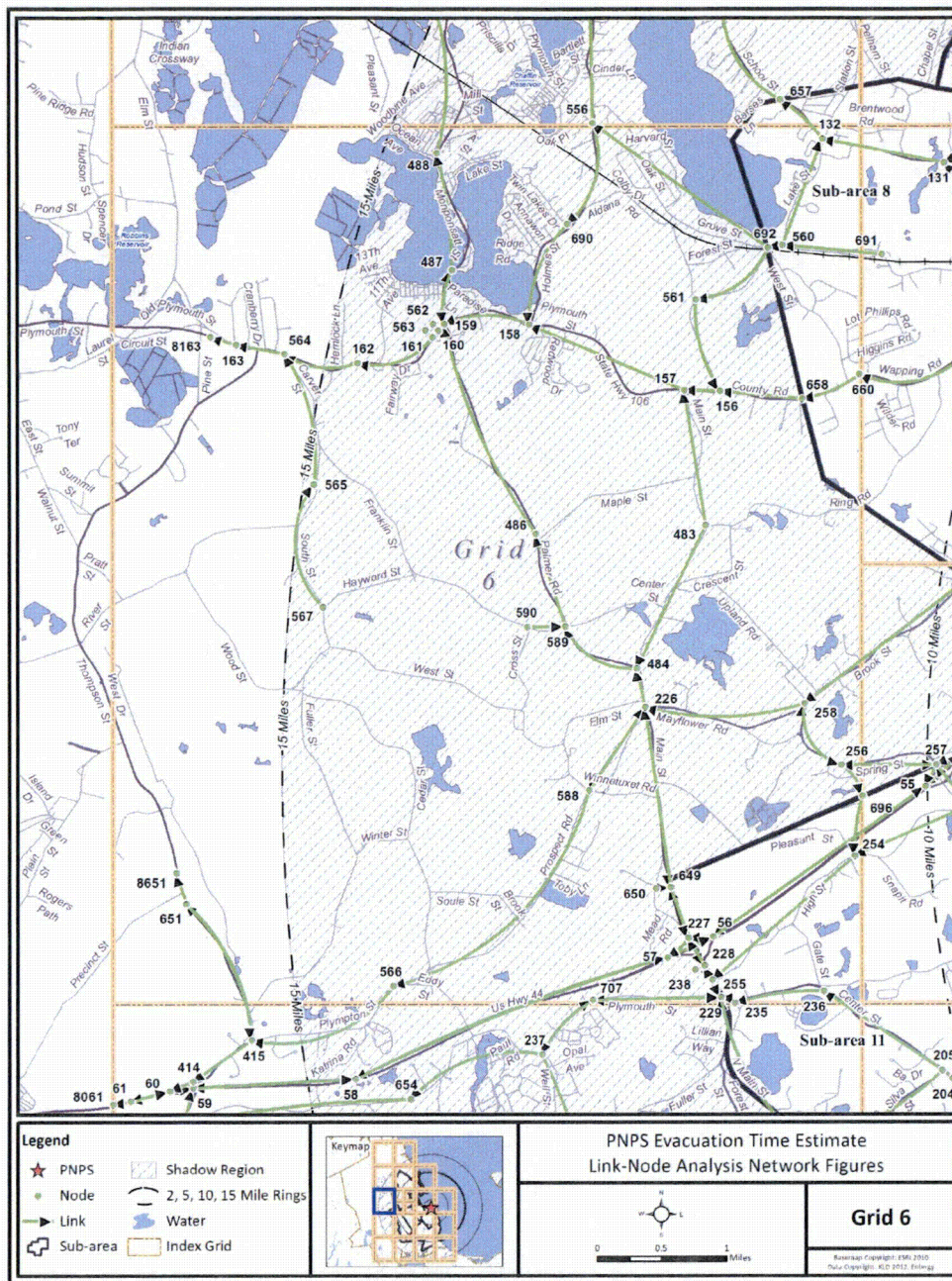


Figure K-7. Link-Node Analysis Network – Grid 6

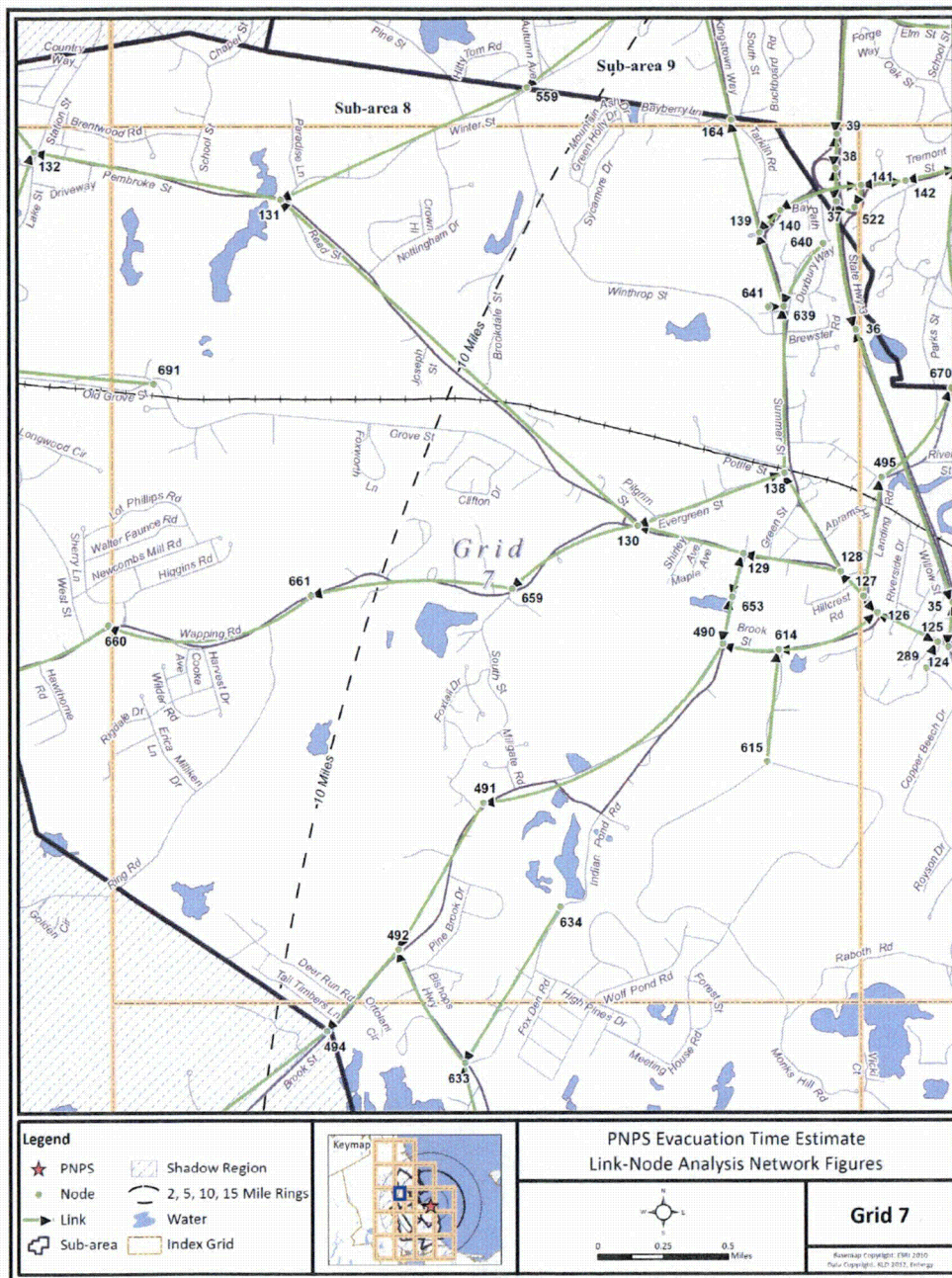


Figure K-8. Link-Node Analysis Network – Grid 7

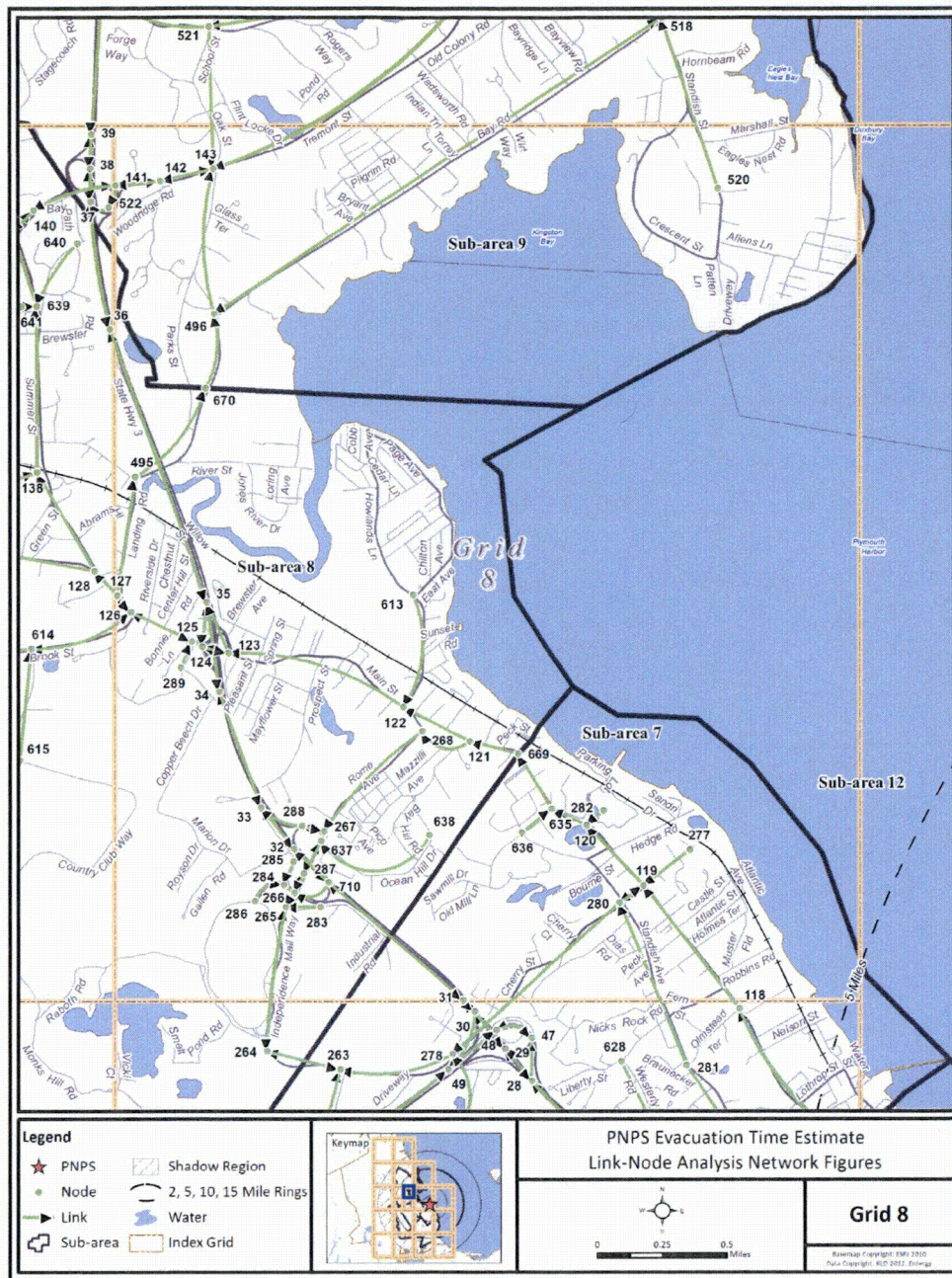


Figure K-9. Link-Node Analysis Network – Grid 8

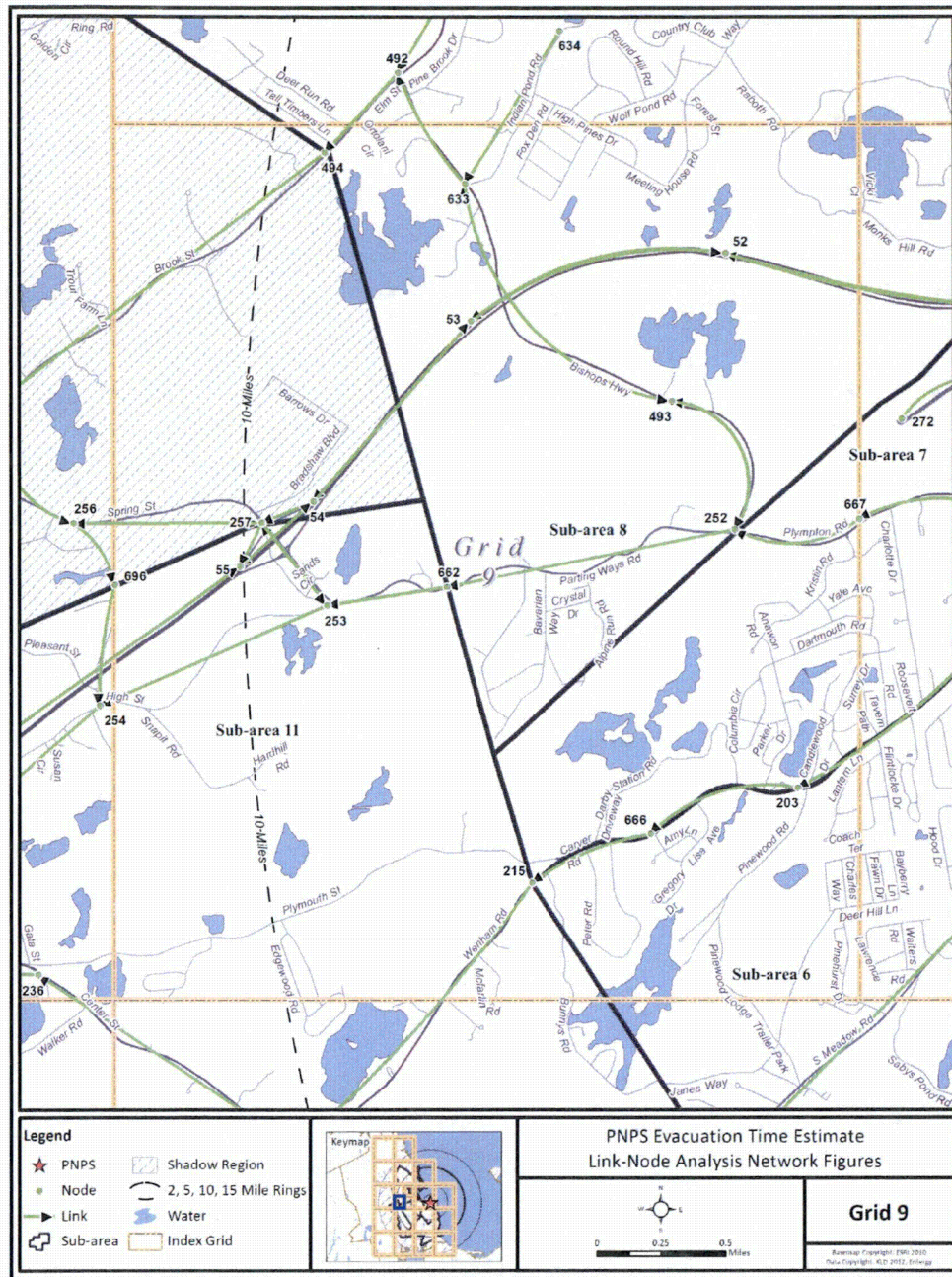


Figure K-10. Link-Node Analysis Network – Grid 9

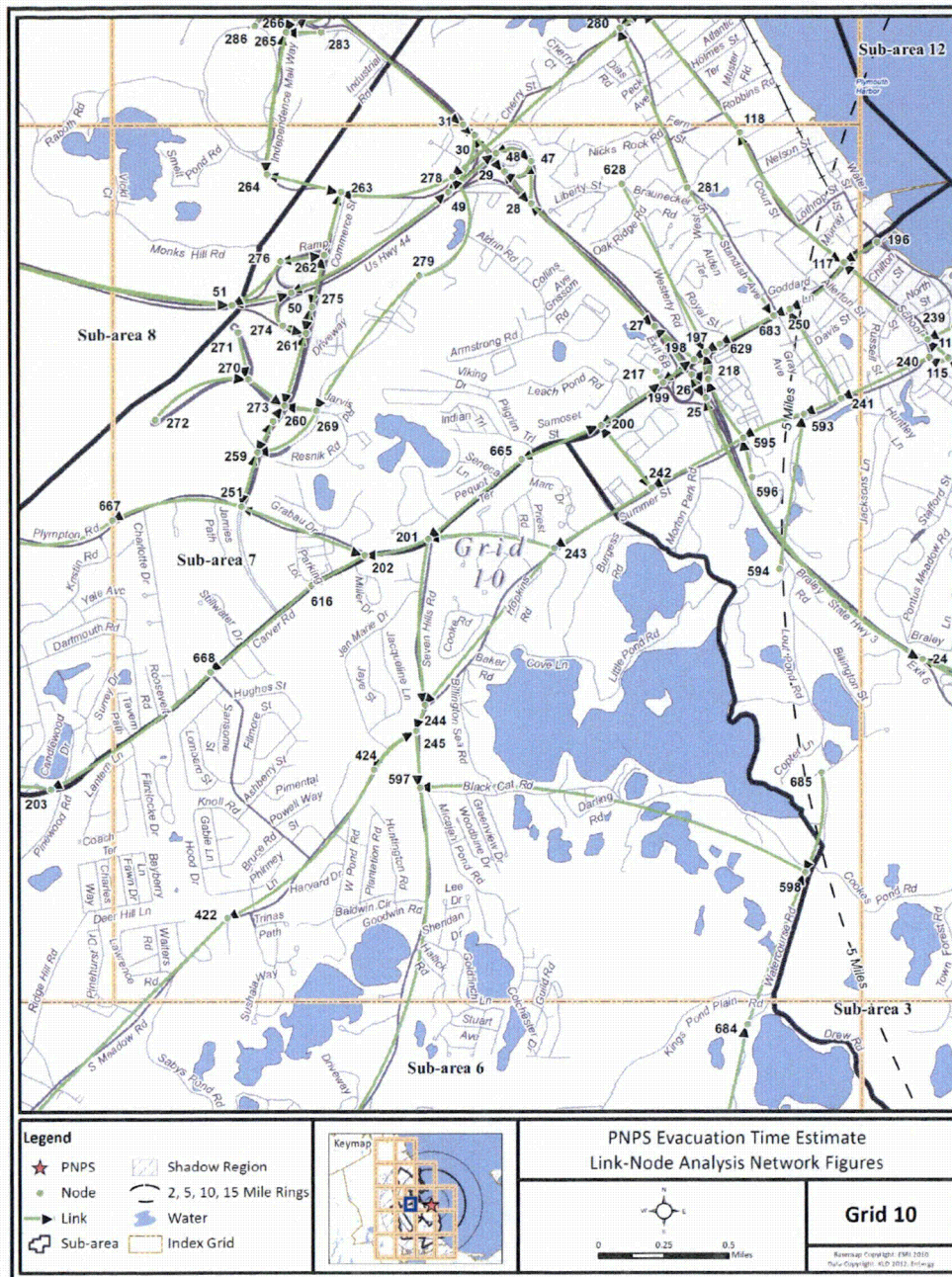


Figure K-11. Link-Node Analysis Network – Grid 10

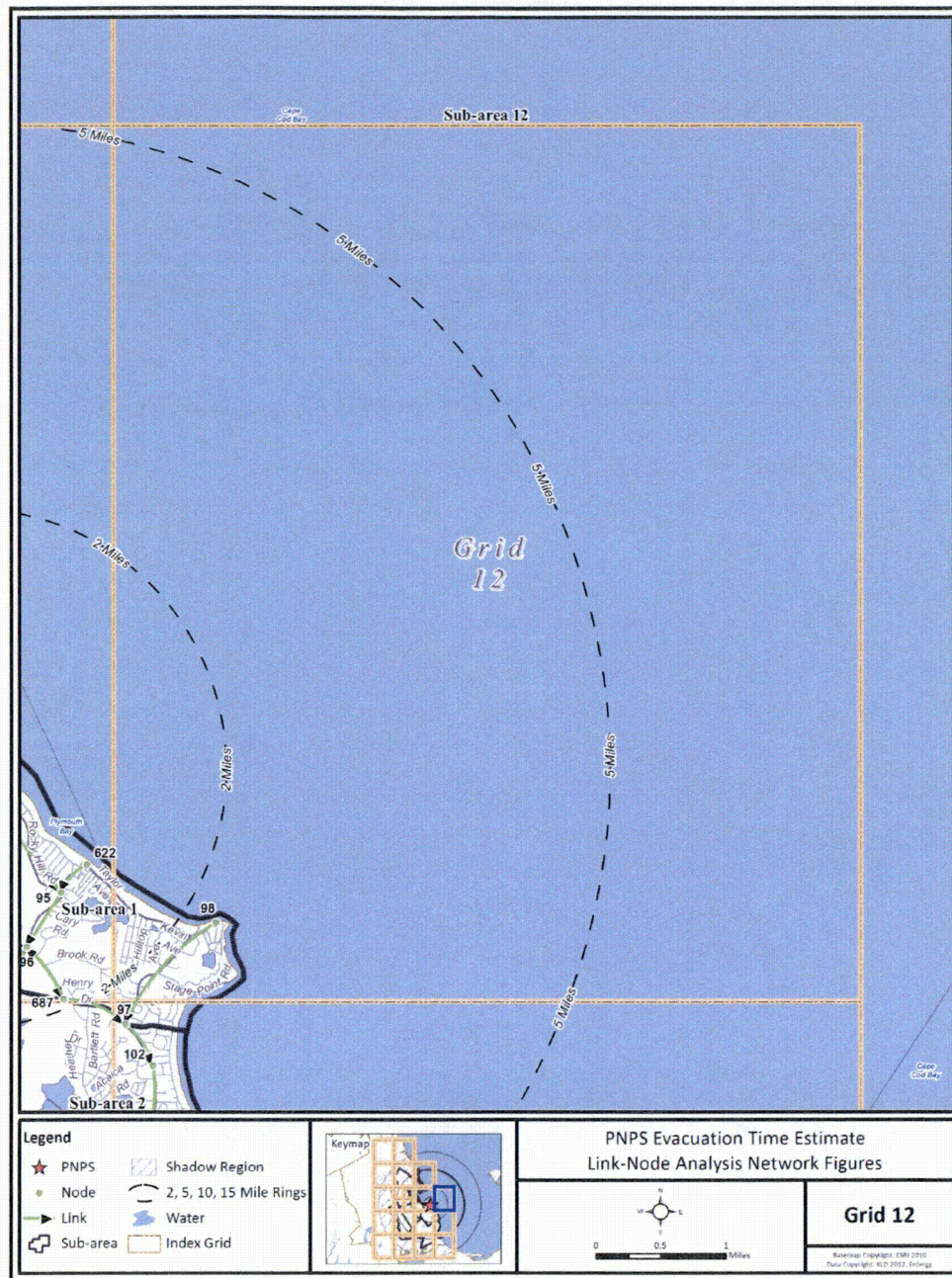


Figure K-13. Link-Node Analysis Network – Grid 12

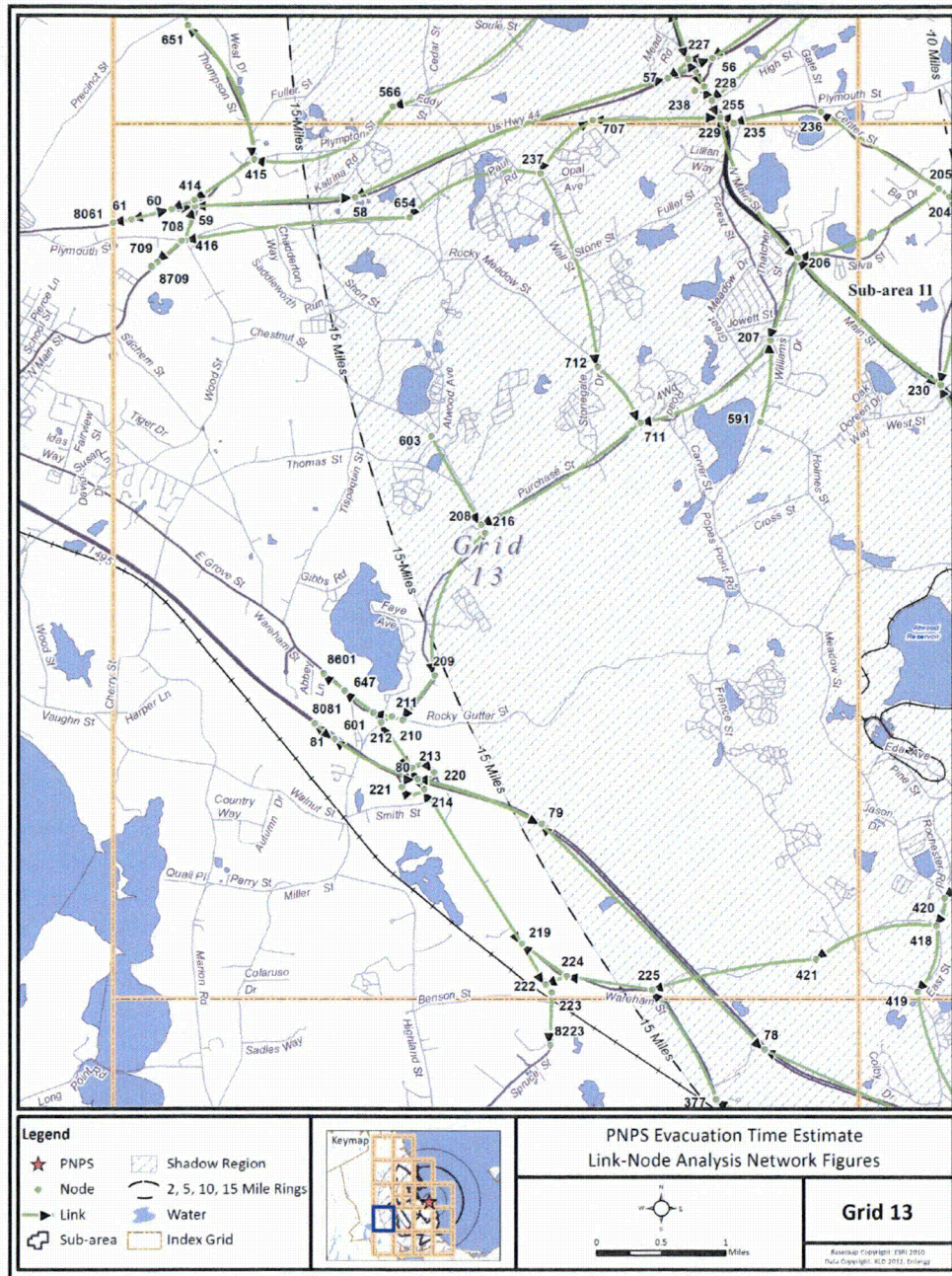


Figure K-14. Link-Node Analysis Network – Grid 13

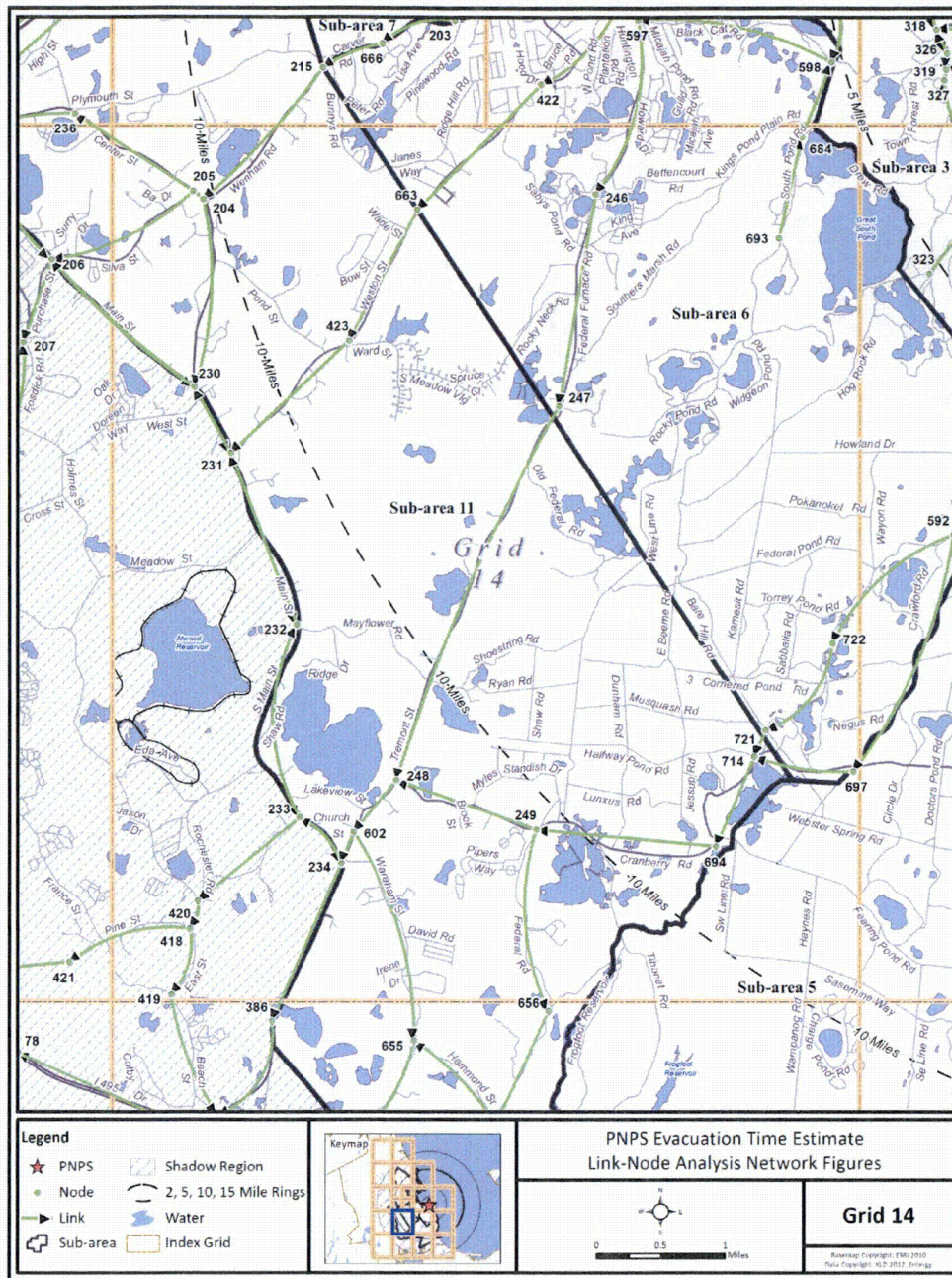


Figure K-15. Link-Node Analysis Network – Grid 14

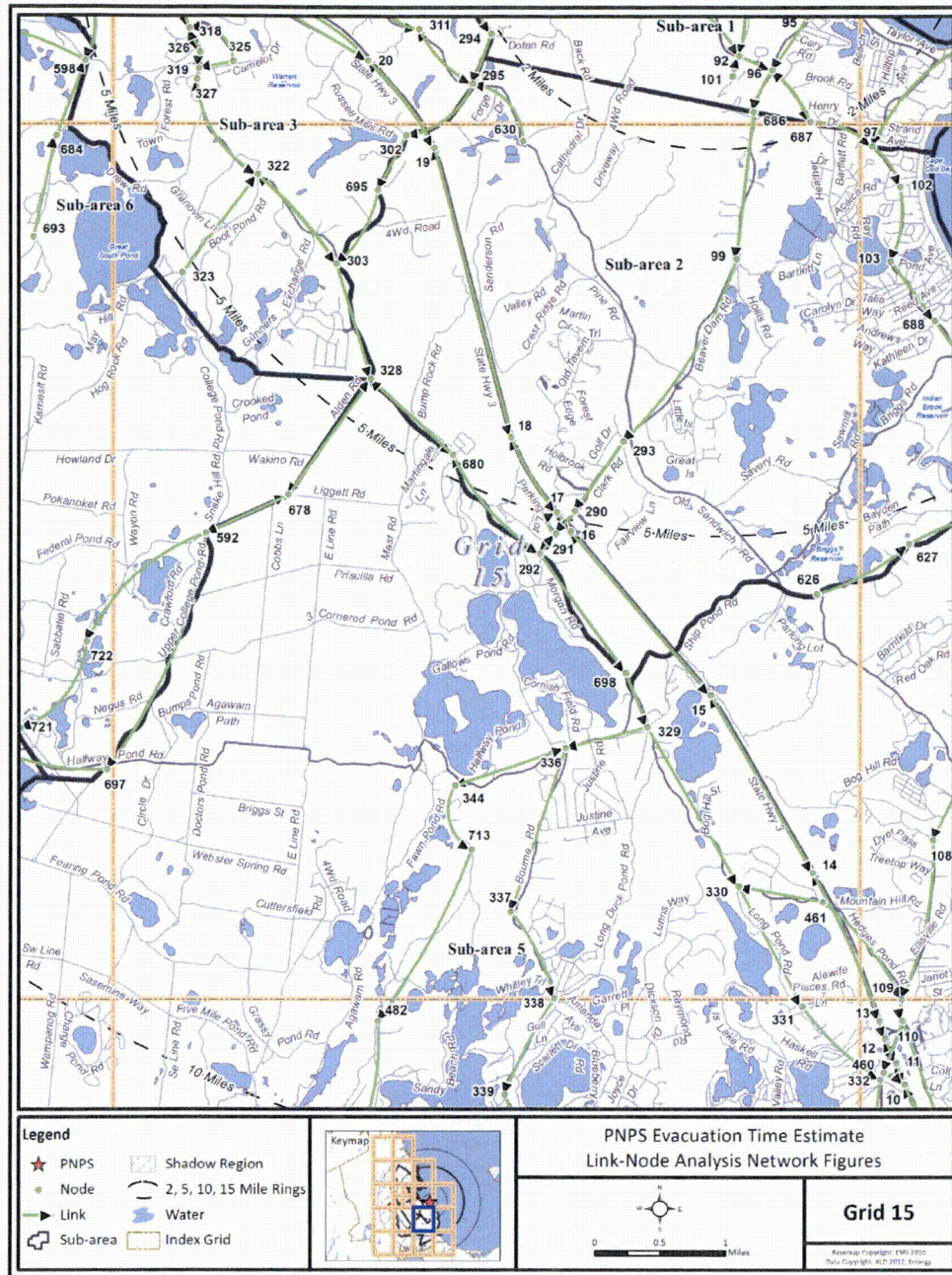


Figure K-16. Link-Node Analysis Network – Grid 15



Figure K-17. Link-Node Analysis Network – Grid 16

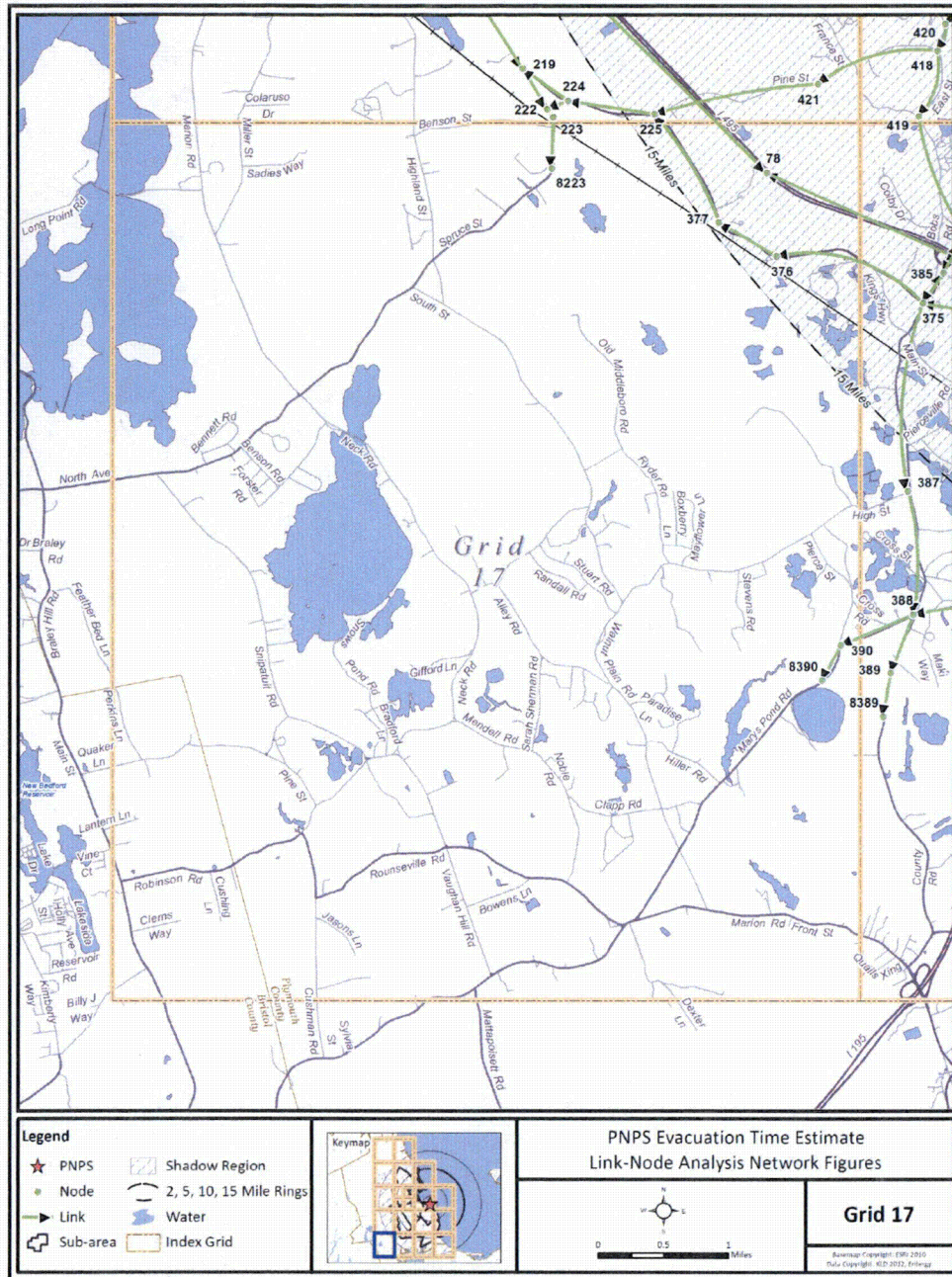


Figure K-18. Link-Node Analysis Network – Grid 17

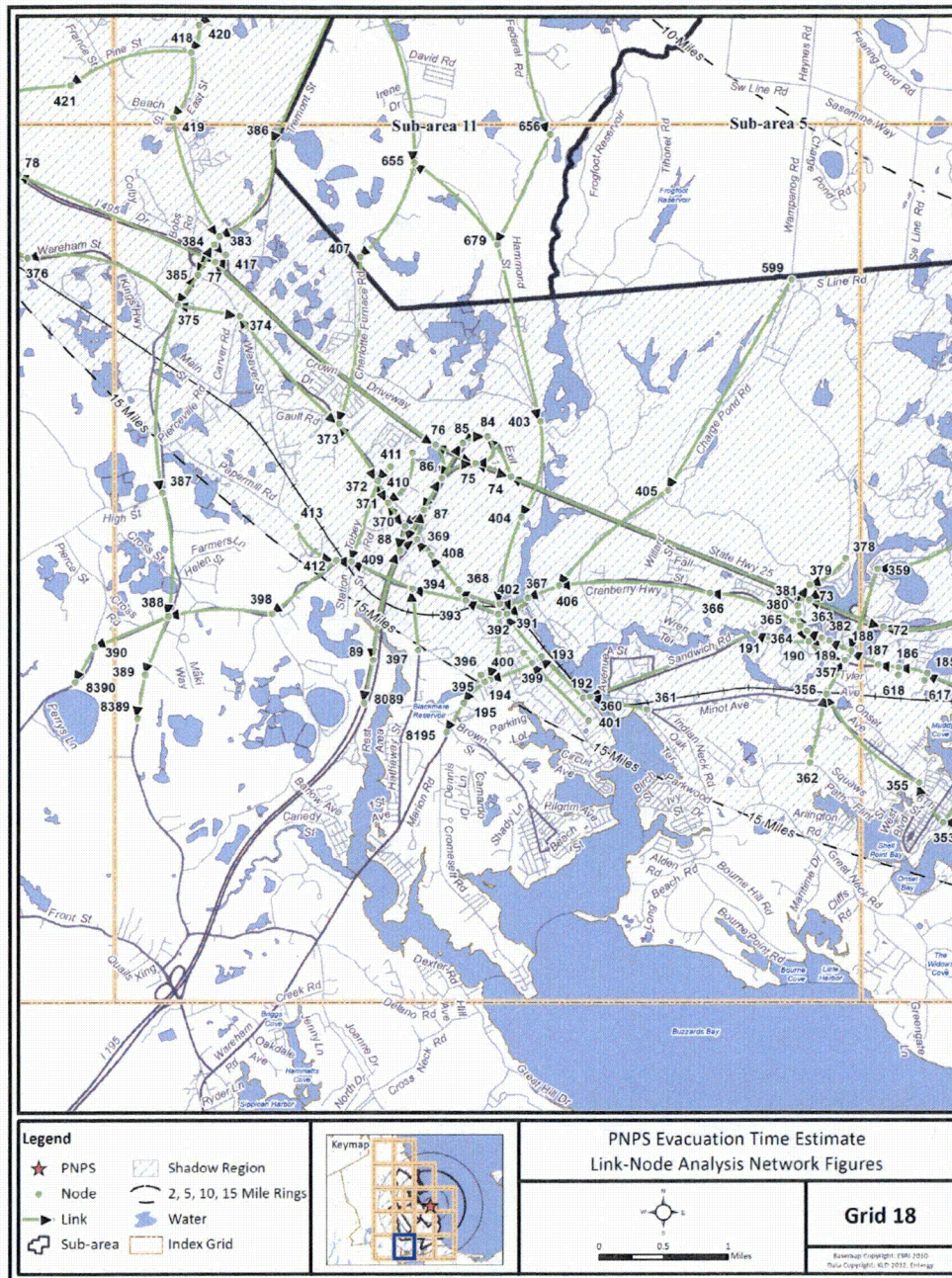


Figure K-19. Link-Node Analysis Network – Grid 18



Figure K-20. Link-Node Analysis Network – Grid 19



Figure K-21. Link-Node Analysis Network – Grid 20

Table K-1. Evacuation Roadway Network Characteristics

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
1	1	3	US-6	FREEWAY	2227	2	12	10	2250	70	20
2	1	425	US-6	FREEWAY	3520	2	12	10	2250	70	20
3	2	44	SR 3	FREEWAY	5035	2	12	10	2250	70	4
4	2	45	SR 3	FREEWAY	1423	2	12	10	2250	70	4
5	3	1	US-6	FREEWAY	2227	2	12	10	2250	70	20
6	3	4	US-6	FREEWAY	7447	2	12	10	2250	70	20
7	4	3	US-6	FREEWAY	7438	2	12	10	2250	70	20
8	4	717	US-6	FREEWAY	5650	2	12	10	2250	70	20
9	5	6	US-6	FREEWAY	754	2	12	10	2250	65	20
10	5	715	US-6	FREEWAY	1238	2	12	10	2250	70	20
11	5	716	US-6 OFF-RAMP	FREEWAY RAMP	444	1	12	4	1575	30	20
12	6	5	US-6	FREEWAY	754	2	12	10	2250	65	20
13	6	7	US-6	FREEWAY	3760	2	10	0	2250	55	20
14	7	6	US-6	FREEWAY	3760	2	10	0	2250	55	20
15	7	8	SR 3	FREEWAY	273	1	12	10	2250	60	20
16	8	7	SR 3	FREEWAY	273	2	12	10	2250	60	20
17	8	9	SR 3	FREEWAY	820	2	12	10	2250	70	20
18	8	468	US-6 ON-RAMP FROM SR 3	FREEWAY RAMP	572	1	12	2	1350	30	20
19	9	8	SR 3	FREEWAY	820	2	12	10	2250	70	20
20	9	10	SR 3	FREEWAY	9142	2	12	10	2250	70	20
21	9	470	SR 3 OFF-RAMP TO US-6	FREEWAY RAMP	1233	1	12	2	1700	40	20
22	10	9	SR 3	FREEWAY	9113	2	12	10	2250	70	20
23	10	11	SR 3	FREEWAY	945	2	12	10	2250	70	20
24	11	10	SR 3	FREEWAY	945	2	12	10	2250	70	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
25	11	12	SR 3	FREEWAY	1092	2	12	10	2250	70	20
26	12	11	SR 3	FREEWAY	1092	2	12	10	2250	70	20
27	12	13	SR 3	FREEWAY	753	2	12	10	2250	70	20
28	13	12	SR 3	FREEWAY	753	2	12	10	2250	70	20
29	13	14	SR 3	FREEWAY	6642	2	12	10	2250	70	15
30	14	13	SR 3	FREEWAY	6643	2	12	10	2250	70	15
31	14	15	SR 3	FREEWAY	8384	2	12	10	2250	70	15
32	15	14	SR 3	FREEWAY	8384	2	12	10	2250	70	15
33	15	16	SR 3	FREEWAY	8753	2	12	10	2250	70	15
34	16	15	SR 3	FREEWAY	8753	2	12	10	2250	70	15
35	16	17	SR 3	FREEWAY	970	2	12	10	2250	70	15
36	17	16	SR 3	FREEWAY	970	2	12	10	2250	70	15
37	17	18	SR 3	FREEWAY	3650	2	12	10	2250	70	15
38	18	17	SR 3	FREEWAY	3652	2	12	10	2250	70	15
39	18	19	SR 3	FREEWAY	12308	2	12	10	2250	70	15
40	19	18	SR 3	FREEWAY	12308	2	12	10	2250	70	15
41	19	20	SR 3	FREEWAY	4550	2	12	10	2250	70	11
42	20	19	SR 3	FREEWAY	4546	2	12	10	2250	70	11
43	20	21	SR 3	FREEWAY	5518	2	12	10	2250	70	11
44	21	20	SR 3	FREEWAY	5439	2	12	10	2250	70	11
45	21	22	SR 3	FREEWAY	2260	2	12	10	2250	70	11
46	22	21	SR 3	FREEWAY	2260	2	12	10	2250	70	11
47	22	23	SR 3	FREEWAY	855	2	12	10	2250	70	11
48	23	22	SR 3	FREEWAY	855	2	12	10	2250	70	11
49	23	24	SR 3	FREEWAY	1688	2	12	10	2250	70	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
50	24	23	SR 3	FREEWAY	1688	2	12	10	2250	70	11
51	24	25	SR 3	FREEWAY	7053	2	12	10	2250	70	10
52	24	316	SR 3 OFF-RAMP TO LONG POND RD	FREEWAY RAMP	2379	1	12	2	1750	40	11
53	25	24	SR 3	FREEWAY	7066	2	12	10	2250	70	10
54	25	26	SR 3	FREEWAY	555	3	12	10	2250	70	10
55	26	25	SR 3	FREEWAY	555	2	12	10	2250	70	10
56	26	27	SR 3	FREEWAY	1237	3	12	10	2250	70	10
57	27	26	SR 3	FREEWAY	1237	3	12	10	2250	70	10
58	27	28	SR 3	FREEWAY	3565	3	12	10	2250	70	10
59	28	27	SR 3	FREEWAY	3565	3	12	10	2250	70	10
60	28	29	SR 3	FREEWAY	861	3	12	10	2250	70	10
61	28	47	SR 3 OFF-RAMP TO US-44	FREEWAY RAMP	873	1	12	10	1700	45	10
62	29	28	SR 3	FREEWAY	861	3	12	10	2250	70	10
63	29	30	SR 3	FREEWAY	967	2	12	10	2250	70	10
64	30	29	SR 3	FREEWAY	967	2	12	10	2250	70	10
65	30	31	SR 3	FREEWAY	329	2	12	10	2250	70	10
66	30	49	SR 3 OFF-RAMP TO US-44	FREEWAY RAMP	1332	1	12	10	1700	45	10
67	31	30	SR 3	FREEWAY	329	1	12	10	2250	70	10
68	31	710	SR 3	FREEWAY	3691	2	12	10	2250	70	8
69	32	33	SR 3	FREEWAY	1098	2	12	10	2250	70	8
70	32	710	SR 3	FREEWAY	983	2	12	10	2250	70	8
71	33	32	SR 3	FREEWAY	1098	2	12	10	2250	70	8
72	33	34	SR 3	FREEWAY	2515	2	12	10	2250	70	8
73	34	33	SR 3	FREEWAY	2515	2	12	10	2250	70	8

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
74	34	35	SR 3	FREEWAY	1846	2	12	10	2250	70	8
75	35	34	SR 3	FREEWAY	1846	2	12	10	2250	70	8
76	35	36	SR 3	FREEWAY	5892	2	12	10	2250	70	8
77	35	124	SR 3 OFF-RAMP TO SR 3A	FREEWAY RAMP	907	1	12	2	1750	45	8
78	36	35	SR 3	FREEWAY	5892	2	12	10	2250	70	8
79	36	37	SR 3	FREEWAY	2659	2	12	10	2250	70	7
80	37	36	SR 3	FREEWAY	2660	2	12	10	2250	70	7
81	37	38	SR 3	FREEWAY	683	2	12	10	2250	70	7
82	38	37	SR 3	FREEWAY	683	2	12	10	2250	70	7
83	38	39	SR 3	FREEWAY	714	2	12	10	2250	70	7
84	39	38	SR 3	FREEWAY	714	2	12	10	2250	70	7
85	39	40	SR 3	FREEWAY	10556	2	12	10	2250	70	4
86	40	39	SR 3	FREEWAY	10556	2	12	10	2250	70	4
87	40	41	SR 3	FREEWAY	2491	2	12	10	2250	70	4
88	41	40	SR 3	FREEWAY	2491	2	12	10	2250	70	4
89	41	42	SR 3	FREEWAY	1915	2	12	10	2250	70	4
90	42	41	SR 3	FREEWAY	1915	2	12	10	2250	70	4
91	42	43	SR 3	FREEWAY	3356	2	12	10	2250	70	4
92	43	42	SR 3	FREEWAY	3356	2	12	10	2250	70	4
93	43	44	SR 3	FREEWAY	13272	2	12	10	2250	70	4
94	44	2	SR 3	FREEWAY	5035	2	12	10	2250	70	4
95	44	43	SR 3	FREEWAY	13272	2	12	10	2250	70	4
96	45	2	SR 3	FREEWAY	1423	2	12	10	2250	70	4
97	45	46	SR 3	FREEWAY	8470	2	12	10	2250	70	1
98	46	45	SR 3	FREEWAY	8467	2	12	10	2250	70	1

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
99	47	29	US-44 OFF-RAMP TO SR 3	FREEWAY RAMP	749	1	12	10	1350	30	10
100	47	48	SR 3 OFF-RAMP TO US-44	FREEWAY RAMP	811	1	12	10	1700	45	10
101	48	47	US-44 OFF-RAMP TO SR 3	FREEWAY RAMP	808	1	12	10	1350	30	10
102	48	49	US-44	FREEWAY	1273	1	12	10	1700	70	10
103	49	48	US-44	FREEWAY	1273	1	12	10	1700	70	10
104	49	50	US-44	FREEWAY	3887	2	12	10	2250	70	10
105	50	49	US-44	FREEWAY	3888	2	12	10	2250	70	10
106	50	51	US-44	FREEWAY	1241	2	12	10	2250	70	10
107	51	50	US-44	FREEWAY	1241	2	12	10	2250	70	10
108	51	52	US-44	FREEWAY	5249	2	12	10	2250	70	9
109	52	51	US-44	FREEWAY	5255	2	12	10	2250	70	9
110	52	53	US-44	FREEWAY	5579	2	12	10	2250	70	9
111	53	52	US-44	FREEWAY	5560	2	12	10	2250	70	9
112	53	54	US-44	FREEWAY	4900	2	12	10	2250	70	9
113	54	53	US-44	FREEWAY	4900	2	12	10	2250	70	9
114	54	55	US-44	FREEWAY	2008	2	12	10	2250	70	9
115	54	257	US-44 OFF-RAMP TO SPRING ST	FREEWAY RAMP	1151	1	12	4	1700	40	9
116	55	54	US-44	FREEWAY	2008	2	12	10	2250	70	9
117	55	56	US-44	FREEWAY	10559	2	12	10	2250	70	6
118	56	55	US-44	FREEWAY	10559	2	12	10	2250	70	6
119	56	57	US-44	FREEWAY	2028	2	12	10	2250	70	6
120	56	227	US-44 OFF-RAMP TO SR 58	FREEWAY RAMP	1005	1	12	4	1750	45	6
121	57	56	US-44	FREEWAY	2028	2	12	10	2250	70	6
122	57	58	US-44	MINOR ARTERIAL	13837	1	12	10	1700	70	13

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
123	58	57	US-44	MINOR ARTERIAL	13830	1	12	10	1700	70	13
124	58	59	US-44	MINOR ARTERIAL	6653	1	12	10	1750	65	13
125	59	58	US-44	MINOR ARTERIAL	6653	1	12	10	1700	65	13
126	59	60	US-44	MINOR ARTERIAL	970	1	12	10	1700	60	13
127	60	59	US-44	MINOR ARTERIAL	970	1	12	10	1750	60	13
128	60	61	US-44	MINOR ARTERIAL	1636	1	12	10	1700	60	13
129	61	60	US-44	MINOR ARTERIAL	1636	1	12	10	1700	60	13
130	62	63	SR 28	MINOR ARTERIAL	6074	2	12	10	1900	60	19
131	63	62	SR 28	MINOR ARTERIAL	6076	2	12	10	1900	60	19
132	63	82	SR 28 ROTARY	MINOR ARTERIAL	345	2	12	10	1900	30	19
133	64	65	SR 28	MINOR ARTERIAL	4036	2	12	10	1900	55	19
134	64	83	SR 28 ROTARY	MINOR ARTERIAL	255	2	12	2	1900	30	19
135	65	64	SR 28	MINOR ARTERIAL	4036	2	12	10	1900	55	19
136	65	66	SR 28	FREEWAY	1648	3	12	10	2250	70	19
137	66	65	SR 28	FREEWAY	1649	3	12	10	2250	70	19
138	66	67	SR 28	FREEWAY	1563	3	12	10	2250	70	19
139	66	479	SR 25 OFF-RAMP TO US-6	FREEWAY RAMP	892	1	12	2	1700	40	19
140	67	66	SR 28	FREEWAY	1564	3	12	10	2250	70	19
141	67	68	SR 28	FREEWAY	3369	3	12	10	2250	70	19
142	68	67	SR 28	FREEWAY	3369	3	12	10	2250	70	19
143	68	69	SR 28	FREEWAY	4019	3	12	10	2250	70	19
144	69	68	SR 28	FREEWAY	4003	3	12	10	2250	70	19
145	69	70	SR 28	FREEWAY	9190	3	12	10	2250	70	19
146	70	69	SR 28	FREEWAY	9178	3	12	10	2250	70	19
147	70	71	SR 28	FREEWAY	9520	3	12	10	2250	70	19

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
148	71	70	SR 28	FREEWAY	9518	3	12	10	2250	70	19
149	71	72	SR 28	FREEWAY	3759	3	12	10	2250	70	19
150	72	71	SR 28	FREEWAY	3774	3	12	10	2250	70	19
151	72	73	SR 28	FREEWAY	3212	3	12	10	2250	70	18
152	73	72	SR 28	FREEWAY	3212	3	12	10	2250	70	18
153	73	74	SR 28	FREEWAY	13262	3	12	10	2250	70	18
154	74	73	SR 28	FREEWAY	13262	3	12	10	2250	70	18
155	74	75	SR 28	FREEWAY	1519	2	12	10	2250	70	18
156	74	84	I-195 ON-RAMP FROM I-495	FREEWAY RAMP	1901	1	12	10	1700	50	18
157	75	74	SR 28	FREEWAY	1519	3	12	10	2250	70	18
158	75	76	I-495	FREEWAY	1795	3	12	10	2250	70	18
159	76	75	I-495	FREEWAY	1795	2	12	10	2250	70	18
160	76	77	I-495	FREEWAY	11761	2	12	10	2250	70	18
161	76	86	I-195 ON-RAMP FROM I-495	FREEWAY RAMP	1443	1	12	10	1700	45	18
162	77	76	I-495	FREEWAY	11760	2	12	10	2250	70	18
163	77	78	I-495	FREEWAY	8796	2	12	10	2250	70	18
164	78	77	I-495	FREEWAY	8796	2	12	10	2250	70	18
165	78	79	I-495	FREEWAY	12975	2	12	10	2250	70	13
166	79	78	I-495	FREEWAY	12975	2	12	10	2250	70	13
167	79	80	I-495	FREEWAY	5493	2	12	10	2250	70	13
168	80	79	I-495	FREEWAY	5485	2	12	10	2250	70	13
169	80	81	I-495	FREEWAY	3848	2	12	10	2250	70	13
170	81	80	I-495	FREEWAY	3849	2	12	10	2250	70	13

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
171	82	64	SR 28 ROTARY	MINOR ARTERIAL	204	2	12	10	1900	30	19
172	83	63	SR 28 ROTARY	MINOR ARTERIAL	267	2	12	10	1900	30	19
173	84	75	I-495 ON-RAMP FROM I-195	FREEWAY RAMP	1582	1	12	10	1350	30	18
174	84	85	I-195 ON-RAMP FROM I-495	FREEWAY RAMP	1040	1	12	10	1700	45	18
175	85	84	I-495 ON-RAMP FROM I-195	FREEWAY RAMP	1035	1	12	10	1575	35	18
176	85	86	I-195 on-ramp from I-495	FREEWAY RAMP	1683	1	12	10	1700	70	18
177	86	75	I-195 ON-RAMP FROM I-495	FREEWAY RAMP	1552	1	12	10	1700	45	18
178	86	85	I-495 on-ramp from I-195	FREEWAY RAMP	1683	1	12	10	1700	70	18
179	86	87	I-195	FREEWAY	1481	2	12	10	2250	70	18
180	87	86	I-195	FREEWAY	1481	2	12	10	2250	70	18
181	87	88	I-195	FREEWAY	1921	2	12	10	2250	70	18
182	87	370	I-195 OFF-RAMP TO SR 28	FREEWAY RAMP	1000	1	12	2	1750	45	18
183	88	87	I-195	FREEWAY	1921	2	12	10	2250	70	18
184	88	89	I-195	FREEWAY	4597	2	12	10	2250	70	18
185	88	369	I-195 OFF-RAMP TO SR 28	FREEWAY RAMP	848	1	12	2	1750	45	18
186	89	88	I-195	FREEWAY	4590	2	12	10	2250	70	18
187	90	91	EDISON ACCESS RD	COLLECTOR	2246	1	12	2	1750	35	11
188	91	92	EDISON ACCESS RD	COLLECTOR	5186	1	10	0	1700	50	11
189	91	93	ROCKY HILL RD	COLLECTOR	5114	1	12	2	1700	45	11
190	91	95	ROCKY HILL RD	COLLECTOR	4509	1	12	2	1700	45	11
191	92	96	SR 3A	MINOR ARTERIAL	1466	1	12	2	1750	40	11
192	93	94	ROCKY HILL RD	COLLECTOR	5811	1	12	2	1750	40	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
193	94	100	SR 3A	MINOR ARTERIAL	1454	2	12	2	1900	45	11
194	95	91	ROCKY HILL RD	COLLECTOR	4509	1	12	2	1750	45	11
195	95	96	WHITE HORSE RD	COLLECTOR	2621	1	12	2	1750	35	11
196	96	686	BEAVER DAM RD	COLLECTOR	1886	1	12	2	1700	40	11
197	96	687	SR 3A	MINOR ARTERIAL	2654	1	12	2	1700	40	11
198	97	102	SR 3A	MINOR ARTERIAL	2068	1	12	2	1700	45	16
199	98	97	MANOMET POINT RD	COLLECTOR	5641	1	12	2	1750	40	12
200	99	293	BEAVER DAM RD	COLLECTOR	8817	1	12	2	1700	40	15
201	100	296	PLYMOUTH PLANTATION HIGHWAY	MINOR ARTERIAL	1098	2	12	2	1900	50	11
202	100	625	SR 3A	MINOR ARTERIAL	621	2	12	2	1900	40	11
203	101	92	ELLIOT LN	COLLECTOR	904	1	12	2	1575	35	11
204	102	103	SR 3A	MINOR ARTERIAL	3141	1	12	2	1700	45	16
205	103	688	SR 3A	MINOR ARTERIAL	3061	1	12	2	1700	45	16
206	104	105	SR 3A	MINOR ARTERIAL	4178	1	12	2	1750	50	16
207	105	689	SR 3A	MINOR ARTERIAL	2769	1	12	2	1700	50	16
208	106	107	SR 3A	MINOR ARTERIAL	3806	1	12	2	1700	50	16
209	107	108	SR 3A	MINOR ARTERIAL	5206	1	12	2	1700	50	16
210	108	109	SR 3A	MINOR ARTERIAL	6674	1	12	2	1700	50	16
211	109	110	SR 3A	MINOR ARTERIAL	884	1	12	2	1700	40	20
212	110	460	HERRING POND RD	COLLECTOR	2246	1	12	2	1700	40	20
213	110	462	STATE RD	COLLECTOR	5200	1	12	2	1700	50	20
214	111	112	SR 3A	MINOR ARTERIAL	2002	1	12	2	1700	45	11
215	111	297	CLIFFORD RD	COLLECTOR	975	1	12	2	1575	35	11
216	112	113	SR 3A	MINOR ARTERIAL	6394	1	12	2	1750	45	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
217	113	114	SR 3A	MINOR ARTERIAL	3810	1	12	2	1700	40	11
218	113	312	SANDWICH ST	COLLECTOR	630	1	12	2	1700	40	11
219	114	115	SR 3A	MINOR ARTERIAL	1095	1	12	2	1575	35	11
220	114	314	SOUTH ST	COLLECTOR	2786	1	12	2	1700	40	11
221	115	116	SR 3A	MINOR ARTERIAL	557	1	12	2	1750	30	11
222	115	240	SANDWICH ST	COLLECTOR	407	1	12	2	1125	25	11
223	116	117	SR 3A	MINOR ARTERIAL	2321	1	12	2	1750	30	11
224	117	118	SR 3A	MINOR ARTERIAL	3481	1	12	2	1350	30	10
225	117	250	SAMOSET ST	COLLECTOR	1485	1	12	2	1750	35	10
226	118	117	SR 3A	MINOR ARTERIAL	3489	1	12	2	1750	30	10
227	118	119	SR 3A	MINOR ARTERIAL	3184	1	12	2	1750	35	8
228	119	120	SR 3A	MINOR ARTERIAL	1694	1	12	2	1750	35	8
229	119	280	CHERRY ST	COLLECTOR	602	1	12	2	1750	40	8
230	120	635	SR 3A	MINOR ARTERIAL	785	1	12	2	1575	35	8
231	121	122	SR 3A	MINOR ARTERIAL	1543	1	12	2	1575	35	8
232	121	268	CRESCENT ST	COLLECTOR	1143	1	12	2	1350	30	8
233	122	123	SR 3A	MINOR ARTERIAL	3855	1	12	2	1575	40	8
234	123	35	SR 3 ON-RAMP FROM SR 3A	FREEWAY RAMP	1127	1	12	2	1700	45	8
235	123	124	SR 3A	MINOR ARTERIAL	552	1	12	2	1750	40	8
236	124	123	SR 3A	MINOR ARTERIAL	552	1	12	2	1700	40	8
237	124	125	SR 3A	MINOR ARTERIAL	244	1	12	2	1750	40	8
238	125	124	SR 3A	MINOR ARTERIAL	244	1	12	2	1750	40	8
239	125	126	SR 3A	MINOR ARTERIAL	1372	1	12	2	1750	40	8
240	126	125	SR 3A	MINOR ARTERIAL	1372	1	12	2	1750	40	8

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
241	126	127	SR 3A	MINOR ARTERIAL	439	1	12	2	1700	40	8
242	126	614	BROOK ST	COLLECTOR	2202	1	12	2	1700	50	7
243	127	126	SR 3A	MINOR ARTERIAL	439	1	12	2	1750	40	8
244	127	128	SR 3A	MINOR ARTERIAL	683	1	12	2	1700	40	7
245	127	495	LANDING RD	COLLECTOR	2439	1	12	2	1700	40	8
246	128	129	SR 106	MINOR ARTERIAL	2023	1	12	2	1700	40	7
247	128	138	SR 3A	MINOR ARTERIAL	2309	1	12	2	1750	45	7
248	129	130	SR 106	MINOR ARTERIAL	2242	1	12	2	1750	45	7
249	129	653	ELM ST	COLLECTOR	910	1	12	2	1750	35	7
250	130	131	SR 27	MINOR ARTERIAL	9927	1	12	2	1700	50	7
251	130	138	EVERGREEN ST	COLLECTOR	3189	1	12	2	1750	40	7
252	130	659	SR 106	MINOR ARTERIAL	2910	1	12	2	1700	50	7
253	131	132	SR 27	MINOR ARTERIAL	5090	1	12	2	1700	55	7
254	132	657	SR 27	MINOR ARTERIAL	2373	1	12	2	1700	50	3
255	133	134	SR 27	MINOR ARTERIAL	1119	1	12	2	1700	45	3
256	133	509	LAKE ST	COLLECTOR	841	1	12	2	1700	40	3
257	134	135	SR 27	MINOR ARTERIAL	4953	1	12	2	1750	50	3
258	135	136	SR 27	MINOR ARTERIAL	5976	1	12	2	1750	50	3
259	135	511	SR 36	MINOR ARTERIAL	7443	1	12	2	1700	50	3
260	136	485	SR 27	MINOR ARTERIAL	3345	1	12	2	1750	50	3
261	138	130	EVERGREEN ST	COLLECTOR	3189	1	12	2	1750	40	7
262	138	639	SR 3A	MINOR ARTERIAL	3388	1	12	2	1750	40	7
263	139	140	SR 3A	MINOR ARTERIAL	626	2	12	2	1900	50	7
264	139	164	SR 53	MINOR ARTERIAL	2404	1	12	2	1700	50	7
265	140	139	SR 3A	MINOR ARTERIAL	626	1	12	2	1750	50	7

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
266	140	141	SR 3A	MINOR ARTERIAL	1752	2	12	2	1900	50	7
267	141	140	SR 3A	MINOR ARTERIAL	1753	2	12	2	1900	50	7
268	141	142	SR 3A	MINOR ARTERIAL	911	2	12	2	1900	45	8
269	141	522	SR 3 ON-RAMP FROM SR 3A	FREEWAY RAMP	482	1	12	2	1350	30	8
270	142	141	SR 3A	MINOR ARTERIAL	911	2	12	2	1900	45	8
271	142	143	SR 3A	MINOR ARTERIAL	1119	1	12	2	1700	40	8
272	143	142	SR 3A	MINOR ARTERIAL	1119	1	12	2	1700	40	8
273	143	144	SR 3A	MINOR ARTERIAL	6648	1	12	2	1750	40	4
274	144	143	SR 3A	MINOR ARTERIAL	6638	1	12	2	1700	40	4
275	144	145	SR 3A	MINOR ARTERIAL	3950	1	12	2	1700	40	4
276	144	521	TOBEY GARDENS ST	COLLECTOR	5520	1	12	2	1700	40	4
277	145	146	SR 3A	MINOR ARTERIAL	4998	1	12	2	1750	40	4
278	146	147	SR 3A	MINOR ARTERIAL	3901	1	12	2	1750	40	4
279	146	499	SR 14	MINOR ARTERIAL	6103	1	12	2	1700	45	4
280	147	499	SR 139	MINOR ARTERIAL	5479	1	12	2	1700	40	4
281	147	677	SR 3A	MINOR ARTERIAL	2841	1	12	2	1700	40	4
282	148	149	SR 3A	MINOR ARTERIAL	1542	1	12	2	1750	35	4
283	149	150	SR 3A	MINOR ARTERIAL	537	2	12	2	1900	40	4
284	150	151	SR 3A	MINOR ARTERIAL	1656	2	12	2	1750	40	4
285	151	152	SR 3A	MINOR ARTERIAL	1216	1	12	2	1700	40	4
286	151	704	SR 139	MINOR ARTERIAL	266	2	12	2	1900	40	4
287	152	151	SR 3A	MINOR ARTERIAL	1216	1	12	2	1750	40	4
288	152	153	SR 3A	MINOR ARTERIAL	5061	1	12	2	1750	40	4
289	153	154	SR 3A	MINOR ARTERIAL	5192	1	12	2	1700	40	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
290	153	541	FURNACE ST	COLLECTOR	3321	1	12	2	1750	40	4
291	154	553	SR 3A	MINOR ARTERIAL	4179	1	12	2	1700	40	2
292	156	157	SR 106	MINOR ARTERIAL	1440	1	12	2	1700	50	6
293	157	158	SR 106	MINOR ARTERIAL	6932	1	12	2	1700	50	6
294	158	159	SR 106	MINOR ARTERIAL	3610	1	12	2	1750	50	6
295	159	160	SR 106	MINOR ARTERIAL	371	1	12	2	1750	40	6
296	159	487	SR 58	MINOR ARTERIAL	2261	1	12	2	1700	40	6
297	160	161	SR 106	MINOR ARTERIAL	364	1	12	2	1750	40	6
298	161	162	SR 106	MINOR ARTERIAL	3415	1	12	2	1700	40	6
299	162	564	SR 106	MINOR ARTERIAL	3087	1	12	2	1700	40	6
300	164	681	SR 53	MINOR ARTERIAL	3453	1	12	2	1700	50	4
301	165	166	SR 53	MINOR ARTERIAL	7708	1	12	2	1700	50	4
302	166	652	FRANKLIN ST	COLLECTOR	1931	1	12	2	1700	40	4
303	166	675	SR 53	MINOR ARTERIAL	5464	1	12	2	1700	55	4
304	167	168	SR 53	MINOR ARTERIAL	8836	1	12	2	1750	55	3
305	168	169	SR 53	MINOR ARTERIAL	1558	1	12	2	1750	40	3
306	169	170	SR 53	MINOR ARTERIAL	5443	1	12	2	1750	40	3
307	170	171	SR 53	MINOR ARTERIAL	2204	1	12	2	1700	40	3
308	172	473	US-6	MINOR ARTERIAL	802	3	12	10	1750	60	20
309	173	174	US-6	MINOR ARTERIAL	4399	2	12	2	1750	60	19
310	174	175	US-6	MINOR ARTERIAL	5150	2	12	2	1900	60	19
311	175	176	US-6	MINOR ARTERIAL	2290	2	12	2	1750	55	19
312	176	177	US-6	MINOR ARTERIAL	1177	2	12	2	1900	50	19
313	177	178	US-6 ROTARY	MINOR ARTERIAL	495	3	12	10	1900	35	19
314	178	179	US-6 ROTARY	MINOR ARTERIAL	548	3	12	10	1900	35	19

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
315	178	478	SR 25 ON-RAMP FROM US-6	FREEWAY RAMP	1477	1	12	2	1700	45	19
316	179	180	US-6	MINOR ARTERIAL	4074	2	12	0	1750	60	19
317	179	347	MAIN ST	MINOR ARTERIAL	280	2	12	2	1900	30	19
318	180	181	US-6	MINOR ARTERIAL	1649	2	12	2	1900	60	19
319	181	699	US-6 ROTARY	MINOR ARTERIAL	160	2	12	0	1900	30	19
320	182	706	US-6	MINOR ARTERIAL	2446	2	12	2	1900	50	19
321	183	184	US-6	MINOR ARTERIAL	2043	2	12	2	1900	50	19
322	184	185	US-6	MINOR ARTERIAL	3422	2	12	2	1750	50	19
323	185	186	US-6	MINOR ARTERIAL	1191	2	12	2	1750	50	19
324	186	187	US-6	MINOR ARTERIAL	836	2	12	2	1900	50	19
325	187	188	US-6	MINOR ARTERIAL	1249	2	12	2	1750	50	19
326	188	189	US-6	MINOR ARTERIAL	1013	2	12	2	1900	50	18
327	189	190	US-6	MINOR ARTERIAL	831	2	12	10	1750	60	18
328	189	382	US-6	MINOR ARTERIAL	313	2	12	2	1900	40	18
329	190	191	US-6	MINOR ARTERIAL	2258	1	12	10	1700	40	18
330	190	357	US-6	MINOR ARTERIAL	1681	1	12	2	1750	40	18
331	191	360	US-6	MINOR ARTERIAL	7241	1	12	10	1750	40	18
332	192	193	US-6	MINOR ARTERIAL	2430	1	12	10	1700	40	18
333	193	391	US-6	MINOR ARTERIAL	2256	1	12	2	1700	40	18
334	193	399	US-6	MINOR ARTERIAL	463	1	12	10	1750	40	18
335	194	395	US-6	MINOR ARTERIAL	235	2	12	10	1750	40	18
336	196	117	N PARK AVE	COLLECTOR	785	1	12	2	1750	30	10
337	197	198	SAMOSET ST	MINOR ARTERIAL	286	2	12	2	1900	40	10

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
338	198	26	SR 3 ON-RAMP FROM SAMOSET ST	FREEWAY RAMP	823	1	12	10	1350	30	10
339	198	27	SR 3 ON-RAMP FROM SAMOSET ST	FREEWAY RAMP	1048	1	12	2	1700	50	10
340	198	199	SAMOSET ST	MINOR ARTERIAL	791	2	12	2	1750	40	10
341	199	198	SAMOSET ST	MAJOR ARTERIAL	791	1	12	2	1700	40	10
342	199	200	SAMOSET ST	MINOR ARTERIAL	1522	2	12	2	1750	45	10
343	200	199	SAMOSET ST	MINOR ARTERIAL	1522	2	12	2	1750	45	10
344	200	242	PILGRIM HILL RD	COLLECTOR	1629	1	12	2	1750	40	10
345	200	665	SAMOSET ST	MINOR ARTERIAL	1773	2	12	2	1900	45	10
346	201	202	CARVER RD	MINOR ARTERIAL	1376	2	12	2	1750	45	10
347	201	244	SEVEN HILLS RD	COLLECTOR	3401	1	12	2	1750	35	10
348	202	251	PLYMPTON RD	COLLECTOR	2735	1	12	2	1750	50	10
349	202	616	CARVER RD	MINOR ARTERIAL	1271	2	12	2	1900	40	10
350	203	666	CARVER RD	COLLECTOR	3245	1	12	2	1700	45	9
351	204	205	CENTER ST	COLLECTOR	552	1	12	2	1700	40	14
352	204	230	CENTER ST	COLLECTOR	7806	1	12	2	1750	40	14
353	205	206	SILVIA ST	COLLECTOR	6532	1	12	2	1750	40	14
354	205	236	CENTER ST	COLLECTOR	5805	1	12	2	1700	50	14
355	206	207	PURCHASE ST	COLLECTOR	3596	1	12	2	1700	40	13
356	206	229	SR 58	MINOR ARTERIAL	6751	1	12	2	1750	45	13
357	206	230	SR 58	MINOR ARTERIAL	7851	1	12	2	1750	50	14
358	207	711	PURCHASE ST	COLLECTOR	6462	1	12	2	1700	40	13
359	208	216	PURCHASE ST	COLLECTOR	380	1	12	2	1700	40	13
360	209	210	PURCHASE ST	COLLECTOR	2240	1	12	2	1700	40	13

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
361	210	211	ROCKY GUTTER ST	COLLECTOR	473	1	12	2	1700	40	13
362	211	212	MILLER ST	COLLECTOR	512	1	12	2	1700	40	13
363	211	601	ROCKY GUTTER ST	COLLECTOR	796	1	12	2	1700	40	13
364	212	213	SR 28	MINOR ARTERIAL	2262	1	12	2	1700	40	13
365	212	601	SR 28	MINOR ARTERIAL	524	1	12	2	1700	40	13
366	213	212	SR 28	MINOR ARTERIAL	2262	1	12	2	1700	40	13
367	213	214	SR 28	MINOR ARTERIAL	1015	1	12	2	1700	40	13
368	213	220	I-495 ON-RAMP FROM SR 25	FREEWAY RAMP	1076	1	12	2	1350	30	13
369	214	213	SR 28	MINOR ARTERIAL	1015	1	12	10	1700	40	13
370	214	219	SR 28	MINOR ARTERIAL	7508	1	12	10	1700	40	13
371	214	221	I-495 ON-RAMP FROM SR 25	FREEWAY RAMP	1077	1	12	2	1350	30	13
372	215	204	WHENHAM RD	COLLECTOR	7339	1	12	2	1700	45	14
373	216	209	PURCHASE ST	COLLECTOR	6454	1	12	2	1700	40	13
374	217	199	DRIVEWAY	LOCAL ROADWAY	267	2	12	2	1750	25	10
375	218	197	SR 3 OFF-RAMP TO SAMOSET ST	FREEWAY RAMP	555	1	12	10	1750	45	10
376	219	214	SR 28	MINOR ARTERIAL	7508	1	12	10	1700	40	13
377	219	222	SPRUCE ST	COLLECTOR	1938	1	12	2	1700	40	13
378	220	80	I-495 ON-RAMP FROM SR 25	FREEWAY RAMP	791	1	12	2	1350	30	13
379	221	80	I-495 ON-RAMP FROM SR 25	FREEWAY RAMP	783	1	12	2	1350	30	13
380	222	223	SPRUCE ST	COLLECTOR	418	1	12	2	1700	40	13
381	224	219	SR 28	MINOR ARTERIAL	2276	1	12	2	1700	40	13

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
382	224	222	LOCUST ST	COLLECTOR	919	1	12	2	1700	40	13
383	225	224	SR 28	MINOR ARTERIAL	3543	1	12	2	1700	40	13
384	226	484	SR 58	MINOR ARTERIAL	1609	1	12	2	1700	50	6
385	226	588	PARSONAGE RD	COLLECTOR	4123	1	12	4	1700	40	6
386	226	649	SR 58	MINOR ARTERIAL	7430	1	12	2	1750	55	6
387	227	57	US-44 ON-RAMP FROM SR 58	FREEWAY RAMP	1166	1	12	2	1700	45	6
388	227	228	SR 58	MINOR ARTERIAL	1309	1	12	2	1750	40	6
389	227	649	SR 58	MINOR ARTERIAL	2178	1	12	2	1750	55	6
390	228	227	SR 58	MINOR ARTERIAL	1309	1	12	2	1750	40	6
391	228	255	SR 58	MINOR ARTERIAL	676	1	12	2	1700	40	6
392	229	206	SR 58	MINOR ARTERIAL	6756	1	12	2	1750	45	13
393	229	255	SR 58	MINOR ARTERIAL	777	1	12	2	1700	40	6
394	229	707	PLYMOUTH ST	COLLECTOR	5234	1	12	4	1575	35	6
395	230	206	SR 58	MINOR ARTERIAL	7846	1	12	2	1750	50	14
396	230	231	SR 58	MINOR ARTERIAL	3056	1	12	2	1750	40	14
397	231	230	SR 58	MINOR ARTERIAL	3056	1	12	2	1750	40	14
398	231	232	SR 58	MINOR ARTERIAL	7491	1	12	2	1700	50	14
399	232	231	SR 58	MINOR ARTERIAL	7491	1	12	2	1750	50	14
400	232	233	SR 58	MINOR ARTERIAL	8171	1	12	2	1700	55	14
401	233	232	SR 58	MINOR ARTERIAL	8170	1	12	2	1700	55	14
402	233	234	SR 58	MINOR ARTERIAL	2604	1	12	2	1750	55	14
403	233	420	INDIAN ST	COLLECTOR	5398	1	12	2	1575	35	14
404	234	233	SR 58	MINOR ARTERIAL	2607	1	12	2	1700	55	14
405	234	386	SR 58	MINOR ARTERIAL	7025	1	12	2	1700	50	14

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
406	235	229	PLYMOUTH ST	COLLECTOR	624	1	12	2	1750	40	6
407	236	235	PLYMOUTH ST	COLLECTOR	3633	1	12	2	1700	45	6
408	237	654	PLYMOUTH ST	COLLECTOR	5948	1	12	4	1575	35	13
409	237	707	PLYMOUTH ST	COLLECTOR	3114	1	12	2	1750	35	13
410	237	712	WALL ST	COLLECTOR	8331	1	12	4	1575	35	13
411	238	228	DRIVEWAY	LOCAL ROADWAY	426	2	12	2	1750	30	6
412	239	116	LEYDEN ST	COLLECTOR	616	1	12	2	1750	35	11
413	240	241	SUMMER ST	COLLECTOR	1978	1	12	2	1575	35	11
414	241	250	OAK ST	COLLECTOR	2111	1	12	2	1750	35	10
415	241	593	SUMMER ST	COLLECTOR	823	1	12	2	1575	35	10
416	242	200	PILGRIM HILL RD	COLLECTOR	1629	1	12	2	1750	40	10
417	242	243	SUMMER ST	COLLECTOR	2324	1	12	2	1700	40	10
418	243	201	CARVER RD	COLLECTOR	2643	1	12	2	1750	35	10
419	243	244	FEDERAL FURNACE RD	COLLECTOR	4170	1	12	2	1750	40	10
420	244	245	FEDERAL FURNACE RD	COLLECTOR	561	1	12	2	1750	40	10
421	245	424	S MEADOW RD	COLLECTOR	1207	1	12	2	1700	40	10
422	245	597	FEDERAL FURNACE RD	COLLECTOR	1162	1	12	2	1700	50	10
423	246	247	FEDERAL FURNACE RD	COLLECTOR	8817	1	12	2	1700	50	14
424	247	248	TREMONT ST	COLLECTOR	16681	1	12	2	1700	50	14
425	248	602	TREMONT ST	COLLECTOR	2750	1	12	2	1700	45	14
426	249	248	CRANBERRY RD	COLLECTOR	6120	1	12	2	1575	35	14
427	249	656	FEDERAL RD	COLLECTOR	7607	1	12	4	1700	40	14
428	250	683	SAMOSSET ST	COLLECTOR	353	1	12	2	1750	35	10
429	251	202	PLYMPTON RD	COLLECTOR	2735	1	12	2	1750	50	10
430	251	259	COMMERCE WAY	COLLECTOR	1140	1	12	2	1750	40	10

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
431	251	667	PLYMPTON RD	COLLECTOR	2672	1	12	2	1700	45	10
432	252	493	BISHOPS HWY	COLLECTOR	3410	1	12	2	1700	40	9
433	252	662	PARTING WAYS RD	COLLECTOR	6056	1	12	2	1575	35	9
434	253	254	HIGH ST	COLLECTOR	5118	1	12	2	1700	40	9
435	253	257	SPRING ST	COLLECTOR	2145	1	12	2	1700	40	9
436	254	255	HIGH ST	COLLECTOR	7644	1	12	2	1700	40	6
437	255	228	SR 58	MINOR ARTERIAL	675	1	12	2	1750	40	6
438	255	229	SR 58	MINOR ARTERIAL	777	1	12	2	1750	40	6
439	256	257	SPRING ST	COLLECTOR	3876	1	12	2	1700	40	9
440	256	258	BROOK ST	COLLECTOR	3191	1	12	2	1700	40	6
441	256	696	BROOK ST	COLLECTOR	1540	1	12	2	1700	40	6
442	257	55	US-44 ON-RAMP FROM SPRING ST	FREEWAY RAMP	991	1	12	2	1700	40	9
443	257	253	SPRING ST	COLLECTOR	2145	1	12	2	1750	40	9
444	257	256	SPRING ST	COLLECTOR	3876	1	12	2	1700	40	9
445	258	226	MAYFLOWER RD	COLLECTOR	6526	1	12	2	1750	50	6
446	258	256	BROOK ST	COLLECTOR	3185	1	12	2	1700	40	6
447	259	251	COMMERCE WAY	COLLECTOR	1140	1	12	2	1750	40	10
448	259	273	COMMERCE WAY	COLLECTOR	714	1	12	2	1700	40	10
449	260	261	COMMERCE WAY	COLLECTOR	1538	1	12	2	1750	40	10
450	260	273	COMMERCE WAY	MINOR ARTERIAL	397	2	12	2	1900	40	10
451	261	260	COMMERCE WAY	MINOR ARTERIAL	1538	2	12	2	1750	40	10
452	261	274	US-44 ON-RAMP FROM COMMERCE WAY	FREEWAY RAMP	507	2	12	2	1900	40	10
453	261	275	COMMERCE WAY	COLLECTOR	557	1	12	2	1700	40	10

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
454	262	263	COMMERCE WAY	COLLECTOR	1347	1	12	2	1750	40	10
455	262	275	COMMERCE WAY	COLLECTOR	1089	1	12	2	1700	40	10
456	262	276	US-44 ON-RAMP FROM COMMERCE WAY	FREEWAY RAMP	916	1	12	2	1700	40	10
457	263	262	COMMERCE WAY	COLLECTOR	1347	1	12	2	1750	40	10
458	263	264	ENTERPRISE WAY	COLLECTOR	1571	1	12	2	1700	40	10
459	264	263	ENTERPRISE WAY	COLLECTOR	1571	1	12	2	1750	40	10
460	264	265	INDEPENDENCE MALL WAY	COLLECTOR	2964	1	12	2	1750	40	8
461	265	264	INDEPENDENCE MALL WAY	COLLECTOR	2966	1	12	2	1700	40	8
462	265	266	INDEPENDENCE MALL WAY	COLLECTOR	350	2	12	2	1750	40	8
463	266	265	INDEPENDENCE MALL WAY	COLLECTOR	350	2	12	2	1750	40	8
464	266	287	SMITH LN	COLLECTOR	438	2	12	2	1900	40	8
465	267	288	SR 3 ON-RAMP FROM SMITH LN	FREEWAY RAMP	466	2	12	2	1900	45	8
466	267	637	SMITH LN	COLLECTOR	219	1	12	2	1700	40	8
467	268	267	SMITH LN	COLLECTOR	2896	1	12	2	1750	35	8
468	269	259	INDUSTRIAL PARK RD	COLLECTOR	1545	1	12	2	1750	35	10
469	269	260	CHRISTA MCAULIFFE BLVD	COLLECTOR	665	1	12	2	1750	35	10
470	270	260	COLONY PLACE RD	COLLECTOR	914	2	12	2	1750	40	10
471	271	270	COLONY VILLAGE DR	COLLECTOR	982	2	12	2	1750	40	10
472	272	270	COLONY PLACE RD	COLLECTOR	2137	2	12	2	1750	40	10
473	273	259	COMMERCE WAY	COLLECTOR	714	1	12	2	1750	40	10

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
474	273	260	COMMERCE WAY	COLLECTOR	397	2	12	2	1750	40	10
475	274	50	US-44 ON-RAMP FROM COMMERCE WAY	FREEWAY RAMP	857	1	12	2	1700	40	10
476	274	261	US-44 OFF-RAMP TO COMMERCE WAY	FREEWAY RAMP	507	1	12	2	1750	45	10
477	275	261	COMMERCE WAY	COLLECTOR	557	2	12	2	1750	40	10
478	275	262	COMMERCE WAY	COLLECTOR	1089	1	12	2	1750	40	10
479	276	51	US-44 ON-RAMP FROM COMMERCE WAY	FREEWAY RAMP	1352	1	12	2	1700	40	10
480	276	262	US-44 OFF-RAMP TO COMMERCE WAY	FREEWAY RAMP	916	1	12	2	1750	40	10
481	277	119	PRINCE ST	COLLECTOR	1192	1	12	2	1750	35	8
482	278	263	CHERRY ST	COLLECTOR	2406	1	12	2	1750	40	10
483	279	269	INDUSTRIAL PARK RD	COLLECTOR	3506	1	12	4	1700	40	10
484	279	278	INDUSTRIAL PARK RD	COLLECTOR	2590	1	12	2	1700	40	10
485	280	119	CHERRY ST	COLLECTOR	602	1	12	2	1750	40	8
486	280	278	CHERRY ST	COLLECTOR	4610	1	12	2	1700	40	8
487	281	280	STANDISH AVE	COLLECTOR	3582	1	12	2	1750	35	8
488	281	683	STANDISH AVE	COLLECTOR	3179	1	12	2	1750	35	10
489	282	120	CORDAGE PARK CIR	COLLECTOR	458	1	12	2	1750	30	8
490	283	265	WILLIAM GOULD WAY	COLLECTOR	724	1	12	2	1750	40	8
491	284	266	INDEPENDENCE MALL WAY	MINOR ARTERIAL	276	2	12	2	1750	35	8
492	285	284	CRANBERRY RD	MINOR ARTERIAL	519	2	12	2	1750	35	8
493	286	284	INDEPENDENCE MALL WAY	COLLECTOR	753	1	12	2	1750	35	8

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
494	287	266	SMITH LN	COLLECTOR	438	1	12	2	1750	40	8
495	287	637	SMITH LN	COLLECTOR	755	1	12	2	1700	40	8
496	288	33	SR 3 ON-RAMP FROM SMITH LN	FREEWAY RAMP	956	1	12	2	1700	45	8
497	288	267	SR 3 ON-RAMP FROM SMITH LN	FREEWAY RAMP	466	1	12	2	1750	45	8
498	289	125	HILLTOP AVE	COLLECTOR	586	1	12	2	1750	40	8
499	290	291	CLARK RD	COLLECTOR	1204	1	12	2	1700	40	15
500	291	17	SR 3 ON-RAMP FROM CLARK RD	FREEWAY RAMP	1198	1	12	2	1350	30	15
501	291	292	CLARK RD	COLLECTOR	1072	1	12	2	1700	40	15
502	292	291	CLARK RD	COLLECTOR	1072	1	12	2	1700	40	15
503	292	680	LONG POND RD	COLLECTOR	5488	1	12	0	1700	40	15
504	292	698	LONG POND RD	COLLECTOR	6044	1	12	0	1700	40	15
505	293	290	CLARK RD	COLLECTOR	3449	1	12	2	1700	40	15
506	294	295	CLIFFORD RD	COLLECTOR	2228	1	12	2	1750	35	11
507	295	302	JORDAN RD	COLLECTOR	3631	1	12	2	1575	35	11
508	295	311	SANDWICH RD	COLLECTOR	3247	1	12	2	1700	40	11
509	296	298	PLYMOUTH PLANTATION HIGHWAY	MINOR ARTERIAL	2247	1	12	2	1700	60	11
510	297	111	CLIFFORD RD	COLLECTOR	975	1	12	2	1575	35	11
511	297	294	CLIFFORD RD	COLLECTOR	3411	1	12	2	1575	35	11
512	297	307	RIVER ST	COLLECTOR	1643	1	12	2	1700	40	11
513	298	299	PLYMOUTH PLANTATION HIGHWAY	MINOR ARTERIAL	2255	1	12	2	1700	60	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
514	299	301	PLYMOUTH PLANTATION HIGHWAY	MINOR ARTERIAL	860	1	12	2	1700	60	11
515	300	21	PLYMOUTH PLANTATION HIGHWAY	FREEWAY RAMP	1162	1	12	2	1700	55	11
516	301	300	PLYMOUTH PLANTATION HIGHWAY	MINOR ARTERIAL	2437	2	12	2	1900	60	11
517	302	695	JORDAN RD	COLLECTOR	2550	1	12	2	1575	35	15
518	303	322	LONG POND RD	COLLECTOR	4931	1	12	0	1700	40	15
519	303	328	LONG POND RD	COLLECTOR	4913	1	12	2	1750	40	15
520	304	297	RIVER ST	COLLECTOR	460	1	12	2	1575	35	11
521	305	306	PLYMOUTH PLANTATION ACCESS	COLLECTOR	414	1	12	2	1575	35	11
522	305	308	RIVER ST	COLLECTOR	1341	1	12	2	1700	40	11
523	306	298	PLYMOUTH PLANTATION HIGHWAY ON-RAMP FROM PLYMOUTH PLANTATION ACCESS	FREEWAY RAMP	437	1	12	2	1350	30	11
524	306	305	PLYMOUTH PLANTATION ACCESS	COLLECTOR	414	1	12	2	1575	35	11
525	307	305	RIVER ST	COLLECTOR	706	1	12	2	1700	40	11
526	308	310	SANDWICH RD	COLLECTOR	893	1	12	2	1575	35	11
527	308	312	SANDWICH ST	COLLECTOR	5566	1	12	2	1700	40	11
528	309	112	PLYMOUTH PLANTATION ACCESS	COLLECTOR	1381	1	12	2	1575	35	11
529	309	306	PLYMOUTH PLANTATION ACCESS	COLLECTOR	1140	1	12	2	1575	35	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
530	310	299	PLYMOUTH PLANTATION HIGHWAY ON-RAMP FROM SANDWICH RD	FREEWAY RAMP	841	1	12	2	1700	40	11
531	310	308	SANDWICH RD	COLLECTOR	900	1	12	2	1575	35	11
532	310	311	SANDWICH RD	COLLECTOR	3041	1	12	2	1700	40	11
533	311	295	SANDWICH RD	COLLECTOR	3243	1	12	2	1750	40	11
534	311	310	SANDWICH RD	COLLECTOR	3031	1	12	2	1700	40	11
535	312	113	SANDWICH RD	COLLECTOR	630	1	12	2	1750	40	11
536	312	313	OBERRY ST	COLLECTOR	4028	1	12	2	1750	40	11
537	313	315	SOUTH ST	COLLECTOR	472	1	12	2	1750	40	11
538	314	114	SOUTH ST	COLLECTOR	2786	1	12	2	1700	40	11
539	314	313	SOUTH ST	COLLECTOR	3087	1	12	2	1750	40	11
540	315	320	SR 3 ON-RAMP FROM SOUTH ST	FREEWAY RAMP	326	1	12	2	1350	30	11
541	315	321	LONG POND RD	COLLECTOR	524	1	12	2	1700	40	11
542	316	317	LONG POND RD	COLLECTOR	788	1	12	2	1750	40	11
543	316	321	LONG POND RD	COLLECTOR	218	1	12	2	1700	40	11
544	317	316	LONG POND RD	MINOR ARTERIAL	788	2	12	2	1750	40	11
545	317	318	LONG POND RD	COLLECTOR	1142	1	12	2	1750	40	11
546	318	317	LONG POND RD	MINOR ARTERIAL	1138	2	12	2	1750	40	11
547	318	326	LONG POND RD	COLLECTOR	1090	1	12	2	1700	40	11
548	319	326	LONG POND RD	MINOR ARTERIAL	666	2	12	2	1900	40	11
549	319	327	LONG POND RD	MINOR ARTERIAL	457	2	12	2	1900	40	11
550	320	22	SR 3 ON-RAMP FROM SOUTH ST	FREEWAY RAMP	377	1	12	2	1350	30	11

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
551	320	315	SR 3 OFF-RAMP TO SOUTH ST	FREEWAY RAMP	326	1	12	2	1750	45	11
552	321	315	LONG POND RD	COLLECTOR	524	1	12	2	1750	40	11
553	321	316	LONG POND RD	MINOR ARTERIAL	218	2	12	2	1750	40	11
554	322	303	LONG POND RD	COLLECTOR	4924	1	12	0	1750	40	15
555	322	327	LONG POND RD	COLLECTOR	4841	1	12	0	1700	45	15
556	323	322	BOOT POND RD	COLLECTOR	5107	1	12	2	1700	40	15
557	324	317	HOME DEPOT RD	COLLECTOR	1037	1	12	2	1750	40	11
558	325	318	DRIVEWAY	COLLECTOR	2545	1	12	2	1750	40	11
559	325	319	CAMELOT DR	COLLECTOR	1427	1	12	2	1750	40	11
560	326	318	LONG POND RD	MINOR ARTERIAL	1082	2	12	2	1750	40	11
561	326	319	LONG POND RD	MINOR ARTERIAL	651	2	12	2	1750	40	11
562	327	319	LONG POND RD	MINOR ARTERIAL	504	2	12	2	1750	40	11
563	327	322	LONG POND RD	COLLECTOR	4832	1	12	0	1700	45	15
564	328	678	ALDEN RD	COLLECTOR	5804	1	12	4	1700	40	15
565	328	680	LONG POND RD	COLLECTOR	4598	1	12	0	1700	40	15
566	329	330	LONG POND RD	COLLECTOR	7497	1	12	2	1700	40	15
567	329	336	HALFWAY POND RD	COLLECTOR	3448	1	12	2	1700	40	15
568	330	331	LONG POND RD	COLLECTOR	5550	1	12	2	1700	40	15
569	331	332	LONG POND RD	COLLECTOR	4374	1	12	2	1700	40	19
570	332	333	HERRING POND RD	COLLECTOR	9225	1	12	2	1700	40	20
571	332	460	HERRING POND RD	COLLECTOR	316	1	12	2	1700	40	20
572	333	334	HERRING POND RD	COLLECTOR	3872	1	12	2	1700	40	19
573	334	335	BOURNEDALE RD	COLLECTOR	488	1	12	2	1700	40	19
574	334	346	BOURNEDALE RD	COLLECTOR	4759	1	12	2	1700	40	19

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
575	335	173	US-6 ON-RAMP ACCESS FROM BOURNE DALE RD	FREEWAY RAMP	470	1	12	2	1750	40	19
576	336	337	BOURNE RD	COLLECTOR	7108	1	12	2	1700	40	15
577	336	344	HALFWAY POND RD	COLLECTOR	4897	1	12	4	1700	40	15
578	337	338	BOURNE RD	COLLECTOR	4031	1	12	2	1700	40	15
579	338	339	BOURNE RD	COLLECTOR	4456	1	12	2	1700	40	19
580	339	340	BOURNE RD	COLLECTOR	9188	1	12	2	1700	40	19
581	340	664	PLYMOUTH LN	COLLECTOR	4026	1	12	2	1700	40	19
582	341	342	HEAD OF THE BAY RD	COLLECTOR	3830	1	12	2	1700	40	19
583	341	345	HEAD OF THE BAY RD	COLLECTOR	1484	1	12	2	1700	40	19
584	342	343	HEAD OF THE BAY RD	COLLECTOR	5846	1	12	2	1700	40	19
585	343	183	RED BROOK RD	COLLECTOR	2137	1	12	2	1700	40	19
586	343	706	COHASSET RD	COLLECTOR	2309	1	12	4	1575	35	19
587	344	336	HALFWAY POND RD	COLLECTOR	4897	1	12	2	1700	40	15
588	344	713	WAREHAM RD	COLLECTOR	3004	1	12	2	1575	35	15
589	345	341	HEAD OF THE BAY RD	COLLECTOR	1480	1	12	2	1750	40	19
590	345	705	HEAD OF THE BAY RD	COLLECTOR	3341	1	12	2	1700	40	19
591	346	345	BOURNEDALE RD	COLLECTOR	6191	1	12	2	1700	40	19
592	347	348	MAIN ST	COLLECTOR	3804	1	12	2	1700	40	19
593	348	180	ST MARGARETS ST	COLLECTOR	850	1	12	2	1750	35	19
594	348	701	MAIN ST	COLLECTOR	1596	1	12	2	1750	40	19
595	349	181	MAIN ST ROTARY TO US-6	MINOR ARTERIAL	249	2	12	2	1900	30	19
596	350	180	COUNTY ST	COLLECTOR	1133	1	12	2	1750	35	19
597	350	700	PURITAN RD	COLLECTOR	1259	1	12	4	1575	35	19
598	351	182	ONSET AVE	COLLECTOR	1434	1	12	2	1750	40	19

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
599	351	352	ONSET AVE	COLLECTOR	5343	1	12	2	1700	40	19
600	352	351	ONSET AVE	COLLECTOR	5343	1	12	2	1700	40	19
601	352	353	ONSET AVE	COLLECTOR	2906	1	12	2	1700	40	19
602	353	354	UNION AVE	COLLECTOR	2255	1	12	2	1700	40	19
603	353	355	ONSET AVE	COLLECTOR	1926	1	12	2	1700	40	19
604	354	184	MAIN AVE	COLLECTOR	3520	1	12	2	1700	40	19
605	355	356	ONSET AVE	COLLECTOR	5319	1	12	2	1700	40	19
606	356	357	DEPOT ST	COLLECTOR	1574	1	12	2	1750	40	18
607	357	188	DEPOT ST	COLLECTOR	467	1	12	2	1750	40	18
608	358	359	GLEN CHARLIE RD	COLLECTOR	7737	1	12	2	1575	35	19
609	359	188	GLEN CHARLIE RD	COLLECTOR	3493	1	12	2	1750	40	19
610	360	192	US-6	MINOR ARTERIAL	294	1	12	10	1700	40	18
611	361	360	NARROWS RD	COLLECTOR	2388	1	12	2	1750	40	18
612	362	356	DEPOT ST	COLLECTOR	2892	1	12	2	1700	40	18
613	363	364	US 6	MINOR ARTERIAL	348	2	12	2	1750	40	18
614	363	380	MAPLE SPRINGS RD	MINOR ARTERIAL	804	2	12	2	1900	40	18
615	364	190	MAPLE SPRINGS RD	COLLECTOR	719	1	12	2	1750	40	18
616	364	365	SR 28	MINOR ARTERIAL	379	1	12	2	1700	40	18
617	365	366	SR 28	MINOR ARTERIAL	3613	1	12	2	1700	40	18
618	366	406	SR 28	MINOR ARTERIAL	6241	1	12	2	1700	40	18
619	367	391	MAIN ST	COLLECTOR	1104	1	12	2	1700	40	18
620	367	402	SR 28	MINOR ARTERIAL	1184	1	12	2	1700	40	18
621	368	408	SR 28	MINOR ARTERIAL	1823	1	12	2	1700	40	18
622	369	87	I-195 ON-RAMP FROM SR 28	FREEWAY RAMP	1218	1	12	2	1700	45	18

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
623	369	370	SR 28	MINOR ARTERIAL	720	2	12	2	1750	40	18
624	370	88	I-195 ON-RAMP FROM SR 28	FREEWAY RAMP	1024	1	12	2	1700	45	18
625	370	371	SR 28	MINOR ARTERIAL	1166	2	12	2	1750	40	18
626	371	370	SR 28	MINOR ARTERIAL	1166	1	12	2	1750	40	18
627	371	372	SR 28	MINOR ARTERIAL	979	1	12	2	1750	40	18
628	372	371	SR 28	MINOR ARTERIAL	979	1	12	2	1750	40	18
629	372	373	SR 28	MINOR ARTERIAL	2836	1	12	2	1700	45	18
630	372	409	TOBEY RD	COLLECTOR	3439	1	12	2	1700	40	18
631	373	372	SR 28	MINOR ARTERIAL	2834	1	12	2	1750	45	18
632	373	374	SR 28	MINOR ARTERIAL	6015	1	12	2	1700	45	18
633	374	373	SR 28	MINOR ARTERIAL	6017	1	12	2	1700	45	18
634	374	375	SR 28	MINOR ARTERIAL	2616	1	12	2	1750	45	18
635	375	374	SR 28	MINOR ARTERIAL	2616	1	12	2	1700	45	18
636	375	376	SR 28	MINOR ARTERIAL	6609	1	12	2	1700	40	17
637	375	385	SR 58	MINOR ARTERIAL	1490	1	12	2	1700	40	18
638	375	387	COUNTY RD	COLLECTOR	7758	1	12	2	1700	40	18
639	376	377	SR 28	MINOR ARTERIAL	2754	1	12	2	1700	40	17
640	377	225	SR 28	MINOR ARTERIAL	5202	1	12	2	1700	40	17
641	378	379	MAPLE SPRINGS RD	COLLECTOR	1858	1	12	2	1575	35	18
642	379	73	SR 28 ON-RAMP FROM MAPLE SPRINGS RD	FREEWAY RAMP	889	1	12	2	1350	30	18
643	379	381	MAPLE SPRINGS RD	COLLECTOR	956	1	12	2	1700	40	18
644	380	364	MAPLE SPRINGS RD	MINOR ARTERIAL	526	2	12	2	1750	40	18
645	380	365	MAPLE SPRINGS RD	COLLECTOR	410	1	12	2	1700	40	18

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
646	380	381	MAPLE SPRINGS RD	MINOR ARTERIAL	320	2	12	2	1900	40	18
647	381	379	MAPLE SPRINGS RD	COLLECTOR	910	1	12	2	1700	40	18
648	381	380	MAPLE SPRINGS RD	COLLECTOR	274	1	12	2	1700	40	18
649	382	363	US-6	MAJOR ARTERIAL	660	3	12	2	1900	40	18
650	383	384	SR 58	MINOR ARTERIAL	399	1	12	2	1700	40	18
651	384	385	SR 58	MINOR ARTERIAL	1411	1	12	2	1700	40	18
652	384	417	I-495 ON-RAMP FROM SR 58	FREEWAY RAMP	635	1	12	2	1575	35	18
653	385	375	SR 58	MINOR ARTERIAL	1490	1	12	2	1750	40	18
654	385	384	SR 58	MINOR ARTERIAL	1411	1	12	2	1700	40	18
655	386	383	SR 58	MINOR ARTERIAL	4711	1	12	2	1700	50	18
656	387	388	COUNTY RD	COLLECTOR	5055	1	12	2	1700	40	18
657	388	389	COUNTY RD	COLLECTOR	2557	1	12	2	1700	40	18
658	388	390	FEARING HILL RD	COLLECTOR	3247	1	12	2	1700	40	18
659	391	392	MAIN ST	COLLECTOR	339	1	12	2	1700	40	18
660	392	194	GIBBS AVE	COLLECTOR	2707	1	12	2	1575	35	18
661	392	393	MAIN ST	COLLECTOR	1433	1	12	2	1700	40	18
662	393	368	TREMONT RD	COLLECTOR	510	1	12	2	1750	40	18
663	393	394	MAIN ST	COLLECTOR	2221	1	12	2	1700	40	18
664	394	409	FEARING HILL RD	COLLECTOR	2740	1	12	2	1700	40	18
665	395	195	US-6	MINOR ARTERIAL	1205	2	12	10	1900	40	18
666	396	395	DRIVEWAY	COLLECTOR	317	1	12	2	1750	40	18
667	397	394	HATHAWAY ST	COLLECTOR	2499	1	12	2	1700	40	18
668	398	388	FEARING HILL RD	COLLECTOR	4330	1	12	2	1700	40	18
669	399	194	US-6	MINOR ARTERIAL	1867	1	12	10	1700	40	18

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
670	400	399	HIGH ST	COLLECTOR	554	1	12	2	1750	40	18
671	401	399	HIGH ST	COLLECTOR	3303	1	12	2	1750	40	18
672	402	368	SR 28	MINOR ARTERIAL	1744	1	12	2	1750	40	18
673	402	391	TIHORNET RD	LOCAL ROADWAY	540	1	12	4	1350	30	18
674	403	404	FARM TO MARKET RD	COLLECTOR	4050	1	12	2	1700	40	18
675	404	402	TIHONET RD	COLLECTOR	3652	1	12	2	1700	40	18
676	405	406	CHARGE POND RD	COLLECTOR	5949	1	12	2	1700	40	18
677	406	367	SR 28	MINOR ARTERIAL	1379	1	12	2	1700	40	18
678	407	373	CHARLOTTE FURNACE RD	COLLECTOR	6877	1	12	2	1700	45	18
679	408	369	SR 28	MINOR ARTERIAL	862	2	12	2	1750	40	18
680	409	412	FEARING HILL RD	COLLECTOR	634	1	12	2	1700	40	18
681	410	372	TOW RD	COLLECTOR	790	1	12	2	1750	40	18
682	411	371	KENDRICK RD	COLLECTOR	2363	1	12	2	1750	40	18
683	412	398	FEARING HILL RD	COLLECTOR	3321	1	12	2	1700	40	18
684	413	412	MAIN ST	COLLECTOR	2209	1	12	2	1700	40	18
685	414	60	SR 105	MINOR ARTERIAL	1023	1	12	2	1700	40	13
686	415	414	SR 105	MINOR ARTERIAL	2954	1	12	2	1700	40	13
687	415	651	SR 105	MINOR ARTERIAL	6318	1	12	4	1700	40	6
688	416	59	SR 105	MINOR ARTERIAL	1476	1	12	2	1750	50	13
689	416	708	E MAIN ST	COLLECTOR	167	1	12	4	1700	40	13
690	417	77	I-495 ON-RAMP FROM SR 58	FREEWAY RAMP	656	1	12	2	1575	35	18
691	418	419	EAST ST	COLLECTOR	2892	1	12	2	1700	40	14
692	418	421	PINE ST	COLLECTOR	5237	1	12	2	1700	40	14
693	419	383	BEACH ST	COLLECTOR	5302	1	12	2	1700	40	18

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
694	420	418	ROCHERSTER RD	COLLECTOR	1205	1	12	2	1700	40	14
695	421	225	PINE ST	COLLECTOR	6869	1	12	2	1700	40	13
696	422	663	S MEADOW RD	COLLECTOR	7296	1	12	2	1700	40	14
697	423	231	S MEADOW RD	COLLECTOR	6650	1	12	2	1750	40	14
698	424	245	S MEADOW RD	COLLECTOR	1199	1	12	2	1750	40	10
699	424	422	S MEADOW RD	COLLECTOR	4356	1	12	2	1700	40	10
700	425	1	US-6	FREEWAY	3520	2	12	10	2250	70	20
701	426	427	SR 6A	MINOR ARTERIAL	5307	1	12	2	1700	40	20
702	426	720	SR 6A	MINOR ARTERIAL	3873	1	12	2	1700	40	20
703	427	426	SR 6A	MINOR ARTERIAL	5329	1	12	2	1700	40	20
704	427	428	SR 6A	MINOR ARTERIAL	2020	1	12	2	1750	40	20
705	427	440	MAIN ST	COLLECTOR	998	1	12	2	1575	35	20
706	428	427	SR 6A	MINOR ARTERIAL	2020	1	12	2	1700	40	20
707	428	429	SR 6A	MINOR ARTERIAL	2299	1	12	2	1750	40	20
708	429	428	SR 6A	MINOR ARTERIAL	2300	1	12	2	1750	40	20
709	429	430	SR 6A	MINOR ARTERIAL	2389	1	12	2	1750	40	20
710	429	441	TUPPER RD	COLLECTOR	2169	1	12	2	1700	40	20
711	430	429	SR 6A	MINOR ARTERIAL	2388	1	12	2	1750	40	20
712	430	431	SR 6A	MINOR ARTERIAL	4084	1	12	2	1700	40	20
713	431	430	SR 6A	MINOR ARTERIAL	4092	1	12	2	1750	40	20
714	431	432	SR 6A	MINOR ARTERIAL	2212	1	12	2	1700	40	20
715	432	431	SR 6A	MINOR ARTERIAL	2209	1	12	2	1700	40	20
716	432	433	SANDWICH RD	COLLECTOR	1523	1	12	2	1750	40	20
717	432	447	SR 6A	MINOR ARTERIAL	1465	2	12	2	1900	40	20
718	433	434	SANDWICH RD	COLLECTOR	1726	1	12	2	1700	40	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
719	434	435	SANDWICH RD	COLLECTOR	2143	1	12	2	1750	40	20
720	435	449	SANDWICH RD	COLLECTOR	4104	1	12	2	1700	55	20
721	435	450	Mid Cape Connector	COLLECTOR	1041	2	12	2	1750	40	20
722	436	437	SANDWICH RD	COLLECTOR	5051	1	12	2	1700	60	19
723	437	82	N303	COLLECTOR	2165	1	12	2	1700	50	19
724	438	439	SR 130	MINOR ARTERIAL	5456	1	12	2	1700	40	20
725	438	440	BEALE AVE	COLLECTOR	1549	1	12	2	1575	35	20
726	438	441	SR 130	MINOR ARTERIAL	2348	1	12	2	1700	40	20
727	439	3	US-6 ON-RAMP FROM SR 130	FREEWAY RAMP	577	1	12	2	1700	30	20
728	439	438	SR 130	MINOR ARTERIAL	5445	1	12	2	1700	40	20
729	440	427	MAIN ST	COLLECTOR	842	1	12	2	1575	35	20
730	440	438	BEALE AVE	COLLECTOR	1393	1	12	2	1575	35	20
731	441	429	TUPPER RD	COLLECTOR	2170	1	12	2	1750	40	20
732	441	438	SR 130	MINOR ARTERIAL	2346	1	12	2	1700	40	20
733	441	442	SR 130	MINOR ARTERIAL	2336	1	12	2	1700	40	20
734	442	431	SR 130	MINOR ARTERIAL	4836	1	12	2	1700	40	20
735	443	428	JARVES ST	COLLECTOR	922	1	12	2	1750	40	20
736	444	428	JARVES ST	COLLECTOR	921	1	12	2	1750	40	20
737	445	429	TUPPER RD	COLLECTOR	1003	1	12	2	1750	40	20
738	446	430	MERCHANTS RD	COLLECTOR	778	1	12	2	1750	40	20
739	447	432	SR 6A	MINOR ARTERIAL	1465	1	12	2	1900	40	20
740	447	433	BEN ABBEY RD	COLLECTOR	783	1	12	2	1750	30	20
741	447	448	SR 6A	MINOR ARTERIAL	2132	1	12	2	1700	40	20
742	448	434	ADAMS ST	COLLECTOR	1092	1	12	2	1350	30	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
743	448	447	SR 6A	MINOR ARTERIAL	2134	2	12	2	1900	40	20
744	449	436	SANDWICH RD	COLLECTOR	4633	1	12	2	1700	60	19
745	450	435	MID CAPE CONNECTOR	COLLECTOR	1041	1	12	2	1750	40	20
746	450	719	Mid Cape Connector	COLLECTOR	460	2	12	2	1900	40	20
747	451	83	TOWBRIDGE RD	COLLECTOR	255	1	12	2	1700	40	19
748	452	451	FREEMAN ST	COLLECTOR	690	1	12	2	1700	40	19
749	453	451	TOWBRIDGE RD	COLLECTOR	2777	1	12	2	1700	40	19
750	454	453	TOWBRIDGE RD	COLLECTOR	305	1	12	2	1700	40	19
751	455	454	SHORE RD	COLLECTOR	1119	1	12	2	1700	40	19
752	456	455	SHORE RD	COLLECTOR	2101	1	12	2	1700	40	19
753	457	456	SHORE RD	COLLECTOR	2573	1	12	2	1700	40	19
754	458	453	WATERHOUSE RD	COLLECTOR	2083	1	12	2	1700	40	19
755	459	454	COUNTRY RD	COLLECTOR	1835	1	12	2	1700	40	19
756	460	10	SR 3 ON-RAMP FROM HERRING POND RD	FREEWAY RAMP	1007	1	12	2	1700	40	20
757	460	332	HERRING POND RD	COLLECTOR	316	1	12	2	1700	40	20
758	461	109	HEDGES POND RD	COLLECTOR	5152	1	12	2	1700	40	16
759	461	330	HEDGES POND RD	COLLECTOR	3477	1	12	2	1700	40	15
760	462	464	STATE RD	COLLECTOR	4569	1	12	2	1700	50	20
761	462	466	OLD PLYMOUTH RD	COLLECTOR	4137	1	12	2	1700	40	20
762	463	469	MEETINGHOUSE LN	COLLECTOR	493	1	12	2	1700	40	20
763	464	463	STATE RD	COLLECTOR	3328	1	12	2	1750	50	20
764	465	463	MEETINGHOUSE LN	COLLECTOR	1759	1	12	2	1750	40	20
765	466	465	OLD PLYMOUTH RD	COLLECTOR	5465	1	12	2	1700	40	20
766	467	465	SCUSSET BEACH RD	COLLECTOR	3695	1	12	2	1700	40	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
767	468	469	SR 3 OFF-RAMP TO US-6	FREEWAY RAMP	424	1	12	2	1350	30	20
768	469	471	US-6	MINOR ARTERIAL	429	2	12	2	1750	40	20
769	470	172	SR 3 OFF-RAMP TO US-6	FREEWAY RAMP	182	1	12	2	1700	40	20
770	470	471	SR 3 OFF-RAMP TO US-6	FREEWAY RAMP	138	1	12	2	1750	40	20
771	471	172	US-6	MINOR ARTERIAL	78	2	12	2	1900	40	20
772	472	173	US-6	MINOR ARTERIAL	2694	2	12	2	1750	60	20
773	473	472	US-6	MINOR ARTERIAL	2005	2	12	10	1900	60	20
774	474	473	CHURCH LN	COLLECTOR	453	1	12	2	1750	35	20
775	475	463	CANAL RD	COLLECTOR	519	1	12	2	1750	40	20
776	476	176	NIGHTINGALE POND RD	COLLECTOR	731	1	12	2	1750	40	19
777	477	176	ANDY OLIVIA	COLLECTOR	1093	1	12	2	1750	40	19
778	478	178	SR 25 OFF-RAMP TO US-6	FREEWAY RAMP	1480	1	12	2	1700	40	19
779	478	479	SR 25 ON-RAMP FROM US-6	FREEWAY RAMP	1307	1	12	2	1700	45	19
780	479	67	SR 25 ON-RAMP FROM US-6	FREEWAY RAMP	1251	1	12	2	1700	45	19
781	479	478	SR 25 OFF-RAMP TO US-6	FREEWAY RAMP	1308	1	12	2	1700	40	19
782	480	358	GLEN CHARLIE RD	COLLECTOR	2611	1	12	2	1575	35	19
783	481	480	PLYMOUTH AVE	COLLECTOR	6842	1	12	2	1700	40	19
784	482	481	WAREHAM RD	COLLECTOR	4617	1	12	2	1700	40	19
785	483	157	MAIN ST	COLLECTOR	5545	1	12	2	1700	40	6
786	483	484	MAIN ST	COLLECTOR	6452	1	12	2	1700	40	6
787	484	589	SR 58	MINOR ARTERIAL	3614	1	12	2	1700	45	6
788	485	137	SR 27	MINOR ARTERIAL	2266	1	12	2	1700	50	3
789	485	489	SR 58	MINOR ARTERIAL	2375	1	12	2	1700	40	3

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
790	486	159	SR 58	MINOR ARTERIAL	9376	1	12	2	1750	50	6
791	487	159	SR 58	MINOR ARTERIAL	2267	1	12	2	1750	40	6
792	487	488	SR 58	MINOR ARTERIAL	4879	1	12	2	1700	50	6
793	488	485	SR 58	MINOR ARTERIAL	10810	1	12	2	1750	50	3
794	490	491	ELM ST	COLLECTOR	6085	1	12	2	1700	50	7
795	490	653	ELM ST	COLLECTOR	971	1	12	2	1750	35	7
796	491	492	ELM ST	COLLECTOR	3474	1	12	2	1750	50	7
797	492	494	ELM ST	COLLECTOR	2240	1	12	2	1700	50	7
798	493	252	BISHOPS HWY	COLLECTOR	3427	1	12	2	1750	40	9
799	493	633	BISHOPS HWY	COLLECTOR	6588	1	12	2	1700	50	9
800	494	258	BROOK ST	COLLECTOR	8374	1	12	2	1700	50	9
801	495	670	LORING RD	COLLECTOR	2352	1	12	2	1700	40	8
802	496	143	PARKS ST	COLLECTOR	3027	1	12	2	1700	40	8
803	496	518	BAY RD	COLLECTOR	11075	1	12	2	1750	45	8
804	497	146	ST GEORGES ST	COLLECTOR	5422	1	12	2	1750	40	4
805	498	497	POWDER POINT AVE	COLLECTOR	5578	1	12	2	1700	40	5
806	499	500	SR 14	MINOR ARTERIAL	3248	1	12	2	1700	45	4
807	500	502	SR 14 ROUNDABOUT TO UNION ST	MINOR ARTERIAL	121	1	12	2	900	20	4
808	501	504	SR 14	MINOR ARTERIAL	162	1	12	2	1700	40	4
809	502	501	UNION ST ROUNDABOUT TO SR 14	MINOR ARTERIAL	115	1	12	2	900	20	4
810	503	500	LINCOLN ST ROUNDABOUT TO SR 14	MINOR ARTERIAL	121	1	12	2	900	20	4
811	504	42	SR 3 ON-RAMP FROM SR 14	FREEWAY RAMP	1034	1	12	2	1700	40	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
812	504	505	SR 14	MINOR ARTERIAL	1337	1	12	6	1700	50	4
813	505	504	SR 14	MINOR ARTERIAL	1337	1	12	6	1700	50	4
814	505	506	SR 14	MINOR ARTERIAL	1744	1	12	0	1700	45	4
815	506	505	SR 14	MINOR ARTERIAL	1744	1	12	0	1700	45	4
816	506	507	SR 14	MINOR ARTERIAL	2831	1	12	0	1700	45	4
817	507	166	FRANKLIN ST	COLLECTOR	5664	1	12	2	1700	40	4
818	507	506	SR 14	MINOR ARTERIAL	2831	1	12	0	1700	45	4
819	507	676	SR 14	MINOR ARTERIAL	1365	1	12	2	1700	45	4
820	508	516	VALLEY ST	COLLECTOR	2145	1	12	2	1700	40	3
821	509	134	PLAIN ST	COLLECTOR	1104	1	12	2	1700	40	3
822	509	510	LAKE ST	COLLECTOR	4840	1	12	2	1700	40	3
823	510	511	HOBORNOCK ST	COLLECTOR	4328	1	12	2	1700	40	3
824	511	645	SR 14	MINOR ARTERIAL	3689	1	12	2	1750	40	3
825	512	513	SR 36	MINOR ARTERIAL	600	1	12	2	1700	40	3
826	513	514	CURVE ST	COLLECTOR	695	1	12	2	1700	40	3
827	513	644	SR 36	MINOR ARTERIAL	866	1	12	2	1575	35	3
828	514	515	OLDHAM ST	COLLECTOR	3216	1	12	2	1700	40	3
829	516	509	PLAIN ST	COLLECTOR	1874	1	12	2	1700	40	3
830	517	498	POWDER POINT BRIDGE	LOCAL ROADWAY	2352	1	12	2	900	20	5
831	517	531	GUMET RD	COLLECTOR	5981	1	12	2	1350	30	5
832	518	144	CHESTNUT ST	COLLECTOR	3954	1	12	2	1750	40	4
833	518	145	DEPOT ST	COLLECTOR	4814	1	12	2	1700	40	4
834	518	496	BAY RD	COLLECTOR	11075	1	12	2	1700	45	8
835	518	497	WASHINGTON ST	COLLECTOR	9688	1	12	2	1575	35	4
836	519	672	SUMMER ST	COLLECTOR	1300	1	12	2	1700	40	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
837	520	518	STANDISH ST	COLLECTOR	3718	1	12	2	1750	35	4
838	521	143	OAK ST	COLLECTOR	2940	1	12	2	1700	40	4
839	521	144	TOBEY GARDENS ST	COLLECTOR	5520	1	12	2	1750	40	4
840	521	682	ELM ST	COLLECTOR	2150	1	12	2	1700	40	4
841	522	37	SR 3 ON-RAMP FROM SR 3A	FREEWAY RAMP	464	1	12	2	1350	30	7
842	523	524	SR 139	MINOR ARTERIAL	2460	1	12	2	1750	40	5
843	523	642	SR 139	MINOR ARTERIAL	2636	1	12	2	1700	40	5
844	524	523	SR 139	MINOR ARTERIAL	2472	1	12	2	1700	40	5
845	524	525	SR 139	MINOR ARTERIAL	7584	1	12	2	1700	40	5
846	525	538	SR 139	MINOR ARTERIAL	3028	1	12	2	1700	40	4
847	526	527	SR 139	MINOR ARTERIAL	3775	1	12	2	1750	40	4
848	527	703	SR 139	MINOR ARTERIAL	1135	1	12	2	1575	35	4
849	528	532	WEBSTER ST	COLLECTOR	6001	1	12	2	1700	45	4
850	528	534	SR 139	MINOR ARTERIAL	4152	1	12	2	1700	40	4
851	529	530	CANAL ST	COLLECTOR	3544	1	12	2	1750	40	5
852	530	533	SR 139	MINOR ARTERIAL	1374	1	12	2	1700	45	5
853	531	517	GUMET RD	COLLECTOR	5981	1	12	2	1350	30	5
854	531	529	GUMET RD	COLLECTOR	2237	1	12	2	1350	30	5
855	532	527	WEBSTER ST	COLLECTOR	5614	1	12	2	1750	45	4
856	533	528	SR 139	MINOR ARTERIAL	1866	1	12	2	1700	45	4
857	534	147	SR 139	MINOR ARTERIAL	3029	1	12	2	1750	40	4
858	535	524	OCEAN ST	COLLECTOR	4055	1	12	2	1750	35	5
859	536	148	ACORN ST	COLLECTOR	3307	1	12	2	1750	40	4
860	536	502	LINCOLN ST	COLLECTOR	8858	1	12	2	1700	40	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
861	537	503	LINCOLN ST	COLLECTOR	1417	1	12	2	1700	40	4
862	538	526	SR 139	MINOR ARTERIAL	5181	1	12	2	1700	40	4
863	539	538	WINSLOW ST	COLLECTOR	4857	1	12	2	1575	35	4
864	540	541	SR 139	MINOR ARTERIAL	1335	2	12	2	1750	40	4
865	541	542	SR 139	MINOR ARTERIAL	744	2	12	2	1900	45	4
866	542	543	SR 139	MINOR ARTERIAL	4038	1	12	2	1700	45	4
867	543	544	SR 139	MINOR ARTERIAL	1888	2	12	2	1750	45	4
868	544	545	SR 139	MINOR ARTERIAL	428	2	12	2	1750	40	4
869	544	723	UNION ST	COLLECTOR	5820	1	12	2	1700	40	4
870	545	544	SR 139	MINOR ARTERIAL	428	1	12	2	1750	40	4
871	545	604	SR 139	MINOR ARTERIAL	1021	2	12	2	1750	40	4
872	545	608	SR 3 ON-RAMP FROM SR 139	FREEWAY RAMP	879	1	12	2	1700	40	4
873	546	547	SR 139	MINOR ARTERIAL	816	2	12	2	1750	40	4
874	546	604	SR 139	MINOR ARTERIAL	371	2	12	2	1750	40	4
875	547	546	SR 139	MINOR ARTERIAL	816	2	12	2	1750	40	4
876	547	606	SR 139	MINOR ARTERIAL	308	2	12	2	1900	40	4
877	548	546	OAK ST EXD	COLLECTOR	2051	1	12	2	1750	40	4
878	549	170	SR 139	MINOR ARTERIAL	5628	1	12	2	1750	40	3
879	549	606	SR 139	MINOR ARTERIAL	2672	1	12	2	1700	40	4
880	550	548	OAK ST	COLLECTOR	2959	1	12	2	1700	40	4
881	550	585	PLESANT ST	COLLECTOR	5571	1	12	2	1700	40	4
882	551	540	SR 139	MINOR ARTERIAL	2642	1	12	2	1700	40	4
883	552	155	SR 3A	MINOR ARTERIAL	1213	1	12	2	1700	40	2
884	552	726	HIGHLAND ST	LOCAL ROADWAY	1932	1	12	4	1700	40	2

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
885	553	552	SR 3A	MINOR ARTERIAL	4481	1	12	2	1750	40	2
886	553	723	PINE ST	LOCAL ROADWAY	7772	1	12	4	1700	40	2
887	555	552	PLEASANT ST	COLLECTOR	2139	1	12	2	1750	40	2
888	556	135	SR 36	MINOR ARTERIAL	7361	1	12	2	1750	50	3
889	556	690	SR 36	MINOR ARTERIAL	4543	1	12	2	1700	50	6
890	557	512	SR 14	MINOR ARTERIAL	1850	1	12	2	1750	40	3
891	558	136	MATTAKEESETT ST	COLLECTOR	1377	1	12	2	1750	40	3
892	559	131	WINTER ST	COLLECTOR	5629	1	12	2	1700	40	7
893	560	132	LAKE ST	COLLECTOR	4681	1	12	2	1575	35	6
894	560	692	GROVE ST	COLLECTOR	603	1	12	2	1575	35	6
895	561	156	LAKE ST	COLLECTOR	3909	1	12	2	1750	35	6
896	562	160	DRIVEWAY	COLLECTOR	351	1	12	2	1750	40	6
897	563	161	DRIVEWAY	COLLECTOR	411	1	12	2	1750	40	6
898	564	163	SR 106	MINOR ARTERIAL	2033	1	12	2	1700	40	6
899	565	564	SOUTH ST	COLLECTOR	5518	1	12	2	1700	40	6
900	566	415	PLYMPTON ST	COLLECTOR	6514	1	12	2	1700	40	13
901	567	565	SOUTH ST	COLLECTOR	5379	1	12	2	1700	40	6
902	568	569	SEA ST	COLLECTOR	1868	1	12	2	1700	40	2
903	569	570	ELM ST	COLLECTOR	3149	1	12	2	1700	40	2
904	569	574	ELM ST	COLLECTOR	1546	1	12	2	1700	40	2
905	570	571	SUMMER ST	COLLECTOR	3636	1	12	2	1700	40	2
906	571	572	PLEASANT ST	COLLECTOR	1443	1	12	2	1700	40	2
907	572	555	PLEASANT ST	COLLECTOR	4136	1	12	2	1700	40	2
908	573	574	BAYBERRY RD	COLLECTOR	2149	1	12	2	1700	40	2
909	574	569	ELM ST	COLLECTOR	1546	1	12	2	1700	40	2

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
910	574	575	FERRY ST	COLLECTOR	2712	1	12	2	1700	40	2
911	575	574	FERRY ST	COLLECTOR	2712	1	12	2	1700	40	2
912	575	576	FERRY ST	COLLECTOR	624	1	12	2	1700	40	2
913	576	577	FERRY ST	COLLECTOR	2700	1	12	2	1700	40	2
914	577	578	FERRY ST	COLLECTOR	1594	1	12	2	1575	35	2
915	577	584	FERRY ST	COLLECTOR	302	1	12	2	1700	40	2
916	578	579	FERRY ST	COLLECTOR	2883	1	12	2	1700	40	4
917	579	153	FURNACE ST	COLLECTOR	3298	1	12	2	1750	40	4
918	580	575	S RIVER ST	COLLECTOR	536	1	12	2	1700	40	2
919	580	576	RIVER ST	COLLECTOR	473	1	12	2	1700	40	2
920	581	580	S RIVER ST	COLLECTOR	5078	1	12	2	1700	40	2
921	582	150	WILLOW ST	COLLECTOR	1200	1	12	2	1700	40	4
922	582	152	S RIVER ST	COLLECTOR	1793	1	12	2	1700	40	4
923	583	582	S RIVER ST	COLLECTOR	2117	1	12	2	1700	40	4
924	584	570	CHURCH ST	COLLECTOR	5351	1	12	2	1700	40	2
925	585	169	PLESANT ST	COLLECTOR	2018	1	12	2	1750	40	3
926	586	168	BARKER ST	COLLECTOR	5567	1	12	2	1750	50	3
927	586	644	CENTER ST	COLLECTOR	2187	1	12	2	1700	40	3
928	587	586	HIGH ST	COLLECTOR	8607	1	12	2	1700	40	3
929	588	226	PARSONAGE RD	COLLECTOR	4122	1	12	2	1750	40	6
930	588	566	PROSPECT RD	COLLECTOR	11863	1	12	4	1575	35	6
931	589	486	SR 58	MINOR ARTERIAL	4066	1	12	2	1700	50	6
932	590	589	CENTER ST	COLLECTOR	1599	1	12	2	1700	40	6
933	591	207	FOSDICK RD	COLLECTOR	3365	1	12	2	1700	40	13
934	592	678	ALDEN RD	COLLECTOR	3702	1	12	2	1700	40	15

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
935	592	697	UPPER COLLEGE POND RD	COLLECTOR	10577	1	12	2	1700	40	15
936	592	722	LOWER COLLEGE POND RD	COLLECTOR	6773	1	12	2	1350	30	15
937	593	595	SUMMER ST	COLLECTOR	1347	1	12	2	1750	35	10
938	594	593	BILLINGTON ST	COLLECTOR	3186	1	12	2	1700	40	10
939	595	218	WESTLY ROUTE	COLLECTOR	1400	1	12	2	1700	40	10
940	595	242	SUMMER ST	COLLECTOR	2137	1	12	2	1750	40	10
941	596	595	WESTLY ROUTE	COLLECTOR	819	1	12	2	1750	40	10
942	597	246	FEDERAL FURNACE RD	COLLECTOR	7624	1	12	2	1700	50	10
943	598	597	BLACK CAT RD	COLLECTOR	8206	1	12	2	1750	35	10
944	599	405	CHARGE POND RD	COLLECTOR	9951	1	12	2	1575	35	18
945	600	517	GURNET RD	COLLECTOR	2031	1	12	2	1350	30	5
946	601	647	SR 28	MINOR ARTERIAL	1490	1	12	2	1700	40	13
947	602	234	TREMONT ST	COLLECTOR	1388	1	12	2	1750	45	14
948	602	655	WAREHAM ST	COLLECTOR	8991	1	12	2	1700	45	14
949	603	208	CESTNUT ST	COLLECTOR	4135	1	12	2	1700	40	13
950	604	545	SR 139	MINOR ARTERIAL	1021	1	12	2	1750	40	4
951	604	546	SR 139	MINOR ARTERIAL	371	2	12	2	1750	40	4
952	605	547	DRIVEWAY	LOCAL ROADWAY	367	2	12	2	1750	40	4
953	606	547	SR 139	MINOR ARTERIAL	308	2	12	2	1750	40	4
954	606	549	SR 139	MINOR ARTERIAL	2671	1	12	2	1700	40	4
955	607	604	SR 3 OFF-RAMP TO SR 139	FREEWAY RAMP	813	2	12	2	1750	40	4
956	608	45	SR 3 ON-RAMP FROM SR 139	FREEWAY RAMP	980	1	12	2	1700	45	4
957	608	545	SR 3 OFF-RAMP TO SR 139	FREEWAY RAMP	870	1	12	2	1750	30	4
958	609	550	ELM ST	COLLECTOR	3185	1	12	2	1700	40	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
959	610	609	SPRING ST	COLLECTOR	2757	1	12	2	1750	40	4
960	611	609	ELM ST	COLLECTOR	4112	1	12	2	1750	40	4
961	612	148	SR 3A	MINOR ARTERIAL	6247	1	12	2	1750	40	4
962	613	122	HOWARDS LN	COLLECTOR	2377	1	12	2	1350	30	8
963	614	126	BROOK ST	COLLECTOR	2200	1	12	2	1750	50	7
964	614	490	BROOK ST	COLLECTOR	1166	1	12	2	1700	50	7
965	615	614	COUNTRY CLUB WAY	COLLECTOR	2301	1	12	2	1700	40	7
966	616	668	CARVER RD	COLLECTOR	2711	1	12	2	1700	45	10
967	617	185	DRIVEWAY	COLLECTOR	299	1	12	2	1750	35	19
968	618	186	DRIVEWAY	COLLECTOR	308	1	12	2	1750	35	19
969	619	439	SR 130	MINOR ARTERIAL	3409	1	12	2	1700	40	20
970	620	465	OLD PLYMOUTH RD	COLLECTOR	1204	1	12	2	1575	35	20
971	621	474	CHURCH LN	COLLECTOR	1094	1	12	2	1575	35	20
972	622	95	WHITE HORSE RD	COLLECTOR	1575	1	12	2	1575	35	11
973	623	92	SR 3A	MINOR ARTERIAL	5828	1	12	2	1700	45	11
974	623	94	SR 3A	MINOR ARTERIAL	4463	1	12	2	1750	45	11
975	625	111	SR 3A	MINOR ARTERIAL	972	1	12	2	1700	45	11
976	626	627	SHIP POND RD	COLLECTOR	4325	1	12	2	1575	35	16
977	627	105	SHIP POND RD	COLLECTOR	3972	1	12	2	1750	35	16
978	628	197	WESTERLY RD	COLLECTOR	3857	1	12	2	1750	40	10
979	629	197	SAMOSET ST	MINOR ARTERIAL	329	2	12	2	1750	35	10
980	630	295	OLD SANDWICH RD	COLLECTOR	3388	1	12	2	1750	45	11
981	631	182	US-6	MINOR ARTERIAL	2491	2	10	2	1750	45	19
982	632	174	EDGE HILL RD	COLLECTOR	472	1	12	2	1750	40	19
983	633	492	BISHOPS HWY	COLLECTOR	2710	1	12	2	1750	50	9

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
984	633	493	BISHOPS HWY	COLLECTOR	6578	1	12	2	1700	50	9
985	634	633	INDIAN POND RD	COLLECTOR	3742	1	12	2	1700	40	7
986	635	669	SR 3A	MINOR ARTERIAL	1332	1	12	2	1575	35	8
987	636	635	FOREST AVE	COLLECTOR	806	1	12	2	1350	30	8
988	637	267	SMITH LN	COLLECTOR	214	1	12	2	1750	40	8
989	637	287	SMITH LN	COLLECTOR	749	1	12	2	1700	40	8
990	638	637	OCEAN HILL DR	COLLECTOR	2690	1	12	2	1575	35	8
991	639	139	SR 3A	MINOR ARTERIAL	1568	1	12	2	1750	40	7
992	640	639	TREMONT ST	COLLECTOR	1532	1	12	2	1750	35	7
993	641	639	STOP & SHOP DRIVEWAY	COLLECTOR	314	1	12	2	1750	35	7
994	642	530	SR 139	MINOR ARTERIAL	2551	1	12	2	1750	40	5
995	643	541	PROPRIETORS DR	COLLECTOR	2305	1	12	2	1750	40	4
996	644	514	OLDHAM ST	COLLECTOR	594	1	12	2	1700	40	3
997	644	586	CENTER ST	COLLECTOR	2193	1	12	2	1700	40	3
998	645	512	SR 14	MINOR ARTERIAL	441	1	12	2	1750	40	3
999	646	645	ELLIOT AVE	COLLECTOR	1680	1	12	2	1750	40	3
1000	648	136	UNION ST	COLLECTOR	946	1	12	2	1750	40	3
1001	649	226	SR 58	MINOR ARTERIAL	7410	1	12	2	1750	55	6
1002	649	227	SR 58	MINOR ARTERIAL	2160	1	12	2	1750	55	6
1003	650	649	DRIVEWAY	LOCAL ROADWAY	611	2	12	4	1750	30	6
1004	651	415	SR 105	MINOR ARTERIAL	6302	1	12	2	1700	40	6
1005	652	508	VALLEY ST	COLLECTOR	5784	1	12	2	1700	40	4
1006	653	129	ELM ST	COLLECTOR	909	1	12	2	1575	35	7
1007	653	490	ELM ST	COLLECTOR	970	1	12	2	1575	35	7
1008	654	416	PLYMOUTH ST	COLLECTOR	9364	1	12	4	1700	40	13

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
1009	655	407	WAREHAM ST	COLLECTOR	4540	1	12	2	1700	45	18
1010	656	679	FEDERAL RD	COLLECTOR	5057	1	12	4	1700	40	18
1011	657	133	SR 27	MINOR ARTERIAL	5440	1	12	2	1700	50	3
1012	658	156	SR 106	MINOR ARTERIAL	3254	1	12	2	1750	50	6
1013	659	661	SR 106	MINOR ARTERIAL	4209	1	12	2	1700	50	7
1014	660	658	SR 106	MINOR ARTERIAL	2561	1	12	2	1700	50	6
1015	661	660	SR 106	MINOR ARTERIAL	4358	1	12	2	1700	50	7
1016	662	253	PARTING WAYS RD	COLLECTOR	2484	1	12	2	1750	35	9
1017	663	423	S MEADOW RD	COLLECTOR	6015	1	12	2	1700	40	14
1018	664	341	PLYMOUT LN	COLLECTOR	2017	1	12	2	1750	40	19
1019	665	200	SAMOSSET ST	COLLECTOR	1773	2	12	2	1750	40	10
1020	665	201	SAMOSSET ST	MINOR ARTERIAL	2489	2	12	2	1750	45	10
1021	666	215	CARVER RD	COLLECTOR	2679	1	12	2	1700	45	9
1022	667	252	PLYMPTON RD	COLLECTOR	2666	1	12	2	1750	45	9
1023	668	203	CARVER RD	COLLECTOR	4029	1	12	2	1700	45	10
1024	669	121	SR 3A	MINOR ARTERIAL	949	1	12	2	1575	35	8
1025	670	496	LORING RD	COLLECTOR	1558	1	12	2	1700	40	8
1026	671	505	CHANDLER ST	COLLECTOR	1485	1	12	2	1575	35	4
1027	672	165	SUMMER ST	COLLECTOR	1453	1	12	2	1750	40	4
1028	672	673	CHANDLER ST	COLLECTOR	7215	1	12	2	1575	35	4
1029	673	671	CHANDLER ST	COLLECTOR	1840	1	12	2	1575	35	4
1030	674	167	SR 14	MINOR ARTERIAL	1704	1	12	2	1750	45	4
1031	675	167	SR 53	MINOR ARTERIAL	1919	1	12	2	1750	55	4
1032	676	611	UNION ST	COLLECTOR	7591	1	12	2	1700	40	4
1033	676	674	SR 14	MINOR ARTERIAL	5909	1	12	2	1700	45	4

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
1034	677	612	SR 3A	MINOR ARTERIAL	2961	1	12	2	1700	40	4
1035	678	328	ALDEN RD	COLLECTOR	5506	1	12	2	1750	40	15
1036	678	592	ALDEN RD	COLLECTOR	3702	1	12	4	1700	40	15
1037	679	403	FEDERAL RD	COLLECTOR	7431	1	12	4	1700	40	18
1038	679	655	HAMMOND ST	COLLECTOR	4779	1	12	2	1125	25	18
1039	680	292	LONG POND RD	COLLECTOR	5486	1	12	0	1700	40	15
1040	680	328	LONG POND RD	COLLECTOR	4598	1	12	0	1750	40	15
1041	681	165	SR 53	MINOR ARTERIAL	2890	1	12	2	1750	50	4
1042	681	559	Winter St	COLLECTOR	4303	1	12	2	1700	40	4
1043	682	519	ELM ST	COLLECTOR	2984	1	12	2	1700	40	4
1044	683	629	SAMOSSET ST	COLLECTOR	1259	1	12	2	1575	35	10
1045	684	598	WATERCOURSE RD	COLLECTOR	3321	1	12	2	1700	40	10
1046	685	598	BILLINGTON ST	COLLECTOR	2096	1	12	2	1700	40	10
1047	686	99	BEAVER DAM RD	COLLECTOR	6101	1	12	2	1700	40	15
1048	687	96	SR 3A	MINOR ARTERIAL	2661	1	12	2	1750	40	11
1049	687	97	SR 3A	MINOR ARTERIAL	2806	1	12	2	1750	40	15
1050	688	104	SR 3A	MINOR ARTERIAL	4548	1	12	2	1700	45	16
1051	689	106	SR 3A	MINOR ARTERIAL	2633	1	12	2	1700	50	16
1052	690	158	SR 36	MINOR ARTERIAL	4536	1	12	2	1700	50	6
1053	691	560	GROVE ST	COLLECTOR	4056	1	12	2	1575	35	6
1054	692	556	GROVE ST	COLLECTOR	8871	1	12	2	1575	35	6
1055	692	561	LAKE ST	COLLECTOR	3745	1	12	2	1575	35	6
1056	693	684	ROCKY POND RD	COLLECTOR	4310	1	12	2	1700	40	14
1057	694	249	CRANBERRY RD	COLLECTOR	7423	1	12	2	1575	35	14
1058	695	303	JORDAN RD	COLLECTOR	3572	1	12	2	1750	35	15

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
1059	696	254	BROOK ST	COLLECTOR	2488	1	12	2	1700	40	6
1060	697	714	HALFWAY POND RD	COLLECTOR	4093	1	12	2	1575	35	14
1061	698	329	LONG POND RD	COLLECTOR	2317	1	12	0	1700	40	15
1062	699	631	US-6 ROTARY	MINOR ARTERIAL	165	2	12	0	1900	30	19
1063	700	699	LINCOLN AVE	COLLECTOR	1263	1	12	2	1575	35	19
1064	701	349	MAIN ST	COLLECTOR	433	1	12	2	1700	40	19
1065	702	701	ACADEMY DR	COLLECTOR	3769	1	12	2	1750	35	19
1066	703	149	SR 139	MINOR ARTERIAL	458	2	12	2	1750	35	4
1067	704	551	SR 139	MINOR ARTERIAL	3134	1	12	2	1700	40	4
1068	705	179	HEAD OF THE BAY RD	COLLECTOR	2229	1	12	2	1700	40	19
1069	705	350	PURITAN RD	COLLECTOR	4701	1	12	4	1575	35	19
1070	706	183	US-6	MINOR ARTERIAL	2464	2	12	2	1900	50	19
1071	707	229	PLYMOUTH ST	COLLECTOR	4730	1	12	2	1750	35	6
1072	707	237	PLYMOUTH ST	COLLECTOR	3110	1	12	4	1575	35	13
1073	708	709	E MAIN ST	COLLECTOR	1304	1	12	4	1700	40	13
1074	710	31	SR 3	FREEWAY	3690	2	12	10	2250	70	8
1075	710	32	SR 3	FREEWAY	983	2	12	10	2250	70	8
1076	710	266	SR 3 OFF-RAMP TO SMITH LN	FREEWAY RAMP	844	1	12	4	1750	30	8
1077	711	208	PURCHASE ST	COLLECTOR	7766	1	12	2	1700	40	13
1078	712	711	ROCKY MEADOW ST	COLLECTOR	2898	1	12	4	1700	40	13
1079	713	482	WAREHAM RD	COLLECTOR	8044	1	12	2	1575	35	15
1080	714	694	LOWER COLLEGE POND RD	COLLECTOR	3913	1	12	2	1350	30	14
1081	715	5	US-6	FREEWAY	1237	2	12	10	2250	70	20
1082	715	717	US-6	FREEWAY	4540	2	12	10	2250	70	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
1083	716	448	US-6 OFF-RAMP	FREEWAY RAMP	307	2	12	4	1900	35	20
1084	717	4	US-6	FREEWAY	5647	2	12	10	2250	70	20
1085	717	715	US-6	FREEWAY	4536	2	12	10	2250	70	20
1086	718	450	DRIVEWAY	COLLECTOR	441	1	12	2	1750	25	20
1087	719	715	US-6 ON-RAMP	FREEWAY RAMP	1405	1	12	2	1700	45	20
1088	721	714	LOWER COLLEGE POND RD	COLLECTOR	1177	1	12	2	1350	30	14
1089	722	721	LOWER COLLEGE POND RD	COLLECTOR	4680	1	12	2	1350	30	14
1090	723	544	UNION ST	COLLECTOR	5817	1	12	2	1750	40	4
1091	723	553	PINE ST	LOCAL ROADWAY	7768	1	12	4	1700	40	2
1092	723	724	UNION ST	COLLECTOR	7559	1	12	2	1700	40	2
1093	724	554	UNION ST	COLLECTOR	994	1	12	2	1700	40	2
1094	725	724	HIGHLAND ST	LOCAL ROADWAY	2926	1	12	4	1700	40	2
1095	726	725	HIGHLAND ST	LOCAL ROADWAY	2838	1	12	4	1700	40	2
1096	8001	425	US-6	FREEWAY	1328	2	12	10	2250	70	20
1097	8046	46	SR 3	FREEWAY	1327	2	12	10	2250	70	1
1098	8062	62	SR 28	MINOR ARTERIAL	1591	2	12	10	1900	60	19
1099	8081	81	I-495	FREEWAY	1055	2	12	10	2250	70	13
Exit Link	137	8137	SR 27	MINOR ARTERIAL	1208	1	12	2	1700	50	3
Exit Link	155	8155	SR 3A	MINOR ARTERIAL	941	1	12	2	1700	40	2
Exit Link	163	8163	SR 106	MINOR ARTERIAL	1084	1	12	2	1700	40	6
Exit Link	171	8171	SR 53	MINOR ARTERIAL	869	1	12	2	1700	40	3
Exit Link	489	8489	SR 58	MINOR ARTERIAL	1147	1	12	2	1700	40	3
Exit Link	647	8601	SR 28	MINOR ARTERIAL	1123	1	12	2	1700	40	13
Exit Link	651	8651	SR 105	MINOR ARTERIAL	1303	1	12	4	1700	40	6
Exit Link	720	8720	SR 6A	MINOR ARTERIAL	455	1	12	2	1700	40	20

Link #	Up-Stream Node	Down-Stream Node	Roadway Name	Roadway Type	Length (ft.)	No. of Lanes	Lane Width (ft.)	Shoulder Width (ft.)	Saturation Flow Rate (pcphpl)	Free Flow Speed (mph)	Grid Number
Exit Link	46	8046	SR 3	FREEWAY	1327	2	12	10	2250	70	1
Exit Link	61	8061	US-44	MINOR ARTERIAL	759	1	12	10	1700	60	13
Exit Link	62	8062	SR 28	MINOR ARTERIAL	1591	2	12	10	1900	60	19
Exit Link	81	8081	I-495	FREEWAY	1055	2	12	10	2250	70	13
Exit Link	89	8089	I-195	FREEWAY	1792	2	12	10	2250	70	18
Exit Link	195	8195	US-6	MINOR ARTERIAL	1399	2	12	10	1900	40	18
Exit Link	223	8223	SPRUCE ST	COLLECTOR	2131	1	12	2	1700	40	17
Exit Link	515	8515	OLDHAM ST	COLLECTOR	1193	1	12	2	1700	40	3
Exit Link	554	8554	UNION ST	COLLECTOR	674	1	12	2	1700	40	2
Exit Link	389	8389	COUNTY RD	COLLECTOR	1799	1	12	2	1700	40	18
Exit Link	390	8390	FEARING HILL RD	COLLECTOR	1644	1	12	2	1700	40	17
Exit Link	425	8001	US-6	FREEWAY	1286	2	12	10	2250	70	20
Exit Link	709	8709	E MAIN ST	COLLECTOR	283	1	12	4	1700	40	13

Table K-2. Nodes in the Link-Node Analysis Network which are Controlled

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
8	917043	2747675	TCP - Uncontrolled	20
11	914302	2758160	TCP - Uncontrolled	20
25	878959	2808859	TCP - Uncontrolled	10
30	874242	2814258	TCP - Uncontrolled	10
41	866709	2845169	TCP - Uncontrolled	4
50	870417	2811008	TCP - Uncontrolled	10
59	824066	2793151	Actuated	13
60	823104	2793025	Yield	13
63	905493	2732592	Yield	19
64	905365	2732945	Yield	19
66	903240	2738171	TCP - Uncontrolled	19
82	905568	2732929	Yield	19
83	905256	2732715	Yield	19
91	907867	2804559	TCP - Actuated	11
92	907893	2799413	Stop	11
94	898996	2803841	TCP - Actuated	11
95	910659	2801018	Stop	11
96	909234	2798819	TCP - Actuated	11
97	913327	2795656	TCP - Actuated	16
100	897554	2804024	TCP - Uncontrolled	11
105	918576	2780617	TCP - Actuated	16
109	914514	2760764	Stop	20
110	914551	2759885	TCP - Uncontrolled	20
111	895998	2804330	Stop	11
112	894284	2805364	Stop	11
113	888184	2807279	TCP - Actuated	11
114	884819	2809037	Stop	11
116	883507	2810037	Actuated	11
117	881806	2811615	TCP - Actuated	10
119	877711	2816828	TCP - Actuated	8
120	876551	2818063	Actuated	8
121	874141	2819777	TCP - Uncontrolled	8
122	872767	2820480	Stop	8
123	869133	2821582	TCP - Uncontrolled	8
124	868597	2821713	TCP - Actuated	8
125	868376	2821816	Actuated	8
126	867143	2822417	TCP - Actuated	8

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
128	866393	2823250	TCP - Uncontrolled	7
129	864403	2823620	Stop	7
130	862235	2824191	TCP - Actuated	7
131	854871	2830849	Stop	7
132	849880	2831848	TCP - Uncontrolled	6
134	845158	2838817	Stop	3
135	840417	2839866	Actuated	3
136	834843	2841632	Pretimed	3
138	865242	2825253	Actuated	7
139	864743	2830163	TCP - Actuated	7
141	866833	2831128	TCP - Uncontrolled	8
143	868829	2831480	Stop	8
144	874201	2835256	TCP - Actuated	4
145	875850	2838845	Stop	4
146	875645	2843775	TCP - Actuated	4
147	875789	2847673	TCP - Actuated	4
148	870200	2858007	TCP - Actuated	4
149	870427	2859532	TCP - Actuated	4
150	869931	2859738	Stop	4
151	868365	2860274	TCP - Actuated	4
152	868365	2861490	Stop	4
153	865621	2865678	Actuated	4
156	845738	2821504	TCP - Actuated	6
157	844298	2821535	Stop	6
158	837898	2824198	Stop	6
159	834377	2824229	Actuated	6
160	834116	2823965	Actuated	6
161	833876	2823691	Actuated	6
165	862386	2838585	TCP - Actuated	4
166	856676	2843762	Stop	4
167	852860	2850083	TCP - Actuated	4
168	848585	2857804	Actuated	3
169	848165	2859305	Actuated	3
170	844998	2863730	Actuated	3
172	916690	2747081	Yield	20
173	912258	2743898	Actuated	19
174	909461	2740548	Actuated	19
176	904115	2735986	Actuated	19

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
177	902953	2735802	Yield	19
178	902712	2736235	Yield	19
179	902199	2736042	Stop	19
180	898431	2734615	Actuated	19
181	896975	2733863	Yield	19
182	894439	2734932	Actuated	19
183	890153	2737328	Yield	19
184	888111	2737391	Stop	19
185	884845	2738359	Actuated	19
186	883683	2738597	Actuated	19
188	881751	2739298	Actuated	18
190	880001	2739672	Actuated	18
194	866908	2738125	Stop	18
197	878963	2809789	TCP - Actuated	10
198	878718	2809641	TCP - Uncontrolled	10
199	878083	2809170	TCP - Actuated	10
200	876832	2808303	Actuated	10
201	873262	2806006	TCP - Actuated	10
202	871936	2805669	TCP - Actuated	10
204	855171	2793520	TCP - Uncontrolled	14
206	848973	2791028	TCP - Actuated	13
207	847818	2787623	Stop	13
208	835929	2780135	Stop	13
210	832678	2772174	Stop	13
212	831778	2772072	Stop	13
222	838616	2761346	Stop	13
225	842971	2761136	Stop	13
226	842698	2808677	Actuated	6
227	844449	2799261	TCP - Actuated	6
228	845109	2798131	Actuated	6
229	845769	2796837	Actuated	6
230	854808	2785803	TCP - Actuated	14
231	856296	2783134	TCP - Actuated	14
232	859022	2776157	TCP - Uncontrolled	14
234	860849	2766401	TCP - Actuated	14
235	846323	2796599	Stop	6
242	877852	2807033	Actuated	10
244	873188	2802624	TCP - Actuated	10

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
245	873004	2802094	Actuated	10
248	863122	2769798	Stop	14
250	880694	2810667	TCP - Actuated	10
251	869386	2806657	TCP - Actuated	10
252	864254	2806172	TCP - Actuated	9
253	855853	2804638	TCP - Actuated	9
254	851164	2802586	Stop	6
255	845428	2797535	Stop	6
257	854508	2806309	Stop	9
258	849146	2808822	Stop	6
259	869712	2807750	Actuated	10
260	870272	2808706	Actuated	10
261	870718	2810178	Actuated	10
262	871099	2811779	Actuated	10
263	871450	2813079	Actuated	10
265	870319	2816384	Actuated	8
266	870501	2816683	Actuated	8
267	871115	2817948	TCP - Actuated	8
269	870930	2808604	Stop	10
270	869527	2809236	Actuated	10
278	873787	2813397	Stop	10
280	877220	2816480	Actuated	8
284	870273	2816840	Actuated	8
290	901232	2780710	TCP - Uncontrolled	15
291	900449	2779795	TCP - Uncontrolled	15
292	899760	2778974	Stop	15
293	903215	2783533	TCP - Uncontrolled	15
294	897699	2800344	TCP - Uncontrolled	11
295	896942	2798248	TCP - Actuated	11
297	896128	2803364	TCP - Actuated	11
303	891294	2790788	TCP - Actuated	15
305	893890	2802886	Stop	11
306	894098	2803244	Stop	11
308	892698	2803500	Stop	11
310	892893	2802645	TCP - Uncontrolled	11
313	885601	2803579	Actuated	11
315	885680	2803114	TCP - Actuated	11
316	885474	2802401	TCP - Actuated	11

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
317	885217	2801656	Actuated	11
318	885266	2800540	Actuated	11
319	885671	2798882	Actuated	11
322	888068	2794494	Stop	15
328	892712	2786084	TCP - Actuated	15
332	913644	2757492	Stop	20
333	911512	2748539	TCP - Uncontrolled	19
341	900372	2742005	TCP - Actuated	19
345	901782	2741588	Stop	19
347	902276	2735773	TCP - Uncontrolled	19
349	897029	2733620	Yield	19
356	880741	2737526	Stop	18
357	881487	2738913	Actuated	18
360	871038	2737425	Actuated	18
364	879652	2740301	Actuated	18
365	879344	2740521	Yield	18
368	865652	2741773	Actuated	18
369	863933	2743836	Actuated	18
370	863446	2744367	Actuated	18
371	862764	2745313	Actuated	18
372	862331	2746192	Actuated	18
373	860727	2748524	Stop	18
375	854042	2753360	Actuated	18
383	855794	2756153	Stop	18
384	855575	2755820	TCP - Uncontrolled	18
388	853647	2740701	Stop	18
391	867574	2740805	Stop	18
394	863744	2741821	Stop	18
395	866690	2738036	Actuated	18
399	868640	2738808	Actuated	18
402	867296	2741206	Stop	18
403	868985	2748604	TCP - Uncontrolled	18
406	869749	2741951	Stop	18
407	861611	2755304	TCP - Uncontrolled	18
409	861239	2742931	Stop	18
415	826477	2795096	Stop	13
418	854638	2763741	Stop	14
420	854965	2764867	Stop	14

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
427	932072	2737384	Stop	20
428	930722	2738886	Actuated	20
429	929371	2740747	Actuated	20
430	927010	2741105	Actuated	20
431	923004	2741693	Stop	20
432	921109	2742793	Stop	20
433	919726	2743432	Actuated	20
434	918095	2743995	Stop	20
435	915968	2744236	Actuated	20
438	929816	2736593	Stop	20
440	931080	2737488	Stop	20
441	928744	2738677	Stop	20
450	915967	2743195	Actuated	20
451	905006	2732663	Stop	19
453	902401	2731778	Stop	19
454	902104	2731845	Stop	19
460	913795	2757770	TCP - Uncontrolled	20
463	917665	2747246	TCP - Actuated	20
465	919257	2746499	Stop	20
471	916761	2747112	TCP - Actuated	20
473	915949	2746774	TCP - Actuated	20
480	890505	2748728	Stop	19
481	892315	2755326	TCP - Uncontrolled	19
484	842352	2810248	Stop	6
485	831553	2841325	Actuated	3
490	863975	2821790	Stop	7
492	857312	2815554	TCP - Actuated	7
496	868846	2828487	Stop	8
497	881022	2843479	TCP - Uncontrolled	4
498	886577	2843159	TCP - Uncontrolled	5
499	870423	2846784	Stop	4
500	867258	2846178	Yield	4
501	867079	2846195	TCP - Uncontrolled	4
502	867172	2846263	Yield	4
503	867158	2846110	TCP - Uncontrolled	4
504	866917	2846204	TCP - Uncontrolled	4
505	865584	2846314	Stop	4
508	849743	2840913	Stop	3

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
509	846260	2838870	Stop	3
511	843184	2846674	Stop	3
512	843385	2850763	Actuated	3
514	843137	2851964	Stop	3
516	848350	2839282	Stop	3
518	878077	2834605	TCP - Actuated	4
524	887991	2859819	TCP - Actuated	5
527	872020	2859538	TCP - Actuated	4
528	880790	2852215	TCP - Uncontrolled	4
529	886460	2852252	TCP - Uncontrolled	5
530	883439	2854080	TCP - Actuated	5
534	878058	2849247	TCP - Uncontrolled	4
538	879702	2863336	Stop	4
541	862578	2864409	TCP - Actuated	4
544	856005	2865287	Actuated	4
545	855587	2865376	TCP - Actuated	4
546	854205	2865203	Actuated	4
547	853403	2865055	Actuated	4
550	854645	2861472	Stop	4
552	861567	2878345	Actuated	2
553	862185	2873897	Stop	2
556	840554	2832506	Stop	3
560	848258	2827457	TCP - Uncontrolled	6
564	827839	2822999	Stop	6
569	873833	2875518	Stop	2
570	870875	2875285	Stop	2
574	874620	2874187	Stop	2
575	873779	2871608	Stop	2
576	873548	2871029	Stop	2
584	870846	2870112	Yield	2
586	845660	2853067	Stop	3
589	839391	2811958	Stop	6
593	880986	2808525	Stop	10
595	879733	2808048	TCP - Actuated	10
597	873077	2800935	TCP - Actuated	10
598	880992	2799193	TCP - Uncontrolled	10
601	831447	2772478	Yield	13
604	854574	2865245	TCP - Actuated	4

Node	X Coordinate (ft)	Y Coordinate (ft)	Control Type	Grid Map Number
609	855410	2858388	TCP - Actuated	4
611	856558	2854559	Stop	4
614	865123	2821667	Stop	7
633	858693	2813241	Stop	9
635	875841	2818400	Stop	8
637	871060	2817736	Stop	8
639	865238	2828641	TCP - Actuated	7
642	885632	2855432	TCP - Uncontrolled	5
645	843390	2850321	Actuated	3
649	843741	2801321	Actuated	6
652	855277	2842430	Stop	4
653	864170	2822741	Actuated	7
655	863841	2759176	Stop	18
683	880366	2810535	TCP - Actuated	10
692	847666	2827342	TCP - Uncontrolled	6
697	881887	2770165	TCP - Uncontrolled	14
699	896816	2733856	Stop	19
700	896599	2735099	Stop	19
701	897477	2733521	Actuated	19
706	892325	2736163	Stop	19
708	823501	2791711	Stop	13
711	842474	2784277	Stop	13
712	840723	2786557	Yield	13
714	877862	2770762	Stop	14
721	878325	2771845	Stop	14
723	855014	2871021	Stop	2
724	854123	2878528	Yield	2

¹Coordinates are in the North American Datum of 1983 Massachusetts State Plane Zone

APPENDIX L

Sub-area Boundaries

L. SUB-AREA BOUNDARIES

- | | |
|-------------|---|
| Sub-area 1 | The portion of Plymouth within approximately 2 miles of the Pilgrim Station from Clifford Road east to White Horse Beach, and from Manomet Bluffs north to the Station |
| Sub-area 2 | The portion of Plymouth from Long Pond and Jordan Roads east to the coast, and from Ship Pond Road north to Howland Pond and Manomet Bluffs |
| Sub-area 3 | The portion of Plymouth from the eastern shores of Billington Sea, Great South Pond and Gunners Exchange Pond east to Plymouth Beach, and from the intersection of Alden and Long Pond Roads, and Jordan Road north to Samoset Street |
| Sub-area 4 | Duxbury Beach, Gurnet Point, Saquish Neck and Clark's Island |
| Sub-area 5 | The portion of Plymouth south of Upper College Pond Road, Alden Road, Long Pond Road, and Ship Pond Road |
| Sub-area 6 | The portion of Plymouth from the Plymouth-Carver town line east to the eastern shores of Billington Sea, Great South Pond, and Gunners Exchange Pond, and from Upper College and Alden Roads north to Samoset Street and Carver Road |
| Sub-area 7 | The portion of Plymouth south of the Kingston - Plymouth Town line to Carver Road - Samoset Street |
| Sub-area 8 | The entire Town of Kingston |
| Sub-area 9 | The entire Town of Duxbury |
| Sub-area 10 | The portion of Marshfield south of Route 139/Careswell Street - Dyke Road |
| Sub-area 11 | The portion of Carver east of Route 58 |
| Sub-area 12 | The portion of Cape Cod Bay within 10 miles of the station |

APPENDIX M
Evacuation Sensitivity Studies

M. EVACUATION SENSITIVITY STUDIES

This appendix presents the results of a series of sensitivity analyses. These analyses are designed to identify the sensitivity of the ETE to changes in some base evacuation conditions.

M.1 Effect of Changes in Trip Generation Times

A sensitivity study was performed to determine whether changes in the estimated trip generation time have an effect on the ETE for the entire EPZ. Specifically, if the tail of the mobilization distribution were truncated (i.e., if those who responded most slowly to the Advisory to Evacuate, could be persuaded to respond much more rapidly), how would the ETE be affected? The case considered was Scenario 1, Region 3; a summer, midweek, midday, good weather evacuation of the entire EPZ. Table M-1 presents the results of this study.

Table M-1. Evacuation Time Estimates for Trip Generation Sensitivity Study

Trip Generation Period	Evacuation Time Estimate for Entire EPZ	
	90 th Percentile	100 th Percentile
2 Hours 30 Minutes	2:50	4:40
3 Hours 30 Minutes	2:55	4:40
4 Hours 30 Minutes (Base)	2:55	4:40

As discussed in Section 7.3, traffic congestion persists within the EPZ for about 4 ½ hours. As such, the ETE for the 100th percentile are not affected by the trip generation time, but by the time needed to clear the congestion within the EPZ. The 90th percentile ETE are also not sensitive to truncating the tail of the mobilization time distribution.

M.2 Effect of Changes in the Number of People in the Shadow Region Who Relocate

A sensitivity study was conducted to determine the effect on ETE of changes in the percentage of people who decide to relocate from the Shadow Region. The case considered was Scenario 1, Region 3; a summer, midweek, midday, good weather evacuation for the entire EPZ. The movement of people in the Shadow Region has the potential to impede vehicles evacuating from an Evacuation Region within the EPZ. Refer to Sections 3.2 and 7.1 for additional information on population within the shadow region.

Table M-2 presents the evacuation time estimates for each of the cases considered. The results show that the ETE is not significantly impacted by shadow evacuation from 0% to 20%. Tripling the shadow percentage increases the ETE by 10 minutes and 25 minutes for the 90th and 100th percentiles, respectively. As discussed in Section 7.3, traffic congestion in Wareham and Buzzards Bay in the shadow exhibit pronounced congestion which prohibit the flow of evacuees out of the EPZ to the south. Note, the telephone survey results presented in Appendix F indicate that 19% of households would elect to evacuate if advised to shelter. Thus, the base assumption of 20% non-compliance suggested in NUREG/CR-7002 is valid.

Table M-2. Evacuation Time Estimates for Shadow Sensitivity Study

Percent Shadow Evacuation	Evacuating Shadow Vehicles	Evacuation Time Estimate for Entire EPZ	
		90 th Percentile	100 th Percentile
0	0	2:50	4:40
10	4,199	2:55	4:40
20 (Base)	8,397	2:55	4:40
60	25,191	3:05	5:05

M.3 Effect of Changes in EPZ Resident Population

A sensitivity study was conducted to determine the effect on ETE of changes in the resident population within the EPZ. As population in the EPZ changes over time, the time required to evacuate the public may increase, decrease, or remain the same. Since the ETE is related to the demand to capacity ratio present within the EPZ, changes in population will cause the demand side of the equation to change. The sensitivity study was conducted using the following planning assumptions:

1. The change in population within the EPZ was treated parametrically. The percent population change was varied between up to 23%. Changes in population were applied to permanent residents only (as per federal guidance), in both the EPZ area and the Shadow Region.
2. The transportation infrastructure remained fixed; the presence of new roads or highway capacity improvements were not considered.
3. The study was performed for the 2-Mile Region (R01), the 5-Mile Region (R02) and the entire EPZ (R03).
4. The good weather scenario which yielded the highest ETE values was selected as the case to be considered in this sensitivity study (Scenario 8).

Table M-3 presents the results of the sensitivity study. Section IV of Appendix E to 10 CFR Part 50, and NUREG/CR-7002, Section 5.4, require licensees to provide an updated ETE analysis to the NRC when a population increase within the EPZ causes ETE values (for the 2-Mile Region, 5-Mile Region or entire EPZ) to increase by 25 percent or 30 minutes, whichever is less. Note that all of the base ETE values are greater than 2 hours; 25 percent of the base ETE is always greater than 30 minutes. Therefore, 30 minutes is the lesser and is the criterion for updating.

Those percent population changes which result in ETE changes greater than 30 minutes are bolded in red below – a 23% increase in the EPZ population. Entergy will have to estimate the EPZ population on an annual basis. If the EPZ population increases by 23% or more an updated ETE analysis will be needed.

Table M-3. ETE Variation with Population Change

Resident Population	Base 93,964	Population Change		
		10% 103,360	20% 112,757	23% 115,576
Region	Base	Population Change		
		10%	20%	23%
2-MILE	2:55	2:55	3:00	3:00
5-MILE	2:35	2:45	2:50	2:55
FULL EPZ	3:30	3:40	3:55	4:00
Region	Base	Population Change		
		10%	20%	26%
2-MILE	6:00	6:00	6:00	6:00
5-MILE	6:05	6:05	6:05	6:05
FULL EPZ	6:10	6:10	6:10	6:10

APPENDIX N
ETE Criteria Checklist

N. ETE CRITERIA CHECKLIST

Table N-1. ETE Review Criteria Checklist

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
1.0 Introduction		
a. The emergency planning zone (EPZ) and surrounding area should be described.	Yes	Section 1
b. A map should be included that identifies primary features of the site, including major roadways, significant topographical features, boundaries of counties, and population centers within the EPZ.	Yes	Figure 1-1
c. A comparison of the current and previous ETE should be provided and includes similar information as identified in Table 1-1, "ETE Comparison," of NUREG/CR-7002.	Yes	Table 1-3
1.1 Approach		
a. A discussion of the approach and level of detail obtained during the field survey of the roadway network should be provided.	Yes	Section 1.3
b. Sources of demographic data for schools, special facilities, large employers, and special events should be identified.	Yes	Section 2.1 Section 3
c. Discussion should be presented on use of traffic control plans in the analysis.	Yes	Section 1.3, Section 2.2, Section 9, Appendix G
d. Traffic simulation models used for the analyses should be identified by name and version.	Yes	Section 1.3, Table 1-3, Appendix B, Appendix C

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. Methods used to address data uncertainties should be described.	Yes	Section 3 – avoid double counting Section 5, Appendix F – 4.5% sampling error at 95% confidence interval for telephone survey
1.2 Assumptions		
a. The planning basis for the ETE includes the assumption that the evacuation should be ordered promptly and no early protective actions have been implemented.	Yes	Section 2.3 – Assumption 1 Section 5.1
b. Assumptions consistent with Table 1-2, "General Assumptions," of NUREG/CR-7002 should be provided and include the basis to support their use.	Yes	Sections 2.2, 2.3
1.3 Scenario Development		
a. The ten scenarios in Table 1-3, Evacuation Scenarios, should be developed for the ETE analysis, or a reason should be provided for use of other scenarios.	Yes	Tables 2-1, 6-2
1.3.1 Staged Evacuation		
a. A discussion should be provided on the approach used in development of a staged evacuation.	Yes	Sections 5.4.2, 7.2
1.4 Evacuation Planning Areas		
a. A map of EPZ with emergency response planning areas (ERPAs) should be included.	Yes	Figure 6-1
b. A table should be provided identifying the ERPAs considered for each ETE calculation by downwind direction in each sector.	Yes	Table 6-1, Table 7-5

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
c. A table similar to Table 1-4, "Evacuation Areas for a Staged Evacuation Keyhole," of NUREG/CR-7002 should be provided and includes the complete evacuation of the 2, 5, and 10 mile areas and for the 2 mile area/5 mile keyhole evacuations.	Yes	Table 6-1, Table 7-5
2.0 Demand Estimation		
a. Demand estimation should be developed for the four population groups, including permanent residents of the EPZ, transients, special facilities, and schools.	Yes	Permanent residents, employees, transients – Section 3, Appendix E Special facilities, schools – Section 8, Appendix E
2.1 Permanent Residents and Transient Population		
a. The US Census should be the source of the population values, or another credible source should be provided.	Yes	Section 3.1
b. Population values should be adjusted as necessary for growth to reflect population estimates to the year of the ETE.	Yes	2010 used as the base year for analysis. No growth of population necessary.
c. A sector diagram should be included, similar to Figure 2-1, "Population by Sector," of NUREG/CR-7002, showing the population distribution for permanent residents.	Yes	Figure 3-2
2.1.1 Permanent Residents with Vehicles		
a. The persons per vehicle value should be between 1 and 2 or justification should be provided for other values.	Yes	1.89 persons per vehicle – Table 1-3
b. Major employers should be listed.	Yes	Appendix E – Table E-4
2.1.2 Transient Population		

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. A list of facilities which attract transient populations should be included, and peak and average attendance for these facilities should be listed. The source of information used to develop attendance values should be provided.	Yes	Sections 3.3, 3.4, Appendix E
b. The average population during the season should be used, itemized and totaled for each scenario.	Yes	Tables 3-4, 3-5 and Appendix E itemize the transient population and employee estimates. These estimates are multiplied by the scenario specific percentages provided in Table 6-3 to estimate transient population by scenario.
c. The percent of permanent residents assumed to be at facilities should be estimated.	Yes	Sections 3.3, 3.4
d. The number of people per vehicle should be provided. Numbers may vary by scenario, and if so, discussion on why values vary should be provided.	Yes	Sections 3.3, 3.4
e. A sector diagram should be included, similar to Figure 2-1 of NUREG/CR-7002, showing the population distribution for the transient population.	Yes	Figure 3-6 – transients Figure 3-8 – employees
2.2 Transit Dependent Permanent Residents		
a. The methodology used to determine the number of transit dependent residents should be discussed.	Yes	Section 8.1, Table 8-1
b. Transportation resources needed to evacuate this group should be quantified.	Yes	Section 8.1, Tables 8-5, 8-10
c. The county/local evacuation plans for transit dependent residents should be used in the analysis.	Yes	Sections 8.1, 8.4

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
d. The methodology used to determine the number of people with disabilities and those with access and functional needs who may need assistance and do not reside in special facilities should be provided. Data from local/county registration programs should be used in the estimate, but should not be the only set of data.	Yes	Section 8.5
e. Capacities should be provided for all types of transportation resources. Bus seating capacity of 50% should be used or justification should be provided for higher values.	Yes	Section 2.3 – Assumption 10 Sections 3.5, 8.1, 8.2, 8.3
f. An estimate of this population should be provided and information should be provided that the existing registration programs were used in developing the estimate.	Yes	Table 8-1 – transit dependents Section 8.4 – special needs
g. A summary table of the total number of buses, ambulances, or other transport needed to support evacuation should be provided and the quantification of resources should be detailed enough to assure double counting has not occurred.	Yes	Section 8.4 – page 8-6 Table 8-5, Section 8-3
2.3 Special Facility Residents		
a. A list of special facilities, including the type of facility, location, and average population should be provided. Special facility staff should be included in the total special facility population.	Yes	Tables E-3 and E-7
b. A discussion should be provided on how special facility data was obtained.	Yes	Sections 8.2, 8.3

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
c. The number of wheelchair and bed-bound individuals should be provided.	Yes	Table 8-4, Table E-3
d. An estimate of the number and capacity of vehicles needed to support the evacuation of the facility should be provided.	Yes	Section 8.3 8-4, 8-5
e. The logistics for mobilizing specially trained staff (e.g., medical support or security support for prisons, jails, and other correctional facilities) should be discussed when appropriate.	Yes	Section 8.4
2.4 Schools		
a. A list of schools including name, location, student population, and transportation resources required to support the evacuation, should be provided. The source of this information should be provided.	Yes	Table 8-2 Section 8.2
b. Transportation resources for elementary and middle schools should be based on 100% of the school capacity.	Yes	Table 8-2
c. The estimate of high school students who will use their personal vehicle to evacuate should be provided and a basis for the values used should be discussed.	Yes	Section 8.2
d. The need for return trips should be identified if necessary.	Yes	There are sufficient resources to evacuate schools in a single wave. However, Section 8.3 and Figure 8-1 discuss the potential for a multiple wave evacuation

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
2.5.1 Special Events		
a. A complete list of special events should be provided and includes information on the population, estimated duration, and season of the event.	Yes	Section 3.7
b. The special event that encompasses the peak transient population should be analyzed in the ETE.	Yes	Section 3.7
c. The percent of permanent residents attending the event should be estimated.	Yes	Section 3.7
2.5.2 Shadow Evacuation		
a. A shadow evacuation of 20 percent should be included for areas outside the evacuation area extending to 15 miles from the NPP.	Yes	Section 2.2 – Assumption 5 Figure 2-1 Section 3.2
b. Population estimates for the shadow evacuation in the 10 to 15 mile area beyond the EPZ are provided by sector.	Yes	Section 3.2 Figure 3-4 Table 3-3
c. The loading of the shadow evacuation onto the roadway network should be consistent with the trip generation time generated for the permanent resident population.	Yes	Section 5 – Table 5-9
2.5.3 Background and Pass Through Traffic		
a. The volume of background traffic and pass through traffic is based on the average daytime traffic. Values may be reduced for nighttime scenarios.	Yes	Section 3.6, Table 3-6 Section 6, Table 6-3

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. Pass through traffic is assumed to have stopped entering the EPZ about two hours after the initial notification.	Yes	Section 2.3 – Assumption 5 Section 3.6
2.6 Summary of Demand Estimation		
a. A summary table should be provided that identifies the total populations and total vehicles used in analysis for permanent residents, transients, transit dependent residents, special facilities, schools, shadow population, and pass-through demand used in each scenario.	Yes	Tables 3-7, 3-8
3.0 Roadway Capacity		
a. The method(s) used to assess roadway capacity should be discussed.	Yes	Section 4
3.1 Roadway Characteristics		
a. A field survey of key routes within the EPZ has been conducted.	Yes	Section 1.3
b. Information should be provided describing the extent of the survey, and types of information gathered and used in the analysis.	Yes	Section 1.3
c. A table similar to that in Appendix A, "Roadway Characteristics," of NUREG/CR-7002 should be provided.	Yes	Appendix K, Table K-1
d. Calculations for a representative roadway segment should be provided.	Yes	Section 4

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
e. A legible map of the roadway system that identifies node numbers and segments used to develop the ETE should be provided and should be similar to Figure 3-1, "Roadway Network Identifying Nodes and Segments," of NUREG/CR-7002.	Yes	Appendix K, Figures K-1 through K-21 present the entire link-node analysis network at a scale suitable to identify all links and nodes
3.2 Capacity Analysis		
a. The approach used to calculate the roadway capacity for the transportation network should be described in detail and identifies factors that should be expressly used in the modeling.	Yes	Section 4
b. The capacity analysis identifies where field information should be used in the ETE calculation.	Yes	Section 1.3, Section 4
3.3 Intersection Control		
a. A list of intersections should be provided that includes the total number of intersections modeled that are unsignalized, signalized, or manned by response personnel.	Yes	Appendix K, Table K-2
b. Characteristics for the 10 highest volume intersections within the EPZ are provided including the location, signal cycle length, and turn lane queue capacity.	Yes	Table J-1
c. Discussion should be provided on how signal cycle time is used in the calculations.	Yes	Section 4.1, Appendix C.
3.4 Adverse Weather		

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. The adverse weather condition should be identified and the effects of adverse weather on mobilization time should be considered.	Yes	Table 2-1, Section 2.3 – Assumption 9 Mobilization time – Table 2-2, Section 5.3 (page 5-10)
b. The speed and capacity reduction factors identified in Table 3-1, “Weather Capacity Factors,” of NUREG/CR-7002 should be used or a basis should be provided for other values.	Yes	Table 2-2 – based on HCM 2010. The factors provided in Table 3-1 of NUREG/CR-7002 are from HCM 2000.
c. The study identifies assumptions for snow removal on streets and driveways, when applicable.	Yes	Section 5.3 – page 5-10 Appendix F – Section F.3.3
4.0 Development of Evacuation Times		
4.1 Trip Generation Time		
a. The process used to develop trip generation times should be identified.	Yes	Section 5
b. When telephone surveys are used, the scope of the survey, area of survey, number of participants, and statistical relevance should be provided.	Yes	Appendix F
c. Data obtained from telephone surveys should be summarized.	Yes	Appendix F
d. The trip generation time for each population group should be developed from site specific information.	Yes	Section 5, Appendix F
4.1.1 Permanent Residents and Transient Population		

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. Permanent residents are assumed to evacuate from their homes but are not assumed to be at home at all times. Trip generation time includes the assumption that a percentage of residents will need to return home prior to evacuating.	Yes	Section 5 discusses trip generation for households with and without returning commuters. Table 6-3 presents the percentage of households with returning commuters and the percentage of households either without returning commuters or with no commuters. Appendix F presents the percent households who will await the return of commuters.
b. Discussion should be provided on the time and method used to notify transients. The trip generation time discusses any difficulties notifying persons in hard to reach areas such as on lakes or in campgrounds.	Yes	Section 5.4.3
c. The trip generation time accounts for transients potentially returning to hotels prior to evacuating.	Yes	Section 5, Figure 5-1
d. Effect of public transportation resources used during special events where a large number of transients should be expected should be considered.	Yes	Section 3.7
e. The trip generation time for the transient population should be integrated and loaded onto the transportation network with the general public.	Yes	Section 5, Table 5-9
4.1.2 Transit Dependent Residents		

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. If available, existing plans and bus routes should be used in the ETE analysis. If new plans should be developed with the ETE, they have been agreed upon by the responsible authorities.	Yes	Section 8.3 – page 8-7. Figure 8-2, Table 8-10.
b. Discussion should be included on the means of evacuating ambulatory and non-ambulatory residents.	Yes	Section 8.4
c. The number, location, and availability of buses, and other resources needed to support the demand estimation should be provided.	Yes	Section 8.4
d. Logistical details, such as the time to obtain buses, brief drivers, and initiate the bus route should be provided.	Yes	Section 8.4, Figure 8-1
e. Discussion should identify the time estimated for transit dependent residents to prepare and travel to a bus pickup point, and describes the expected means of travel to the pickup point.	Yes	Section 8.3
f. The number of bus stops and time needed to load passengers should be discussed.	Yes	Section 8.3
g. A map of bus routes should be included.	Yes	Figure 8-2
h. The trip generation time for non-ambulatory persons includes the time to mobilize ambulances or special vehicles, time to drive to the home of residents, loading time, and time to drive out of the EPZ should be provided.	Yes	Section 8.4
i. Information should be provided to supports analysis of return trips, if necessary.	Yes	Sections 8.3, 8.4 Figure 8-1 Tables 8-11 through 8-13

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
4.1.3 Special Facilities		
a. Information on evacuation logistics and mobilization times should be provided.	Yes	Section 8-4, Tables 8-14 through 8-16, 8-18
b. Discussion should be provided on the inbound and outbound speeds.	Yes	Sections 8.4.
c. The number of wheelchair and bed-bounds individuals should be provided, and the logistics of evacuating these residents should be discussed.	Yes	Tables 8-4, 8-14 through 8-16
d. Time for loading of residents should be provided	Yes	Section 8.4
e. Information should be provided that indicates whether the evacuation can be completed in a single trip or if additional trips should be needed.	Yes	Section 8.4, Table 8-5
f. If return trips should be needed, the destination of vehicles should be provided.	Yes	Section 8.4
g. Discussion should be provided on whether special facility residents are expected to pass through the reception center prior to being evacuated to their final destination.	Yes	Section 8.4
h. Supporting information should be provided to quantify the time elements for the return trips.	Yes	Section 8.4. Tables 8-14 through 8-16.
4.1.4 Schools		
a. Information on evacuation logistics and mobilization time should be provided.	Yes	Section 8.4

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. Discussion should be provided on the inbound and outbound speeds.	Yes	Tables 8-7 through 8-9 Outbound speeds are defined as the minimum of the evacuation route speed and the State school bus speed limit. Inbound speeds are limited to the State school bus speed limit.
c. Time for loading of students should be provided.	Yes	Tables 8-7 through 8-9, Discussion in Section 8.4
d. Information should be provided that indicates whether the evacuation can be completed in a single trip or if additional trips are needed.	Yes	Section 8.4
e. If return trips are needed, the destination of school buses should be provided.	Yes	Section 8.4
f. If used, reception centers should be identified. Discussion should be provided on whether students are expected to pass through the reception center prior to being evacuated to their final destination.	Yes	Table 8-3. Students are evacuated to receiving schools where they will be picked up by parents or guardians.
g. Supporting information should be provided to quantify the time elements for the return trips.	Yes	Tables 8-7 and 8-9 provide time needed to arrive at host facility, which could be used to compute a second wave evacuation if necessary
4.2 ETE Modeling		

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
a. General information about the model should be provided and demonstrates its use in ETE studies.	Yes	DYNEV II (Ver. 4.0.6.0). Section 1.3, Table 1-3, Appendix B, Appendix C.
b. If a traffic simulation model is not used to conduct the ETE calculation, sufficient detail should be provided to validate the analytical approach used. All criteria elements should have been met, as appropriate.	No	Not applicable as a traffic simulation model was used.
4.2.1 Traffic Simulation Model Input		
a. Traffic simulation model assumptions and a representative set of model inputs should be provided.	Yes	Appendices B and C describe the simulation model assumptions and algorithms Table J-2
b. A glossary of terms should be provided for the key performance measures and parameters used in the analysis.	Yes	Appendix A Tables C-1, C-2
4.2.2 Traffic Simulation Model Output		
a. A discussion regarding whether the traffic simulation model used must be in equilibration prior to calculating the ETE should be provided.	Yes	Appendix B

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. The minimum following model outputs should be provided to support review: <ol style="list-style-type: none"> 1. Total volume and percent by hour at each EPZ exit node. 2. Network wide average travel time. 3. Longest queue length for the 10 intersections with the highest traffic volume. 4. Total vehicles exiting the network. 5. A plot that provides both the mobilization curve and evacuation curve identifying the cumulative percentage of evacuees who have mobilized and exited the EPZ. 6. Average speed for each major evacuation route that exits the EPZ. 	Yes	<ol style="list-style-type: none"> 1. Table J-5. 2. Table J-3. 3. Table J-1. 4. Table J-3. 5. Figures J-1 through J-14 (one plot for each scenario considered). 6. Table J-4. Network wide average speed also provided in Table J-3.
c. Color coded roadway maps should be provided for various times (i.e., at 2, 4, 6 hrs., etc.) during a full EPZ evacuation scenario, identifying areas where long queues exist including level of service (LOS) "E" and LOS "F" conditions, if they occur.	Yes	Figures 7-3 through 7-9
4.3 Evacuation Time Estimates for the General Public		
a. The ETE should include the time to evacuate 90% and 100% of the total permanent resident and transient population	Yes	Tables 7-1, 7-2

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. The ETE for 100% of the general public should include all members of the general public. Any reductions or truncated data should be explained.	Yes	Section 5.4 – truncating survey data to eliminate statistical outliers Table 7-2 – 100 th percentile ETE for general public
c. Tables should be provided for the 90 and 100 percent ETEs similar to Table 4-3, “ETEs for Staged Evacuation Keyhole,” of NUREG/CR-7002.	Yes	Tables 7-3, 7-4
d. ETEs should be provided for the 100 percent evacuation of special facilities, transit dependent, and school populations.	Yes	Section 8.4 Tables 8-7 through 8-9 Tables 8-11 through 8-13 Tables 8-14 through 8-16 Table 8-18
5.0 Other Considerations		
5.1 Development of Traffic Control Plans		
a. Information that responsible authorities have approved the traffic control plan used in the analysis should be provided.	Yes	Section 9, Appendix G
b. A discussion of adjustments or additions to the traffic control plan that affect the ETE should be provided.	Yes	Appendix G
5.2 Enhancements in Evacuation Time		
a. The results of assessments for improvement of evacuation time should be provided.	Yes	Appendix M

NRC Review Criteria	Criterion Addressed in ETE Analysis	Comments
b. A statement or discussion regarding presentation of enhancements to local authorities should be provided.	Yes	Results of the ETE study were formally presented to local authorities at the final project meeting. Recommended enhancements were discussed.
5.3 State and Local Review		
a. A list of agencies contacted and the extent of interaction with these agencies should be discussed.	Yes	Table 1-1
b. Information should be provided on any unresolved issues that may affect the ETE.	Yes	No issues were determined after review with the offsite agencies
5.4 Reviews and Updates		
a. A discussion of when an updated ETE analysis is required to be performed and submitted to the NRC.	Yes	Appendix M, Section M.3
5.5 Reception Centers and Congregate Care Center		
a. A map of congregate care centers and reception centers should be provided.	Yes	Figure 10-1
b. If return trips are required, assumptions used to estimate return times for buses should be provided.	Yes	Section 8.3 discusses a multi-wave evacuation procedure. Figure 8-1
c. It should be clearly stated if it is assumed that passengers are left at the reception center and are taken by separate buses to the congregate care center.	Yes	Section 2.3 – Assumption 7h Section 10

Technical Reviewer _____

Date _____

Supervisory Review _____

Date _____

Procedure/Document Number: TR-510

Revision: 2

Equipment/Facility/Other: Pilgrim Nuclear Power Station

Title: PNPS Evacuation Time Estimate

Part I. Description of Activity Being Reviewed: This change to the PNPS Evacuation Time Estimate makes editorial and intent changes as described below:

1. **Cover page** - date changed to December, 2015 and Revision 1 changed to Revision 2
2. **Executive Summary—Table 8-7, School Evacuation Time Estimates: Good Weather**, Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:
 Dist. EPZ Boundary to Reception Center from 16.2 miles to 14.6 miles
 Travel Time from EPZ Boundary to Reception Center from 25 to 22 minutes, and
 ETE to Reception Center from 2:20 to 2:15 hr:min. Page ES-16
3. **Section 8—Table 8-7, School Evacuation Time Estimates: Good Weather**
 Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:
 Dist. EPZ Boundary to Reception Center from 16.2 miles to 14.6 miles
 Travel Time from EPZ Boundary to Reception Center from 25 to 22 minutes, and
 ETE to Reception Center from 2:20 to 2:15 hr:min. Page 8-29
4. **Section 8 – Table 8-8, School Evacuation Times Estimates - Rain**
 Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:
 Dist. EPZ Boundary to Reception Center from 16.2 miles to 14.6 miles
 Travel Time from EPZ Boundary to Reception Center from 28 to 26 minutes, and
 ETE to Reception Center from 2:40 to 2:35 hr:min. Page 8-32
5. **Section 8 – Table 8-9, School Evacuation Times Estimates - Snow**
 Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:
 Dist. EPZ Boundary to Reception Center from 16.2 miles to 14.6 miles
 Travel Time from EPZ Boundary to Reception Center from 33 to 30 minutes, and
 ETE to Reception Center from 3:00 to 2:55 hr:min. Page 8-35
6. **Pages ES-16, 8-29, 8-32 and 8-35** updated to indicate Revision 2.

Part II. Activity Previously Reviewed?

Is this activity fully bounded by an NRC approved 10 CFR 50.90 submittal or Alert and Notification System Design Report?

If YES, identify bounding source document number/approval reference and ensure the basis for concluding the source document fully bounds the proposed change is documented below:

☐ YES

50.54(q) (3)
 Evaluation is
 NOT required.
 Enter
 justification
 below and
 complete Part
 VI.

☒ NO

Continue to
 next part

Justification:

☐ Bounding document attached (optional)

Part III. Applicability of Other Regulatory Change Control Processes

Check if any other regulatory change processes control the proposed activity. (Refer to EN-LI-100)

NOTE: For example, when a design change is the proposed activity, consequential actions may include changes to other documents which have a different change control process and are **NOT** to be included in this 50.54(q)(3) Screening.

Procedure/Document Number: TR-510

Revision: 2

Equipment/Facility/Other: Pilgrim Nuclear Power Station

Title: PNPS Evacuation Time Estimate

APPLICABILITY CONCLUSION

- ☒ If there are no controlling change processes, continue the 50.54(q)(3) Screening.
- ☐ One or more controlling change processes are selected, however, some portion of the activity involves the emergency plan or affects the implementation of the emergency plan; continue the 50.54(q)(3) Screening for that portion of the activity. Identify the applicable controlling change processes below.
- ☐ One or more controlling change processes are selected and fully bounds all aspects of the activity. 50.54(q)(3) Evaluation is NOT required. Identify controlling change processes below and complete Part VI.

CONTROLLING CHANGE PROCESSES

10CFR50.54 (q)

Part IV. Editorial Change

Is this activity an editorial or typographical change such as formatting, paragraph numbering, spelling, or punctuation that does not change intent? Yes: Items 1 and 6

Justification:

Item 1: The PNPS ETE Cover page was updated to indicate Revision 2 and to reflect the issuance period of December, 2015

Item 6: This change updated pages ES-16, 8-29, 8-32 and 8-35 to indicate Revision 2.

"No" is checked because this procedure revision contains other changes that are not editorial

☐ YES
50.54(q) (3)
Evaluation is
NOT required.
Enter
justification
and complete
Part VI.

☒ NO
Continue to
next part

Part V. Emergency Planning Element/Function Screen (Associated 10 CFR 50.47(b) planning standard function identified in brackets) Does this activity affect any of the following, including program elements from NUREG-0654/FEMA REP-1 Section II?

1. Responsibility for emergency response is assigned. [1]	<input type="checkbox"/>
2. The response organization has the staff to respond and to augment staff on a continuing basis (24/7 staffing) in accordance with the emergency plan. [1]	<input type="checkbox"/>
3. The process ensures that on shift emergency response responsibilities are staffed and assigned. [2]	<input type="checkbox"/>
4. The process for timely augmentation of onshift staff is established and maintained. [2]	<input type="checkbox"/>
5. Arrangements for requesting and using off site assistance have been made. [3]	<input type="checkbox"/>
6. State and local staff can be accommodated at the EOF in accordance with the emergency plan. [3]	<input type="checkbox"/>
7. A standard scheme of emergency classification and action levels is in use. [4]	<input type="checkbox"/>
8. Procedures for notification of State and local governmental agencies are capable of alerting them of the declared emergency within 15 minutes after declaration of an emergency and providing follow-up notifications. [5]	<input type="checkbox"/>
9. Administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway. [5]	<input type="checkbox"/>
10. The public ANS meets the design requirements of FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants, or complies with the licensee's FEMA-approved ANS design report and supporting FEMA approval letter. [5]	<input type="checkbox"/>
11. Systems are established for prompt communication among principal emergency response organizations. [6]	<input type="checkbox"/>
12. Systems are established for prompt communication to emergency response personnel. [6]	<input type="checkbox"/>

Procedure/Document Number: TR-510	Revision: 2
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Title: PNPS Evacuation Time Estimate	

13. Emergency preparedness information is made available to the public on a periodic basis within the plume exposure pathway emergency planning zone (EPZ). [7]	<input type="checkbox"/>
14. Coordinated dissemination of public information during emergencies is established. [7]	<input type="checkbox"/>
15. Adequate facilities are maintained to support emergency response. [8]	<input type="checkbox"/>
16. Adequate equipment is maintained to support emergency response. [8]	<input type="checkbox"/>
17. Methods, systems, and equipment for assessment of radioactive releases are in use. [9]	<input type="checkbox"/>
18. A range of public PARs is available for implementation during emergencies. [10]	<input type="checkbox"/>
19. Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities. [10]	<input checked="" type="checkbox"/>
20. A range of protective actions is available for plant emergency workers during emergencies, including those for hostile action events. [10]	<input type="checkbox"/>
21. The resources for controlling radiological exposures for emergency workers are established. [11]	<input type="checkbox"/>
22. Arrangements are made for medical services for contaminated, injured individuals. [12]	<input type="checkbox"/>
23. Plans for recovery and reentry are developed. [13]	<input type="checkbox"/>
24. A drill and exercise program (including radiological, medical, health physics and other program areas) is established. [14]	<input type="checkbox"/>
25. Drills, exercises, and training evolutions that provide performance opportunities to develop, maintain, and demonstrate key skills are assessed via a formal critique process in order to identify weaknesses. [14]	<input type="checkbox"/>
26. Identified weaknesses are corrected. [14]	<input type="checkbox"/>
27. Training is provided to emergency responders. [15]	<input type="checkbox"/>
28. Responsibility for emergency plan development and review is established. [16]	<input type="checkbox"/>
29. Planners responsible for emergency plan development and maintenance are properly trained. [16]	<input type="checkbox"/>

APPLICABILITY CONCLUSION

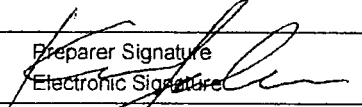
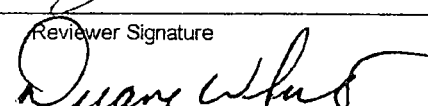
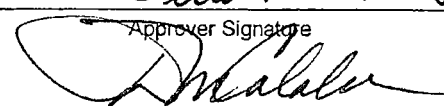
☐ If no Part V criteria are checked, a 50.54(q)(3) Evaluation is NOT required; document the basis for conclusion below and complete Part VI.

☒ If any Part V criteria are checked, complete Part VI and perform a 50.54(q)(3) Evaluation.

BASIS FOR CONCLUSION

Items 2-5: Emergency planning element 19 in Part V of this form is affected by these changes. A 10CFR50.54 (q) evaluation will be performed to determine whether or not the effectiveness of the PNPS Emergency Plan is reduced and prior NRC approval is required.

Part VI. Signatures:

Preparer Name (Print) Karen Larson-Sullivan	Preparer Signature 	Date: December 28, 2015
(Optional) Reviewer Name (Print)	Reviewer Signature	Date:
Reviewer Name (Print) Duane White Nuclear EP Project Manager	Reviewer Signature 	Date: 1/11/2016
Approver Donna Calabrese EP Manager or designee	Approver Signature 	Date: 1/12/2016

Procedure/Document Number: TR-510	Revision: 2
Equipment/Facility/Other: Pilgrim Nuclear Power Station	
Title: PNPS Evacuation Time Estimates	

Part I. Description of Proposed Change: This change to the PNPS Evacuation Time Estimate makes intent changes as described below:

2. **Executive Summary–Table 8-7, School Evacuation Time Estimates: Good Weather,**
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School
corrected for:
Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 25 to 22 minutes, and
ETE to Reception Center from 2:20 to 2:15 hr:min. Page ES-16
3. **Section 8–Table 8-7, School Evacuation Time Estimates: Good Weather**
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School
corrected for:
Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 25 to 22 minutes, and
ETE to Reception Center from 2:20 to 2:15 hr:min. Page 8-29
4. **Section 8 – Table 8-8, School Evacuation Times Estimates - Rain**
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School
corrected for:
Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 28 to 26 minutes, and
ETE to Reception Center from 2:40 to 2:35 hr:min. Page 8-32
5. **Section 8 – Table 8-9, School Evacuation Times Estimates - Snow**
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School
corrected for:
Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 33 to 30 minutes, and
ETE to Reception Center from 3:00 to 2:55 hr:min. Page 8-35

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Title: PNPS Evacuation Time Estimates	

Part II. Description and Review of Licensing Basis Affected by the Proposed Change:

An EN-LI-100, Process Applicability Determination, was performed. The only relevant criteria or processes identified was the Emergency Plan (10 CFR 50.54(q)). The Emergency Plan review is addressed by this evaluation.

The PAD performed per EN-LI-100 concluded that applicable portions of LBDs that were reviewed, including the PNPS Emergency Plan, Technical Specifications, and UFSAR, are not affected by these changes to the ETE and did not contain any relevant additional information. The Nuclear Training Manual NTM5.5 and EN-TQ-110 are not impacted by this document change.

The potentially affected section of the PNPS Emergency Plan included Section J, Protective Response, Section 8, Evacuation Time Estimates. Proposed changes were reviewed in consideration of language within the PNPS Emergency Plan and in light of changes identified within the PNPS EPlan Chronology of changes, with no items identified for potential impact due to the proposed changes.

NUREG 0654 Supplement 3 Implementation for Pilgrim Nuclear Power Station was reviewed, with no identified potential impact due to the proposed changes.

PNPS Licensing Correspondence Logs from 1976 through 2006, the Licensing Basis History and the EP Procedure Commitment listing were reviewed to determine if any commitments would be affected by the revision of this procedure. No applicable commitments were found.

Part III. Describe How the Proposed Change Complies with Relevant Emergency Preparedness Regulation(s) and Previous Commitment(s) Made to the NRC:

The following Emergency Planning standard and function has been identified as potentially affected by these activities:

10 CFR 50.47(b)(10) - Emergency Protective Actions

- Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities.

Appendix E to 10 CFR 50 does not contain any support requirements. Informing criteria appear in NUREG-0654 in Sections II.J.1-8, Section II.J.10, and Supplement 3 and in the licensee's emergency plan.

Site Compliance: The activities within Part I of this form continue to ensure that evacuation time estimates for the Plume EPZ are available to support the formulation of PARs during emergencies. The activity of correcting travel time and distance for these schools from the EPZ boundary to the RC does not affect the development of PARs and evacuation time estimates from within the EPZ, and conclusions from the PNPS NUREG-0654 Supplement 3 remain unaffected and unchanged with this revision.

Previous Commitments to the NRC: PNPS Emergency Plan chronological change listing, PNPS EP Procedure Commitment listing and the current listing of NRC commitments associated with the PNPS EPIPs or PNPS Emergency Plan changes were reviewed for potential NRC commitment impacts as a result of this procedure revision. No applicable commitments were found.

Procedure/Document Number: TR-510

Revision: 2

Equipment/Facility/Other: Pilgrim Nuclear Power Station

Title: PNPS Evacuation Time Estimates

Part IV. Description of Emergency Plan Planning Standards, Functions and Program Elements Affected by the Proposed Change:

The following Emergency Planning standard associated with 10 CFR 50.47(b) has been identified as potentially affected by these activities, as well as elements associated with Appendix E:

10 CFR 50.47(b)(10) - Emergency Protective Actions

- Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities.

Appendix E to 10 CFR 50 does not contain any support requirements. Informing criteria appear in NUREG-0654 in Sections II.J.1-8, Section II.J.10, and Supplement 3 and in the licensee's emergency plan.

Part V. Description of Impact of the Proposed Change on the Effectiveness of Emergency Plan Functions:

The changes listed in Part I of this document included revisions to three tables associated with the School Evacuation Time Estimates for three Kingston schools: Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School. These changes are the result of a correction to the designated reception center (host school) to which the schools are assigned. The ETE determines distances and times within the EPZ and outside of the EPZ to their final host destination separately; there is no impact to the ETE for these populations in terms of distance or time to evacuate the plume EPZ.

The impact of the determined distance and time from the plume EPZ boundary to the corrected reception center results in a reduction in both distance and time for three evaluated scenarios which considered Good Weather, Rain and Snow, as follows:

Item 2. Executive Summary-Table 8-7, School Evacuation Time Estimates: Good Weather, Page ES-16

Item 3. Section 8- Table 8-7, School Evacuation Time Estimates: Good Weather, Page 8-29
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:

Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 25 to 22 minutes, and
ETE to Reception Center from 2:20 to 2:15 hr:min.

Item 4. Section 8 - Table 8-8, School Evacuation Times Estimates - Rain, Page 8-32
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:

Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 28 to 26 minutes, and
ETE to Reception Center from 2:40 to 2:35 hr:min.

Item 5. Section 8 - Table 8-9, School Evacuation Times Estimates - Snow, Page 8-35
Sacred Heart Early Childhood, Sacred Heart Elementary School, and Sacred Heart High School corrected for:

Dist. EPZ Boundary to Reception Center (R.C.) from 16.2 miles to 14.6 miles
Travel Time from EPZ Boundary to Reception Center (R.C.) from 33 to 30 minutes, and
ETE to Reception Center from 3:00 to 2:55 hr:min.

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Title: PNPS Evacuation Time Estimates	

The route from the EPZ schools to the EPZ boundary is 4.8 miles, which is accurately documented in Tables 8-7 through 8-9 of the ETE report for these three schools. After departing the EPZ, the route continues leading into Bridgewater-Raynham Regional High School. The route from the EPZ boundary to the reception center for these three schools is actually 14.6 miles. This does not match the 16.2 miles reported in Tables 8-7 through 8-9 of the ETE report. .

There were no computational changes made in the Revision 2 to the PNPS ETE based on the Sacred Heart Early Childhood Center, Sacred Heart Elementary School, Sacred Heart High School corrections. Review of the bus routes used to evacuate these schools (as discussed above in this response), including the Sacred Heart Early Childhood Center, Sacred Heart Elementary School, and Sacred Heart High School, were mistakenly assigned to the Leddy Elementary School in both Rev. 0 and Rev. 1 of the ETE report. The route to this reception center is 1.6 miles longer than the route to the correct reception center (Bridgewater-Raynham Regional High School) which results in a difference in ETE to the Reception Center ranging from 2 to 3 minutes depending on the weather. These differences in time range from 1.1% to 1.6% of the average ETE to the R.C., which as stated below does not affect the PAR decision making.

Since the ETE determines distances and times within the EPZ to the boundary of the plume EPZ, and outside of the EPZ to their final host destination separately, and since there is no impact to the ETE for these populations in terms of distance or time to evacuate the plume EPZ, this correction does not impact decision making for Protective Action Recommendations.

Conclusion Regarding Impact

The proposed changes to the PNPS ETE continue to meet the planning standards outlined in 10 CFR 50.47(b)(10). This revision does not require a change to the emergency plan. The effectiveness of the PNPS Emergency Plan is not reduced. The PNPS Evacuation Time Estimate changes can be incorporated without prior NRC approval.

Procedure/Document Number: TR-510	Revision: 2
Equipment/Facility/Other: Pilgrim Nuclear Power Station	
Title: PNPS Evacuation Time Estimates	

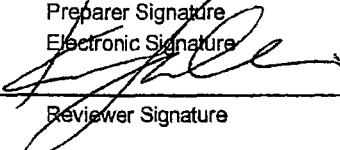
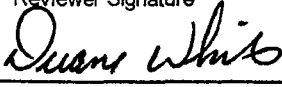

Part VI. Evaluation Conclusion

Answer the following questions about the proposed change.

- | | |
|---|---|
| 1. Does the proposed change comply with 10 CFR 50.47(b) and 10 CFR 50 Appendix E? | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| 2. Does the proposed change maintain the effectiveness of the emergency plan (i.e., no reduction in effectiveness)? | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| 3. Does the proposed change constitute an emergency action level scheme change? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |

If questions 1 or 2 are answered NO, or question 3 answered YES, reject the proposed change, modify the proposed change and perform a new evaluation or obtain prior NRC approval under provisions of 10 CFR 50.90. If questions 1 and 2 are answered YES, and question 3 answered NO, implement applicable change process(es). Refer to step 5.6[8].

Part VII. Signatures

Preparer Name (Print) Karen Larson-Sullivan Sr. Emergency Planner	Preparer Signature Electronic Signature 	Date: 1/11/2016
(Optional) Reviewer Name (Print)	Reviewer Signature	Date:
Reviewer Name (Print) Duane White Nuclear EP Project Manager	Reviewer Signature 	Date: 1/11/2016
Approver Name (Print) Donna Calabrese EP Manager	Approver Signature 	Date: 1/12/2016