CENTRAL MASSACHUSETTS METROPOLITAN PLANNING ORGANIZATION (CMMPO)

Douglas - Webster – Dudley – Thompson, CT
FINAL
ROUTE 12/16/197 CORRIDOR PROFILE

Central Massachusetts Metropolitan Planning Organization
2 Washington Square - Union Station
Worcester, MA 01604-4016

Prepared by the transportation staff of the

Central Massachusetts Regional Planning Commission

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1.0 INTRODUCTION

1.1 The Transportation Management System "Corridor Profile"

The transportation management systems have been the focus of a number of continuing planning efforts within the Central Massachusetts Metropolitan Planning Organization (CMMPO) region. Since the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), CMRPC staff began to supplement the CMMPO traffic monitoring program with transportation data collected to support a regional Congestion Management System (CMS), Pavement Management System (PMS), and Intermodal Management System (IMS), which later became known as "Freight Planning." Beginning in 2004, vehicle crash information from the developing Transportation Safety Planning Program was added to the expanding set of regional transportation information.

In 2005, CMRPC staff recognized that the various regional and statewide transportation management systems provide extensive information regarding the current operation of a corridor and future growth projections. As such, the *Corridor Profile* concept was developed as a means to analyze a variety of performance-based management system data, recommend short-term operational and physical improvements, and identify candidate improvements for further study. The following management system data have been compiled and analyzed for this *Route 12/16/197 Corridor Profile*:

- ***Traffic Counting:*** CMRPC Automatic Traffic Recorder (ATR) counts, MassDOT Permanent Count Station data, and associated historic growth rates.

- ***CMMPO Congestion Management Process (CMP):*** Travel-Time-and-Delay studies along Route 12/16/197 between the Uxbridge/Douglas Line and the intersection of Route 197/Route 131 in Thompson, CT; Historic and current Peak Hour Turning Movement Counts at focus intersections and associated Level-of-Service (LOS) analyses.

- ***CMMPO Transportation Safety Planning Program:*** In-depth vehicle crash analysis at focus intersections and resulting collision diagrams and crash rates; Compilation of crash information along roadway segments.

- ***CMMPO Pavement Management System (PMS):*** Pavement surface distress data and resulting Overall Condition Index (OCI) for the entire study corridor.

- ***MassDOT Bridge Management System (BMS):*** MassDOT bridge condition data as generated by *PONTIS*.

- ***Freight Movement:*** Percentage of heavy vehicles utilizing focus intersections along Route 12/16/197.

1.2 The Route 12/16/197 Corridor: Douglas, Webster, Dudley and Thompson, CT

Routes 12/16/197 are three state numbered routes within the central Massachusetts region. These three routes travel in an east-west direction within the focus area. Traffic flow data indicates a strong commute pattern with heavy eastbound flows in the morning and comparable westbound volumes during the evening. The study segment traverses the region from Dudley to Hopedale. This *Corridor Profile* focuses on the 16-mile section of Route 12/16/197 through Douglas, Webster, Dudley and Thompson, CT.

The Route 12/16/197 corridor is mostly rural, but has some urban areas in Webster and in Douglas. Route 16 actually starts outside the central Massachusetts region and then travels through Douglas and ends at Route 193 in Webster. Route 12 continues west where Route 16 ends and extends to just over the Dudley Town Line. Route 197 then starts and continues west through Dudley and into Thompson, Connecticut, while Route 12 heads directly south to Connecticut.

It should also be noted that the entirety of the Route 12/16/197 study area has also been identified by the CMMPO as a "Vital Link." The CMMPO identified Vital Links for use in measuring the regional significance of transportation improvement project choices. In addition to NHS highways, the CMMPO selected federal-aid eligible roadways that carry significant traffic volumes in relation to the area served by the roadway and enhance regional mobility and connectivity to the NHS and town centers. The Vital Links are also considered critical corridors for use in moving people and goods in the event of a natural disaster or security threat.

The Route 12/16/197 corridor has not had any major roadway improvements in recent years. Currently, there is a planned improvement project for the Route 12/Route 16/Route 193 intersection in the town of Webster. Also, the town of Douglas has a proposed project for improvements to the town center. There are no projects planned or proposed for the town of Dudley.

This *Corridor Profile* focuses on the following thirty Route 12/16/197 intersections with other arterial roadways. An indication is also provided if the intersection is under signalized control.

Town of Douglas

1. Route 16/Northeast Main Street
2. Route 16/North Street/Bowen Court
3. Route 16/Depot Street
4. Route 16/West Street
5. Route 16/Franklin Street
6. Route 16/SE Main Street/Common Street
7. Route 16/Route 96/SW Main Street
8. Route 16/Cedar Street

Town of Webster

9. Route 16/Lower Gore Road/Rawson Road
10. Route 16/Sutton Road/I-395 NB Ramp
11. Route 16/I-395 SB Ramps
12. Route 12/Route 16/Route 193 (Signalized)
13. Route 12/Racicot Avenue/Hillside Avenue
14. Route 12/Brodeur Avenue/Grandview Avenue
15. Route 12/Park Avenue/Slater Street (Signalized)
16. Route 12/North Main Street (Signalized)
17. Route 12/Lake Street (Signalized)
18. Route 12/Mechanic Street
19. Route 12/School Street
20. Route 12/Chase Avenue/Pleasant Street (Signalized)

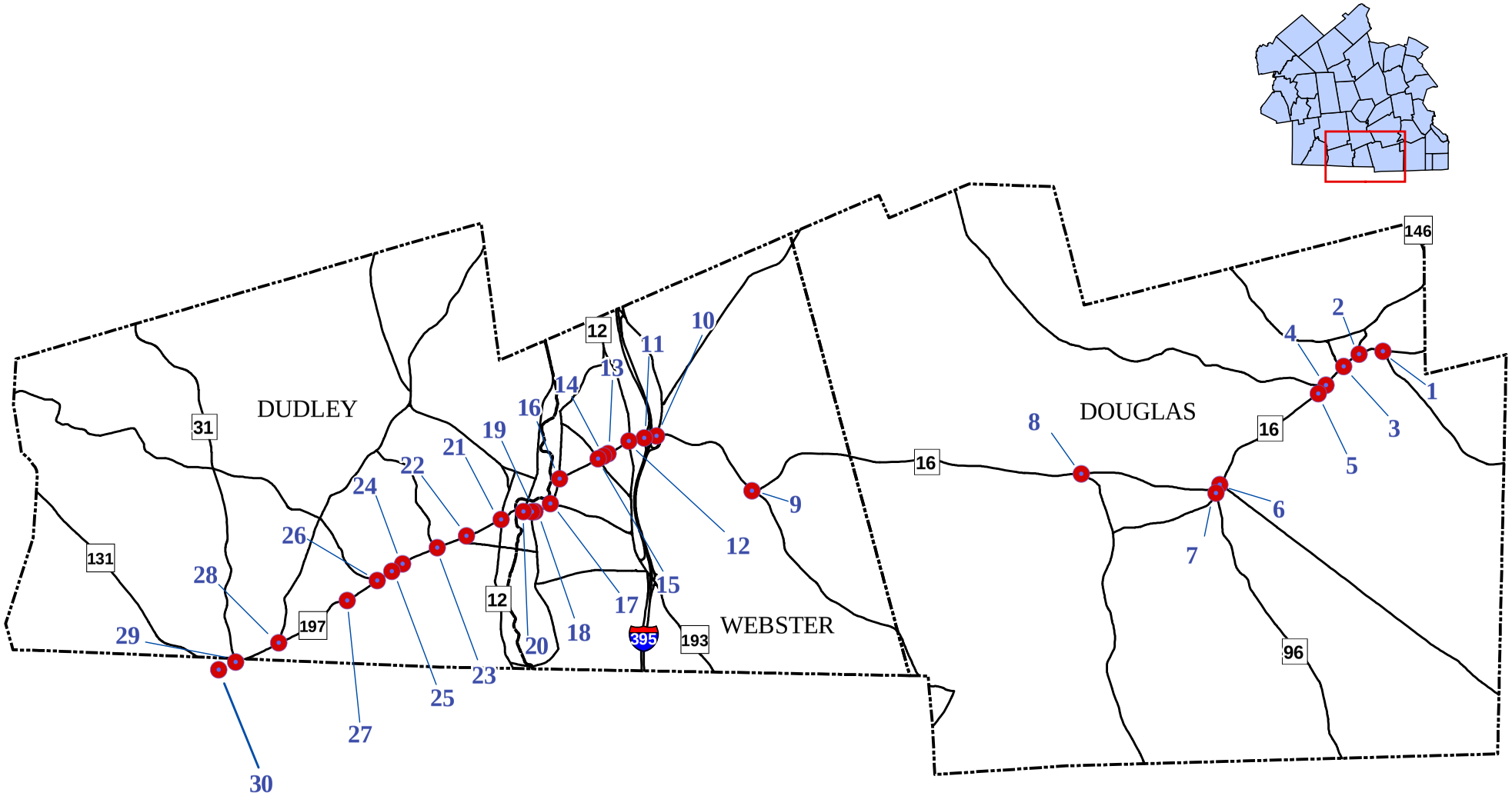
Town of Dudley

21. Route 12/Route 197/Village Street (Signalized)
22. Route 197/Brandon Road
23. Route 197/Mason Road/Paglione Drive (Signalized)
24. Route 197/Airport Road (Signalized)
25. Route 197/Nelco Avenue
26. Route 197/Dudley Hill Road/Indian Road
27. Route 197/Hall Road/Lyons Road
28. Route 197/Center Road/Fabyan Road

Town of Thompson, CT

29. Route 197/Route 31/Walker Road
30. Route 197/Route 131 (Signalized)

The following **Figure 1** is a focus map of the Route 12/16/197 corridor showing the thirty focus intersections that are discussed in the Route 12/16/197 Corridor Profile. Photos of the thirty Route 12/16/197 intersections can be found in **Figures 2 through 6**.



Legend

- Town Boundary
- Major Road
- Study Intersection
- CMRPC District

1 0.5 0 1 Miles

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ROUTE 12/16/197 CORRIDOR PROFILE
FOCUS INTERSECTIONS
TOWNS of DUDLEY, WEBSTER, DOUGLAS, & THOMPSON, CT
FIGURE 1

Source Data:
Intersection Locations provided by CMRPC.
Major Roads provided by MassDOT.
Town Bounds provided by MassGIS.

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Figure 2

Route 12/16/197 Focus Intersections

Douglas - Route 16 at Northeast Main Street

Douglas - Route 16 at North Street & Bowen Court

Douglas - Route 16 at Depot Street

Douglas - Route 16 at West Street

Douglas - Route 16 at Franklin Street

Douglas - Route 16 at Common Street & SE Main Street

Figure 3

Route 12/16/197 Focus Intersections

Douglas - Route 16 at Route 96 & SW Main Street

Douglas - Route 16 at Cedar Street

Webster - Route 16 at Lower Gore Road

Webster - Route 16 at Sutton Road & I-395 NB Ramps

Webster - Route 16 at I-395 SB Ramps

Webster - Route 12 at Route 16 & Route 193

Figure 4

Route 12/16/197 Focus Intersections

Webster - Route 12 at Hillside Avenue & Racicot Avenue

Webster - Route 12 at Brodeur Avenue & Grandview Avenue

Webster - Route 12 at Park Avenue & Slater Street

Webster - Route 12 at North Main Street

Webster - Route 12 at Lake Street

Webster - Route 12 at Mechanic Street

Figure 5

Route 12/16/197 Focus Intersections

Webster - Route 12 at School Street

Webster - Route 12 at Chase Avenue & Pleasant Street

Dudley - Route 12 at Route 197 & Village Street

Dudley - Route 197 at Brandon Road

Dudley - Route 197 at Mason Road & Paglione Drive

Dudley - Route 197 at Airport Road

Figure 6

Route 12/16/197 Focus Intersections

Dudley - Route 197 at Nelco Ave

Dudley - Route 197 at Dudley Hill Road & Indian Road

Dudley - Route 197 at Hall Road & Lyons Road

Dudley - Route 197 at Center Road & Fabyan Road

Thompson, CT - Route 197 at Route 31

Thompson, CT - Route 197 at Route 131

1.3 Existing Traffic Levels

From 2002 to 2008 there were limited actual traffic counts completed on Route 12/16/197 in the focus segment, as shown in **Table 1**. Town line counts were completed for each of the towns included in the Corridor Profile. Additionally, traffic counts were completed just east and west of Route 96 in the town of Douglas, west of Route 193 in the town of Webster, and east of Mason Road and east of Hall Road in the town of Dudley. Most of the completed traffic counts were done in 2008. If volume data was needed for roadway segments that were not counted with automatic traffic recorders (ATRs), then the regional area traffic simulation model was used, as currently calibrated.

Table 1

Route 12/16/197 Observed Daily Traffic Volumes*

	Route 12/16/197 Segment			
Town	**Start**	**End**	**Year**	**Volume**
Douglas	Rte 16/Uxbridge TL	Rte 16/Monroe St	2008	3,625
Douglas	Rte 16/Monroe St	Rte 16/NE Main St	2008	3,550
Douglas	Rte 16/Riedell Rd	Rte 16/SE Main St	2008	10,500
Douglas	Rte 16/Rte 96	Rte 16/Cedar St	2008	5,500
Douglas	Rte 16/Cedar St	Rte 16/Webster TL	2008	5,900
Webster	Rte 16/Douglas TL	Rte 16/Lower Gore Rd	2008	5,900
Webster	Rte 12/Route 193	Rte 12/Slater St	2005	18,175
Webster	Rte 12/Pleasant St	Rte 12/Dudley TL	2008	14,375
Dudley	Rte 12/Webster TL	Rte 12/Village St	2008	14,375
Dudley	Rte 197/Village St	Rte 197/Mason Rd	2002	17,950
Dudley	Rte 197/Indian Rd	Rte 197/Hall Rd	2008	10,550
Dudley	Rte 197/Center Rd	Rte 197/Thompson TL	2008	8,225

*One-day sample traffic volumes collected by automatic traffic recorders (ATRs) placed in the field by CMRPC staff

The following **Table 2** shows estimated daily traffic levels according to CMRPC's travel demand model for 2007. Traffic volumes start out at about 1,200 at the Uxbridge Town Line and rise to over 10,000 in the town center of Douglas. Volumes exceed 14,000 from West Street to Franklin Street and drop back below 7,000 at the Webster Town Line. In Webster, volumes rise above 14,000 to the west of Rawson Road. Traffic volumes stay consistently over 12,000 up until the I-395 southbound ramps, where volumes rise to above 20,000. Continuing west, total volumes exceed 30,000 between Lake Street and School Street. Volumes reduce to fewer than 19,000 at the Dudley Town Line and continue to stay between 11,000 and 16,000 through Dudley. In Thompson, CT traffic volumes are at 15,500 between Route 31 and Route 131.

Table 2

Route 12/16/197 Corridor Profile
Travel Demand Model Estimated Daily Traffic Volumes

Community	From	To	2007 Estimated Daily Traffic Volume EB	WB	Total
Douglas	Uxbridge Town Line	NE Main Street	813	401	1214
Douglas	Northeast Main Street	North Street	2176	1676	3852
Douglas	North Street	Depot Street	5381	5204	10585
Douglas	Depot Street	West Street	6987	6844	13831
Douglas	West Street	Franklin Street	7150	7046	14196
Douglas	Franklin Street	SE Main Street	4942	4804	9746
Douglas	SE Main Street	SW Main Street	5246	5219	10465
Douglas	SW Main Street	Cedar Street	3298	3396	6694
Douglas	Cedar Street	Webster TL	3319	3420	6739
Webster	Douglas TL	Rawson Road	3319	3420	6739
Webster	Rawson Road	Minebrook Road	7268	7385	14653
Webster	Minebrook Road	I-395 NB Ramps	6023	6103	12126
Webster	I-395 NB Ramps	I-395 SB Ramps	8260	6684	14944
Webster	I-395 SB Ramps	Route 12/Route 193	10823	10235	21058
Webster	Route 12/Route 193	Park Avenue/Slater Street	9211	8822	18033
Webster	Park Avenue/Slater Street	North Main Street	9009	9330	18339
Webster	North Main Street	Lake Street	13739	13346	27085
Webster	Lake Street	School Street	15824	15642	31466
Webster	School Street	Chase Avenue/Pleasant Street	11912	11623	23535
Webster	Chase Avenue/Pleasant Street	Dudley TL	9585	9309	18894
Dudley	Webster TL	Village Street	9585	9309	18894
Dudley	Village Street	Brandon Road	5844	5584	11428
Dudley	Brandon Road	Mason Road	7159	7416	14575
Dudley	Mason Road	Fabyan Road	6474	6214	12688
Dudley	Fabyan Road	Route 31	8173	8104	16277
Thompson, CT	Route 31	Route 131	7812	7694	15506

2.0 ADJACENT LAND USE

Routes 12/16/197 serve as a critical set of roadways for southern towns in the Central Massachusetts region. The roadway travels in an east/west direction through the Corridor Profile. Route 16 starts at the Uxbridge Town Line and ends at Route 193 in Webster. Route 12 continues where Route 16 ended and travels all the way to Village Street in Dudley. As Route 12 continues to the south, Route 197 begins and continues westerly towards Thompson, CT. Each of the four towns in the Corridor Profile has their own land use characteristics along Route 12/16/197. Each town has the potential for new development and redevelopment directly on the roadway or elsewhere in town. **Figure 7** is an aerial map of the communities included in this study.

2.1 Town of Douglas

Route 16 in Douglas has a variety of land uses from residential to commercial to industrial. There is industrial zoned land near the Uxbridge Town Line. Further west, the land use becomes a commercial and residential mix up to North Main Street intersection. In the downtown area, there is mostly business development with some residential houses. Continuing west, land uses are a mix of commercial and residential uses from the edge of the downtown area to just before Route 96. When Route 16 becomes Webster Street, the adjacent land becomes residential land use in the beginning and then becomes forest land about halfway towards Webster. Near the Webster Town Line, the forest land ends and the land use becomes commercial with a little industrial use mixed in.

Regarding curb cuts, most of them are located in the downtown area with all the businesses and residential housing that are located there. To the east of the downtown area, curb cuts are a little more spread out and there are not as many. The western part of Douglas has the fewest curb cuts. With the forest land along Route 16, there are no houses or businesses located in the area. Aerial photos of the Route 16 corridor can be found on **Figure 8 through Figure 10**.

2.2 Town of Webster

In the town of Webster, land use consists mostly of businesses, residential housing and some industrial companies. Near the Douglas town line, residential housing mixes with a small portion of agricultural land. Continuing west through Webster, residential housing mixes with businesses up to Interstate 395. To the east and west of Interstate 395 the land is zoned industrial and business industrial. There are two big companies located in this area. The first is Commerce Insurance, which is on the east side of Interstate 395 and has over 1,000 employees. Commerce also has offices on Main Street. The second is Cranston Print Works, located between Route 193 and Interstate 395. To the west of Route 193 the land use is a mix of residential housing and businesses all the way to North Main Street. The downtown area from Lake Street to the Dudley town line is zoned mostly business, with some industrial parcels near the town line. Along Main Street there are numerous retail shops mixed in with other businesses such as Commerce Insurance, the post office and the town hall.

There are plenty of curb cuts in Webster, compared to Douglas, Dudley and Thompson, CT. Starting from the Douglas town line and heading west, curb cuts are sparse up to Route 193. However, thereafter we see a large number of curb cuts along Route 12 due to all the businesses, driveways and side streets, all the way to the Dudley town line. **Figures 11 through 14** are aerial photos of the Route 12/16 corridor through Webster.

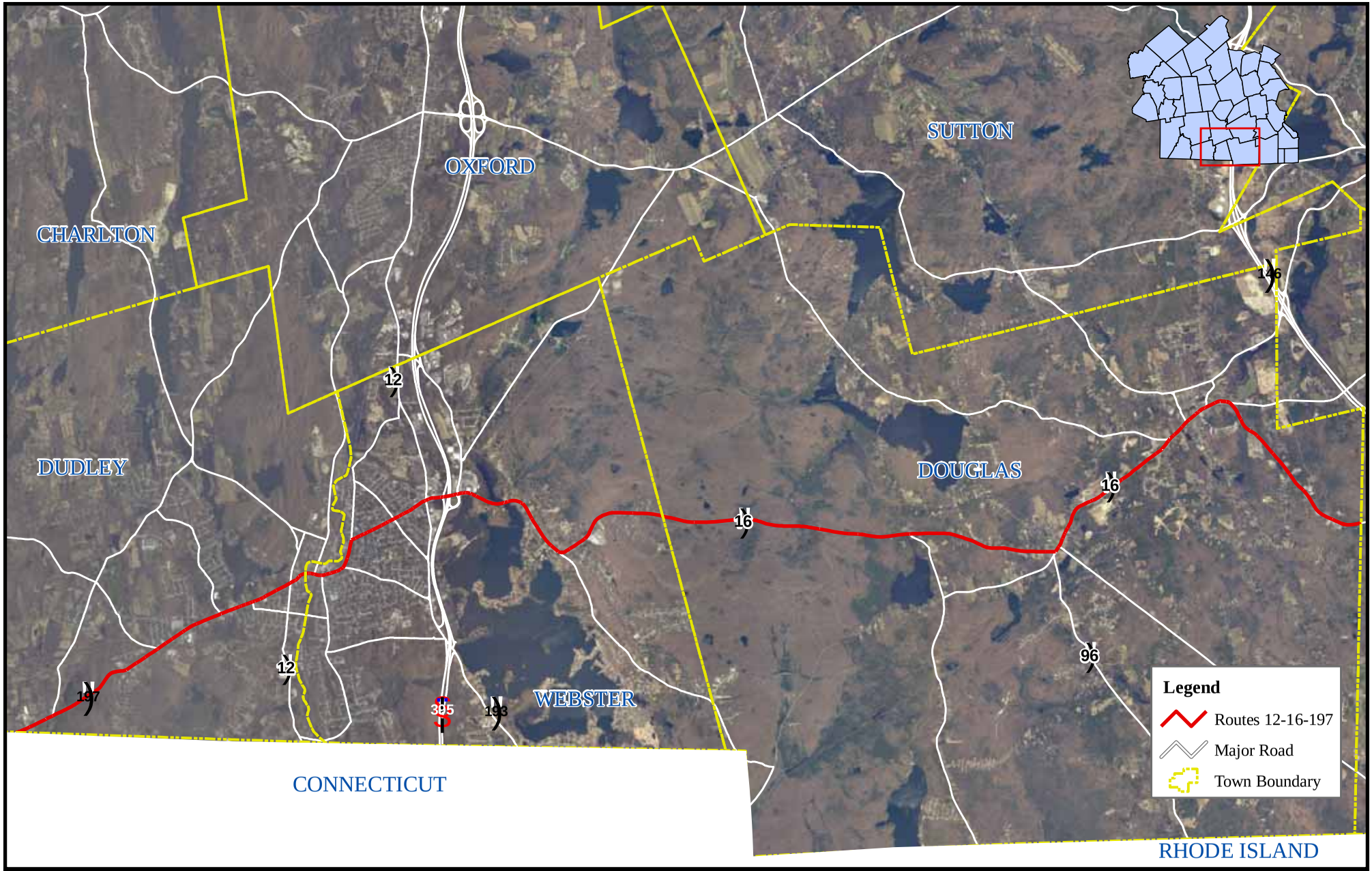
2.3 Town of Dudley

Overall, land use along Route 197 through Dudley is mostly business and residential, with a little industrial mixed in. Between the Webster town line and Mason Road, Route 197 is zoned for a mix of residential and business use. From Mason Road to Dudley Hill Road, the southern side of Route 197 is for light industrial use and the north side is a mix of residential and business. There is a car dealership on the south side of Route 197 at the intersection of Airport Road, which would be considered light industrial use. Continuing westerly, Route 197 again becomes a mix of residential housing and businesses right to the Hall Road intersection. West of Hall Road there is a land use of industry on the northern half of the roadway and light industry on the southern half. Even though it is zoned industrial, the whole area is currently a forest. After the industrial zone and before Fabyan Road, the land is all zoned for residential, but there are only a couple of houses along the roadway. The remaining part of Route 197 is industrial zoned on the north side and residential on the southern half. Aerial photos of Route 197 in Dudley are found on **Figure 15 through Figure 17**.

The curb cuts along Route 197 are numerous in some parts and less frequent in others. The majority of the curbs cuts are between the Webster town line and Hall Road, due to all the businesses and residential houses. West of Hall Road, there are fewer curbs cuts along the roadway mostly due to all the forest land adjacent to Route 197 and there are very few businesses and houses.

2.4 Town of Thompson, CT

The remaining section of the Corridor Profile is a 0.3 mile section of Route 197 in Thompson, CT. The land use is mostly residential throughout the whole segment, but there is also a small business zone at the intersection of Route 131. Also, there are many curb cuts along the roadway, mostly due to the number of residential houses. An aerial photo of Route 197, from the Dudley town line to Route 131 in Thompson, CT can be found in **Figure 18.**



0.8 0.4 0 0.8 Miles

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ROUTES 12/16/197 CORRIDOR PROFILE
AERIAL VIEW
TOWNS of DUDLEY, WEBSTER, & DOUGLAS
FIGURE 7

Source Data:
Intersection Locations provided by CMRPC.
Major Roads provided by MassHighway.
Town Bounds provided by MassGIS.

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DOUGLAS
ROUTE 16 BETWEEN NE MAIN STREET & MECHANIC STREET
FIGURE 8

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DOUGLAS
ROUTE 16 BETWEEN DEPOT ROAD & SUNSET DRIVE
FIGURE 9

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DOUGLAS
ROUTE 16 WITH ROUTE 96 and SE & NW MAIN STREET
FIGURE 10

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of WEBSTER
ROUTE 16 BETWEEN LOWER GORE ROAD & KILLDEER ROAD
FIGURE 11

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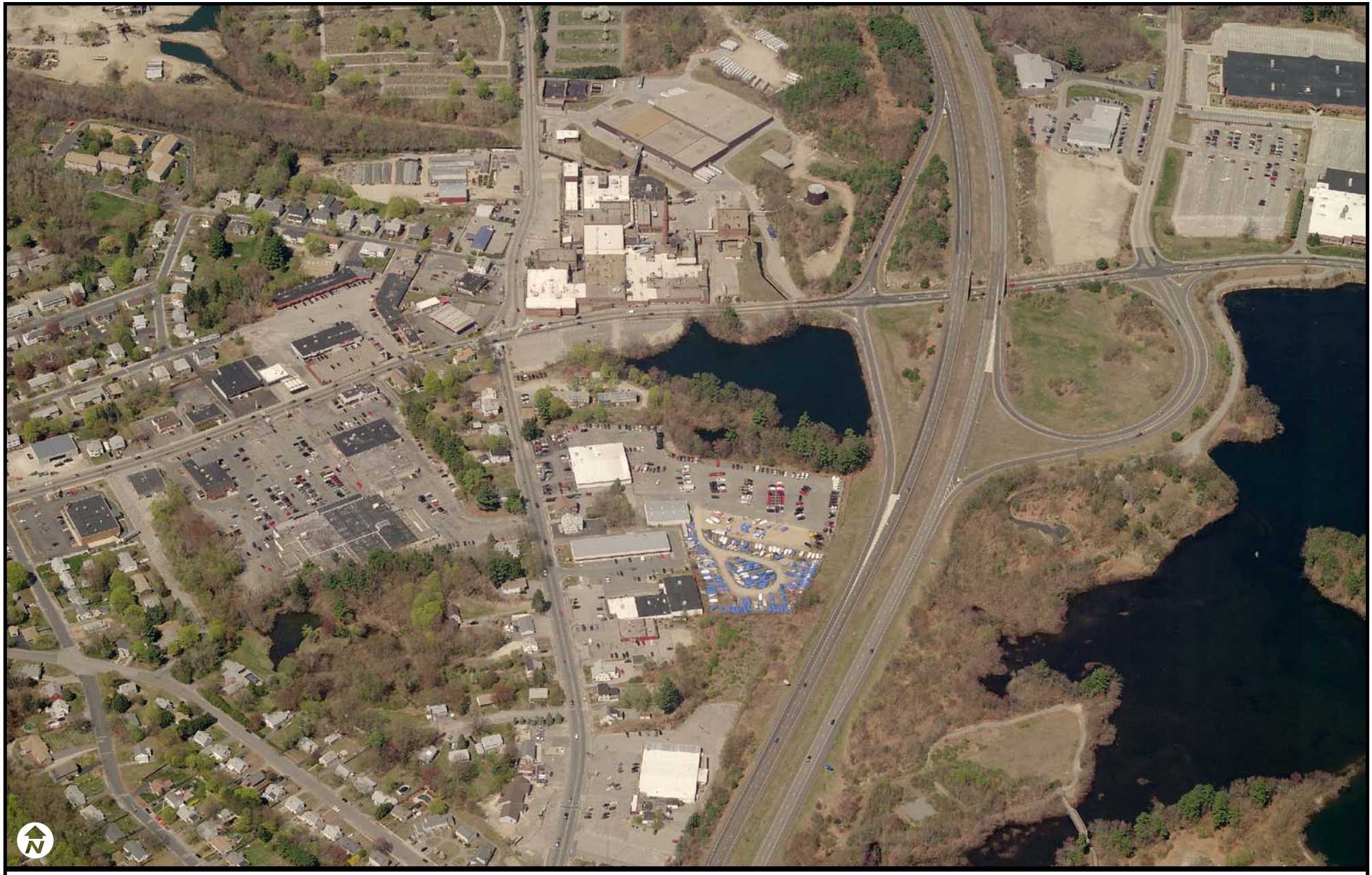

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of WEBSTER
ROUTE 12 & 16 BETWEEN INTERSTATE 395 & HILLSIDE AVENUE
FIGURE 12

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of WEBSTER
ROUTE 12 BETWEEN HILLSIDE AVENUE & GRANITE STREET
FIGURE 13

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of WEBSTER
ROUTE 12 BETWEEN NORTH MAIN STREET & DUDLEY TOWN LINE
FIGURE 14

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DUDLEY
ROUTE 12 & 197 BETWEEN WEBSTER TOWN LINE & ELIZABETH STREET
FIGURE 15

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DUDLEY
ROUTE 197 BETWEEN MASON ROAD & AIRPORT ROAD
FIGURE 16

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of DUDLEY
ROUTE 197 BETWEEN NELCO AVENUE & HALL ROAD
FIGURE 17

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ROUTE 12/16/197 CORRIDOR PROFILE
TOWN of THOMPSON, CT
ROUTE 197 BETWEEN DUDLEY TOWN LINE & ROUTE 131
FIGURE 18

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3.0 CONGESTION MANAGEMENT PROCESS (CMP)

3.1 Overview of the Central Massachusetts CMP

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) required urban areas across the country to assess traffic congestion using a management system approach. Briefly, a management system approach is one where issues are identified through a systematic process of data collection and analysis, recommendations are developed to address the issues, solutions are implemented, and their effectiveness is monitored. For the Central Massachusetts Metropolitan Planning Organization (CMMPO), staff at CMRPC began developing the region's Congestion Management System in 1994

The first step was to identify "focus segments," roadways where the traffic volume on the roadway was exceeding the operational capacity. According to the Highway Capacity Manual, a roadway's capacity is defined as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic and control conditions." Utilizing the travel demand model for base year 1990 and 2020, a number of road segments across the region were identified as "congested" or "projected" to be congested by 2020. Route 12 in Webster, from the Dudley Town Line to I-395, was identified as "congested." Beginning in 1995, CMRPC staff proceeded to verify and monitor the congested conditions in the field by conducting a series of travel-time-and-delay studies along roadways and turning movement counts at intersections. The data compiled for Route 12/16/197 since the late 1990s has been utilized in this *Corridor Profile*.

The 2006 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) called for the CMS to be evolved into a Congestion Management *Process* (CMP), with a greater focus on implementation of operational improvements to the highway system to mitigate congestion. This *Corridor Profile* provides the baseline data needed to coordinate such improvements with the MassDOT – Highway Division as well as the communities through which the highway travels.

3.2 Route 12/16/197 Travel-Time-and-Delay Studies

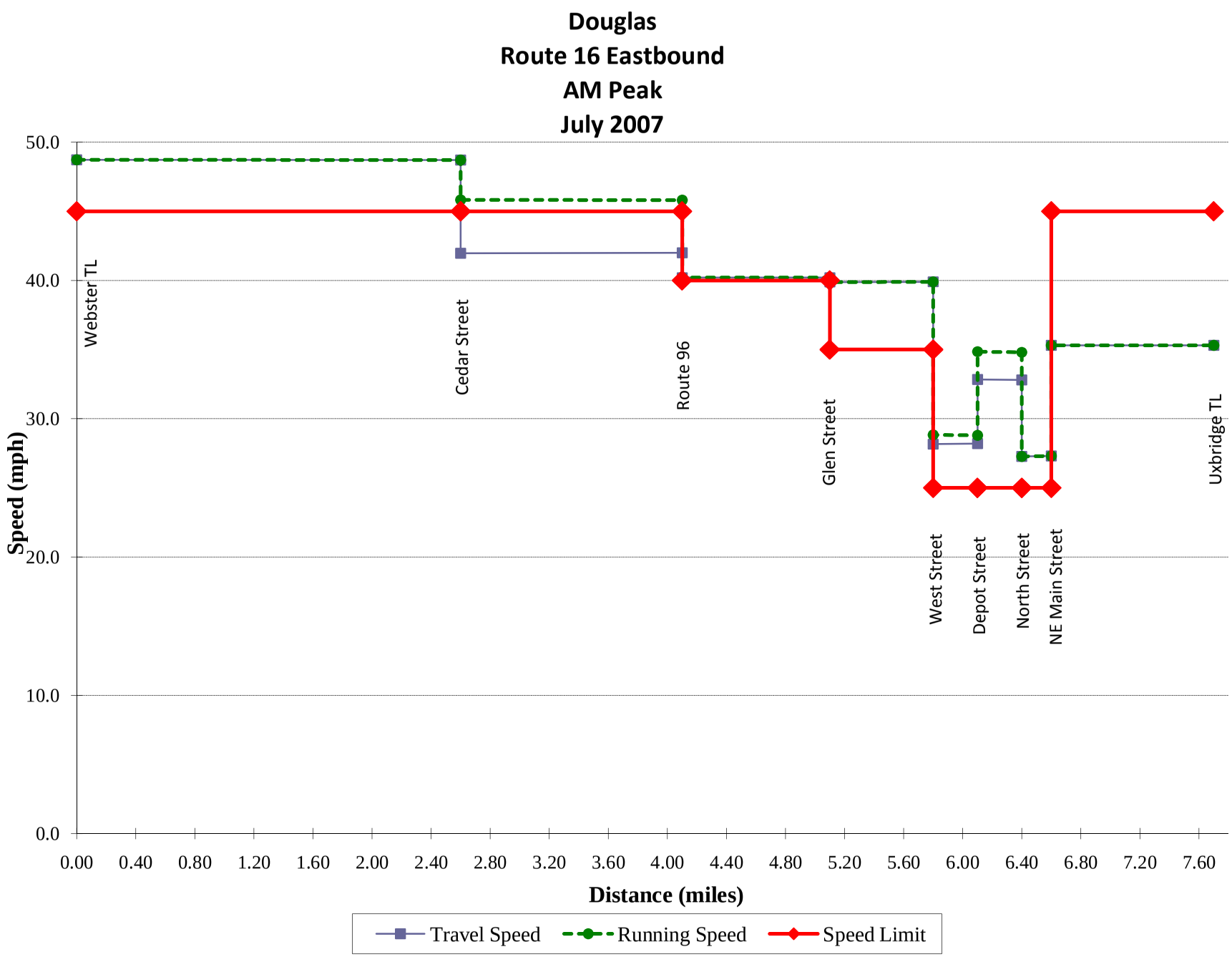
CMRPC staff conducted travel-time-and-delay studies in 2007 for this *Corridor Profile*. As indicated in **Table 3**, traveling through Douglas took about 11 minutes in the AM peak and 12 minutes in the PM peak. For Webster, travel times were about 8.5 minutes in the morning and 9 minutes in the afternoon. Traveling through the town of Dudley took the least amount of time. It took about 6 minutes in the AM and about 6.3 minutes in the PM. For a vehicle to travel from the Connecticut State Line to the Uxbridge Town Line, it would take about 25 minutes to travel 16 miles.

Table 3

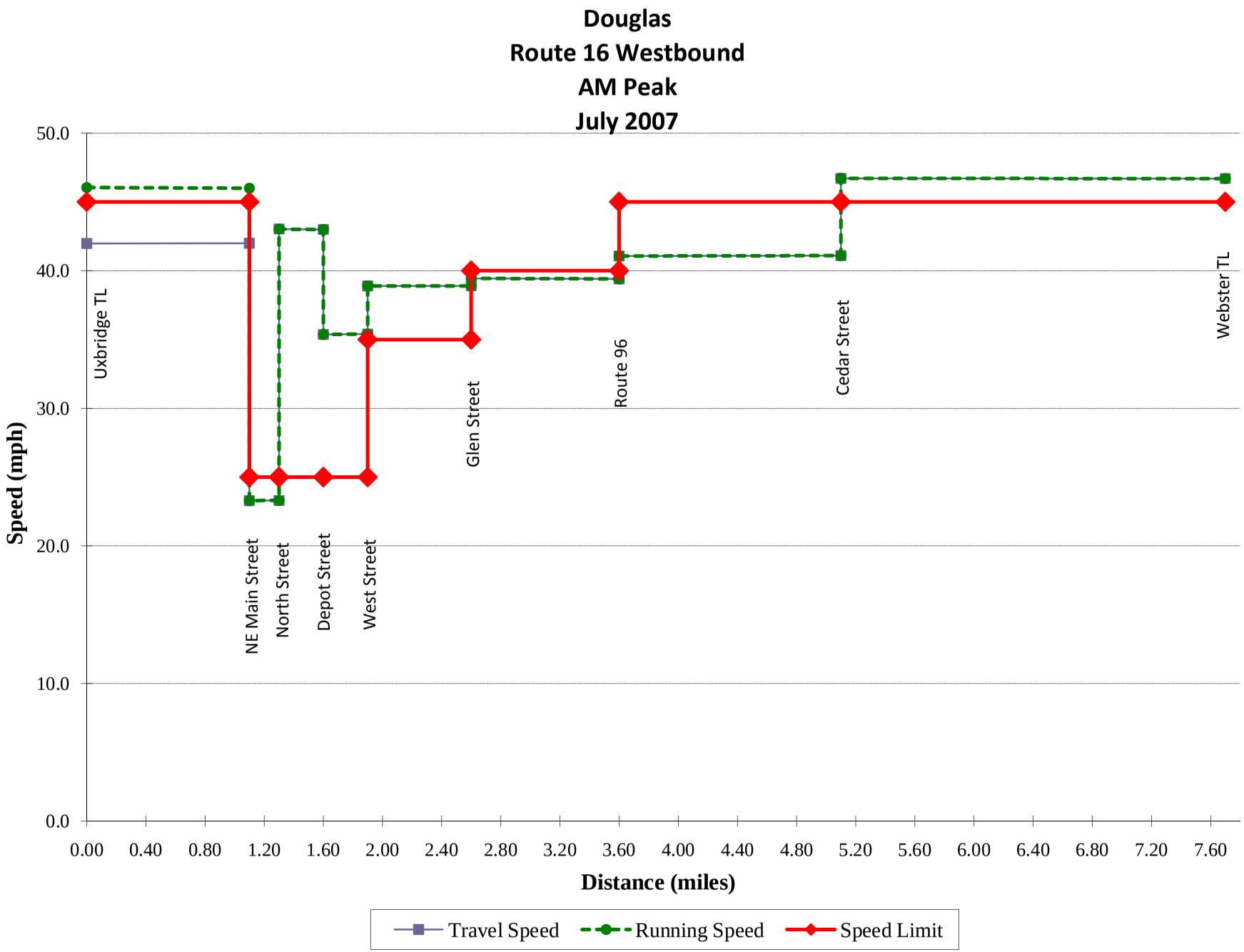
Route 12/16/197 Travel Time Results

Peak Period	Direction	Study Year	Travel Time (minutes)
AM-Douglas	Eastbound	2007	11.6
AM-Douglas	Westbound	2007	11.3
PM-Douglas	Eastbound	2007	12.0
PM-Douglas	Westbound	2007	12.3
AM-Webster	Eastbound	2007	8.8
AM-Webster	Westbound	2007	8.4
PM-Webster	Eastbound	2007	8.8
PM-Webster	Westbound	2007	9.3
AM-Dudley	Eastbound	2007	5.8
AM-Dudley	Westbound	2007	6.1
PM-Dudley	Eastbound	2007	5.9
PM-Dudley	Westbound	2007	6.6

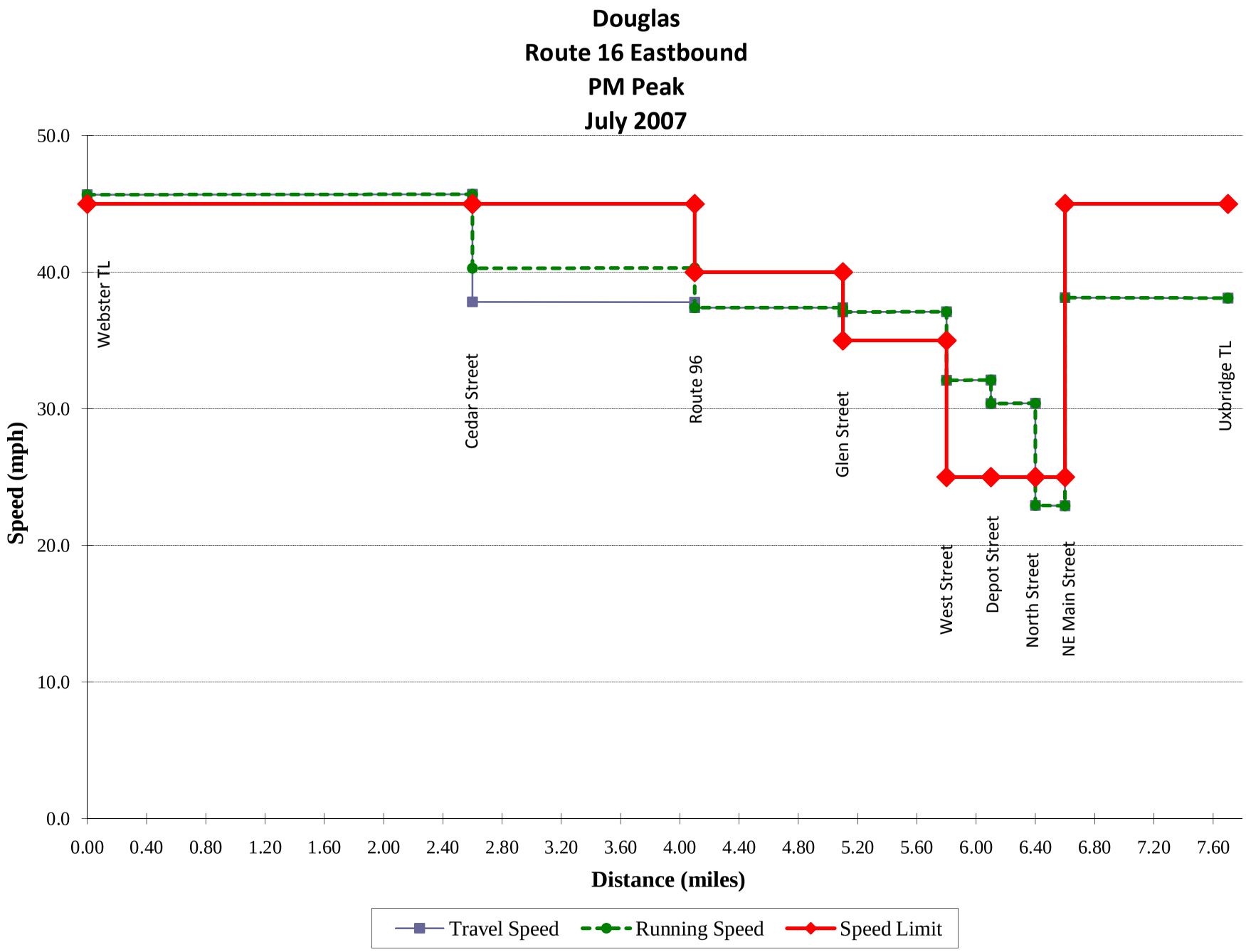
Figures 19 through 26 illustrate the difference in travel speed and running speed as observed in 2007. Running speed is the speed that the test vehicle would have theoretically been traveling had it not encountered any stopped delay (typically at a signalized intersection). These charts indicate that stopped delays due to signals appear to be more prominent for vehicles traveling westbound along the corridor during both peak travel periods studied. There are no traffic signals in the town of Douglas, but there are two stop signs on Route 16 for delay to occur. Most of the delay occurs in Webster and Dudley between Route 193 and Airport Road. This section of road is posted 35 mph, but vehicles are usually traveling 30 mph or slower, especially through the downtown of Webster.


Douglas
Route 16 Eastbound
AM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40
6.80
7.20
7.60
Distance (miles)
Webster TL
Cedar Street
Route 96
Glen Street
West Street
Depot Street
North Street
NE Main Street
Uxbridge TL
Travel Speed
Running Speed
Speed Limit

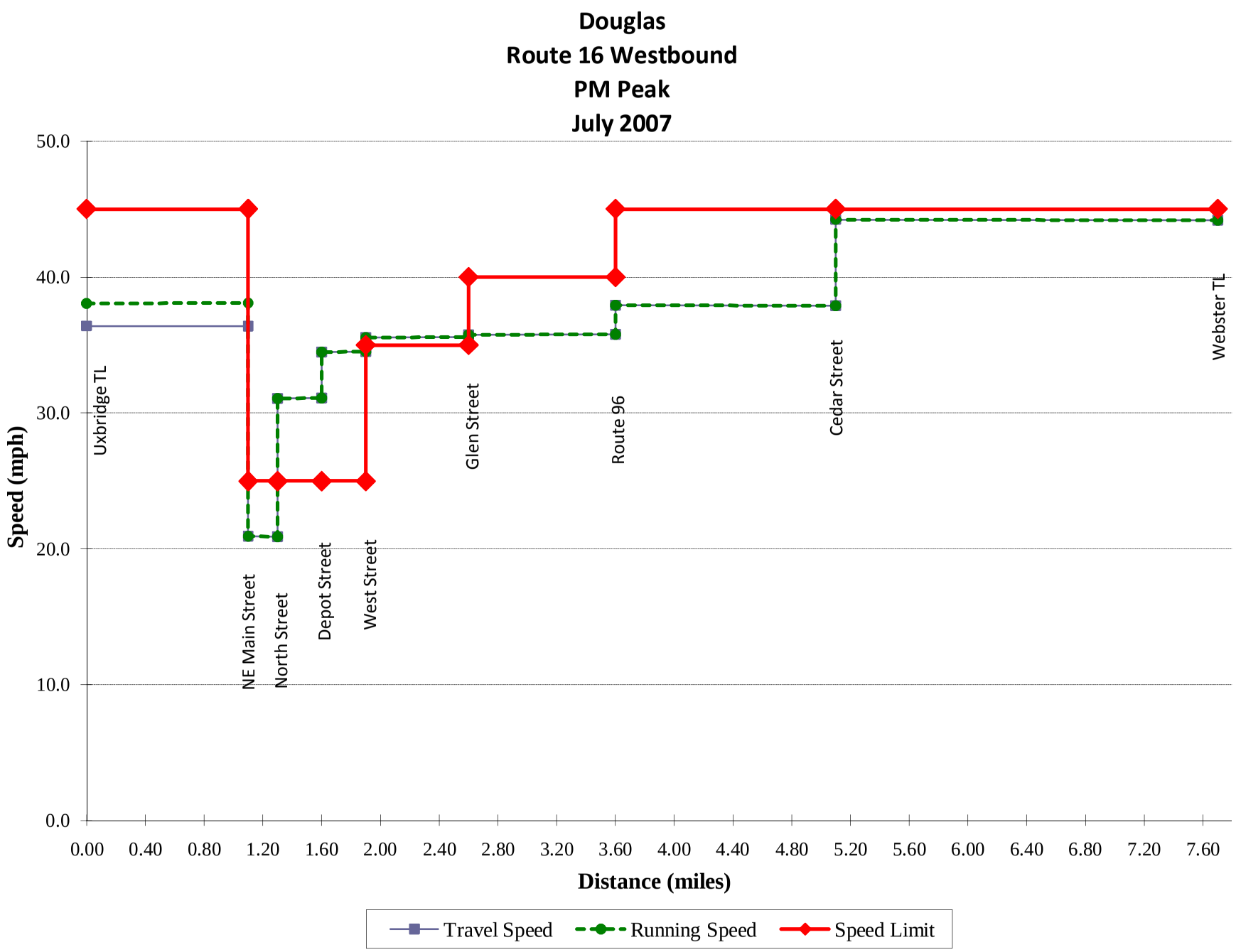
- Figure 19 -


Douglas
Route 16 Westbound
AM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40
6.80
7.20
7.60
Distance (miles)
Uxbridge TL
NE Main Street
North Street
Depot Street
West Street
Glen Street
Route 96
Cedar Street
Webster TL
Travel Speed
Running Speed
Speed Limit

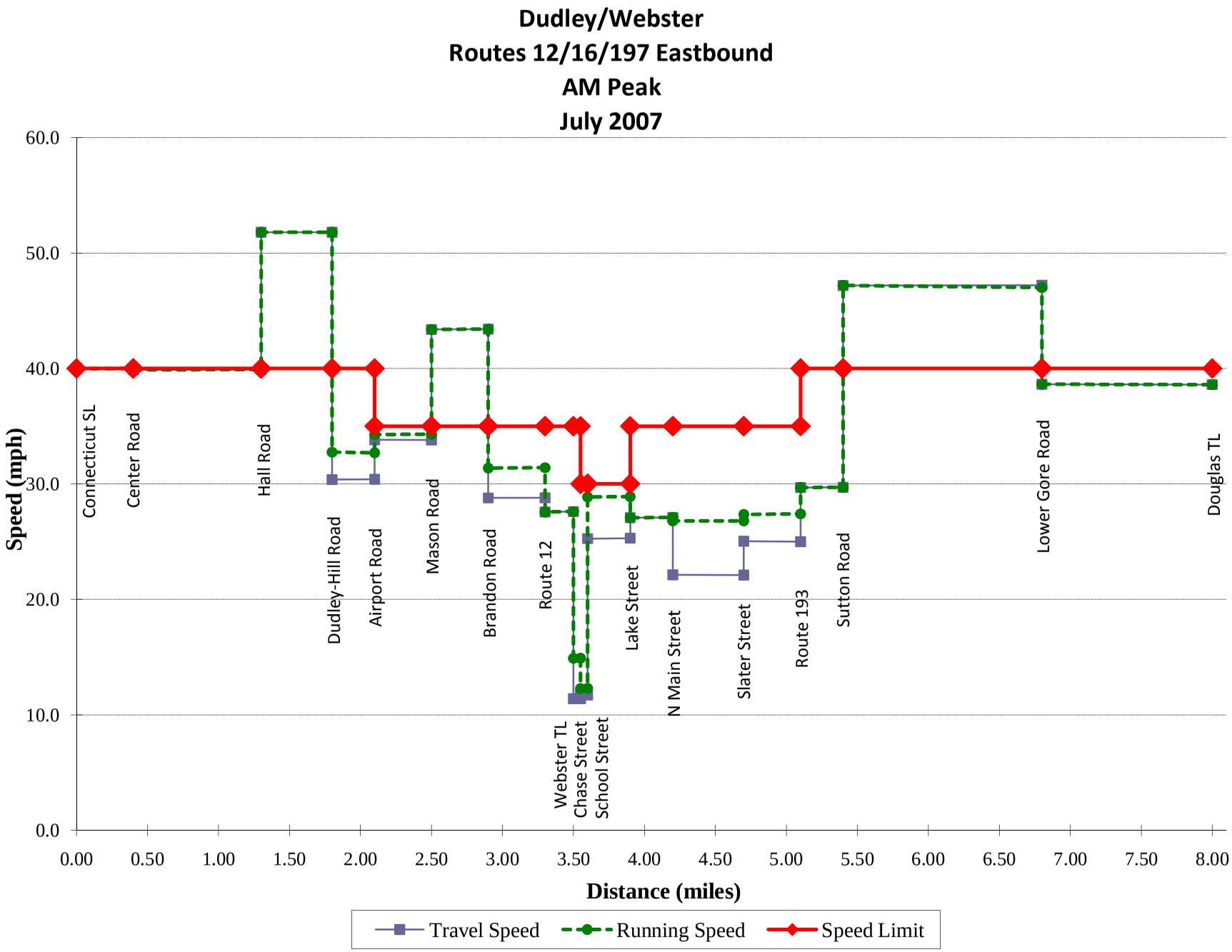
- Figure 20 -


Douglas
Route 16 Eastbound
PM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40
6.80
7.20
7.60
Distance (miles)
Webster TL
Cedar Street
Route 96
Glen Street
West Street
Depot Street
North Street
NE Main Street
Uxbridge TL
Travel Speed
Running Speed
Speed Limit

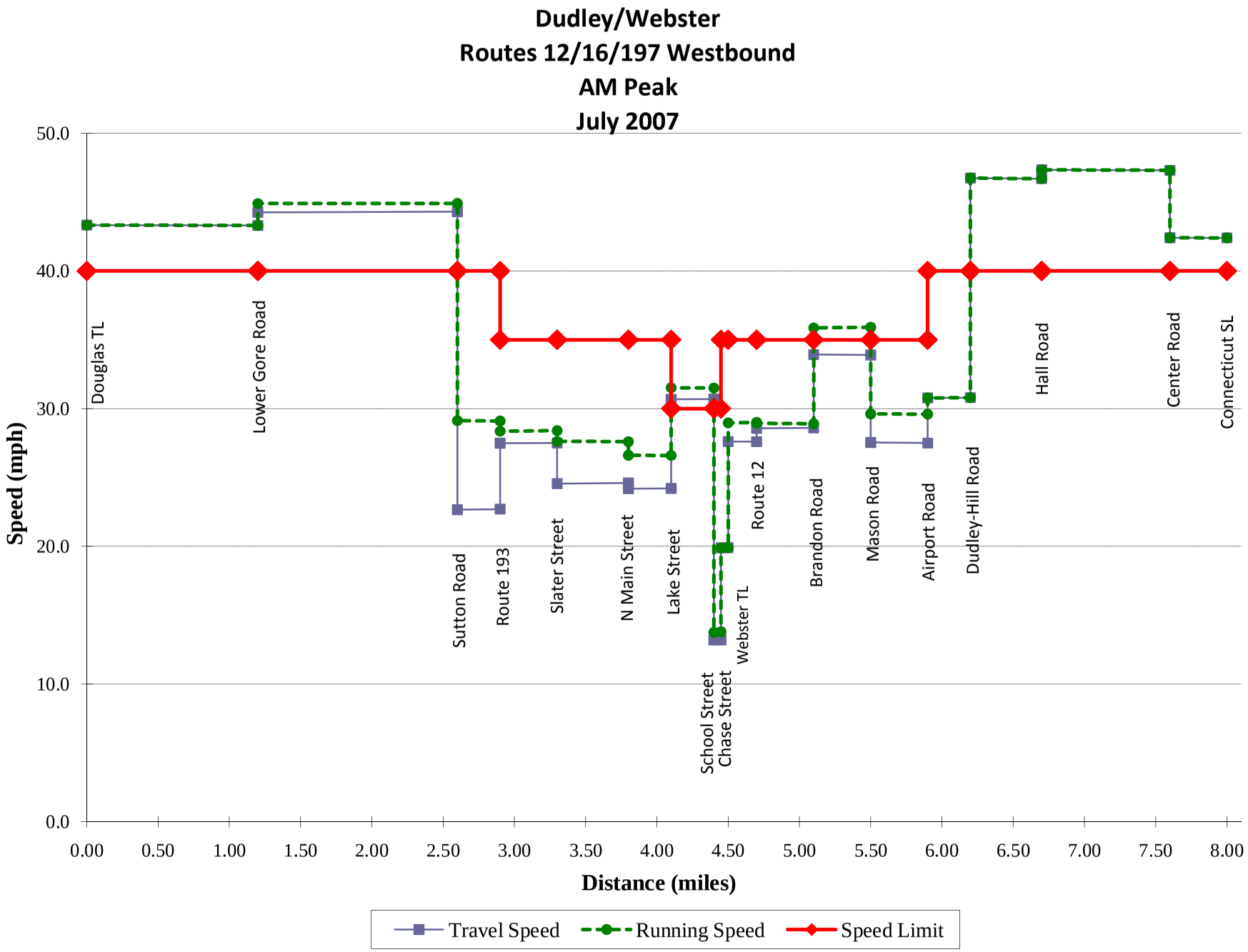
- Figure 21 -


Douglas
Route 16 Westbound
PM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
3.20
3.60
4.00
4.40
4.80
5.20
5.60
6.00
6.40
6.80
7.20
7.60
Distance (miles)
Uxbridge TL
NE Main Street
North Street
Depot Street
West Street
Glen Street
Route 96
Cedar Street
Webster TL
Travel Speed
Running Speed
Speed Limit

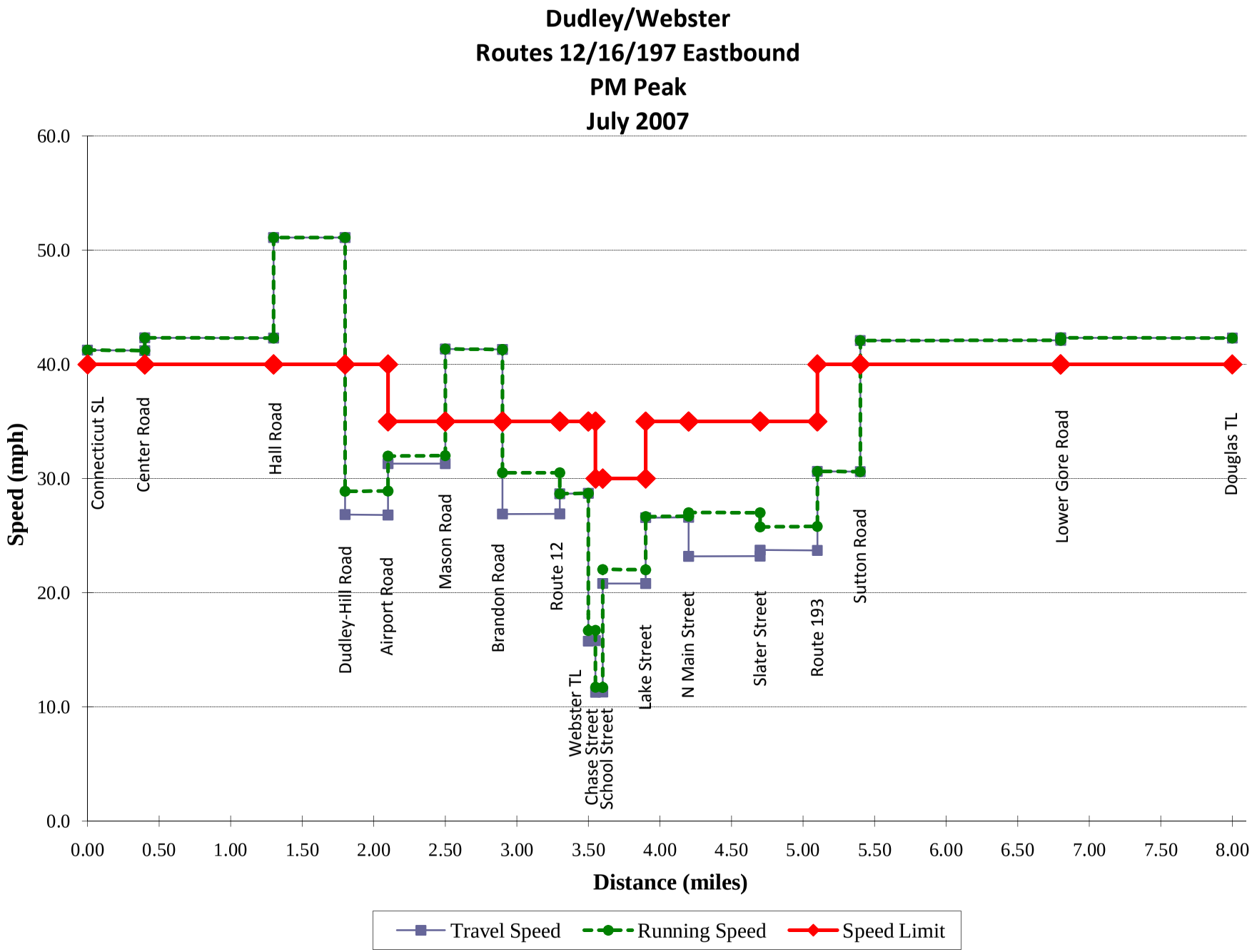
- Figure 22 -


Dudley/Webster
Routes 12/16/197 Eastbound
AM Peak
July 2007
Speed (mph)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
Distance (miles)
Connecticut SL
Center Road
Hall Road
Dudley-Hill Road
Airport Road
Mason Road
Brandon Road
Route 12
Webster TL
Chase Street
School Street
Lake Street
N Main Street
Slater Street
Route 193
Sutton Road
Lower Gore Road
Douglas TL
Travel Speed
Running Speed
Speed Limit

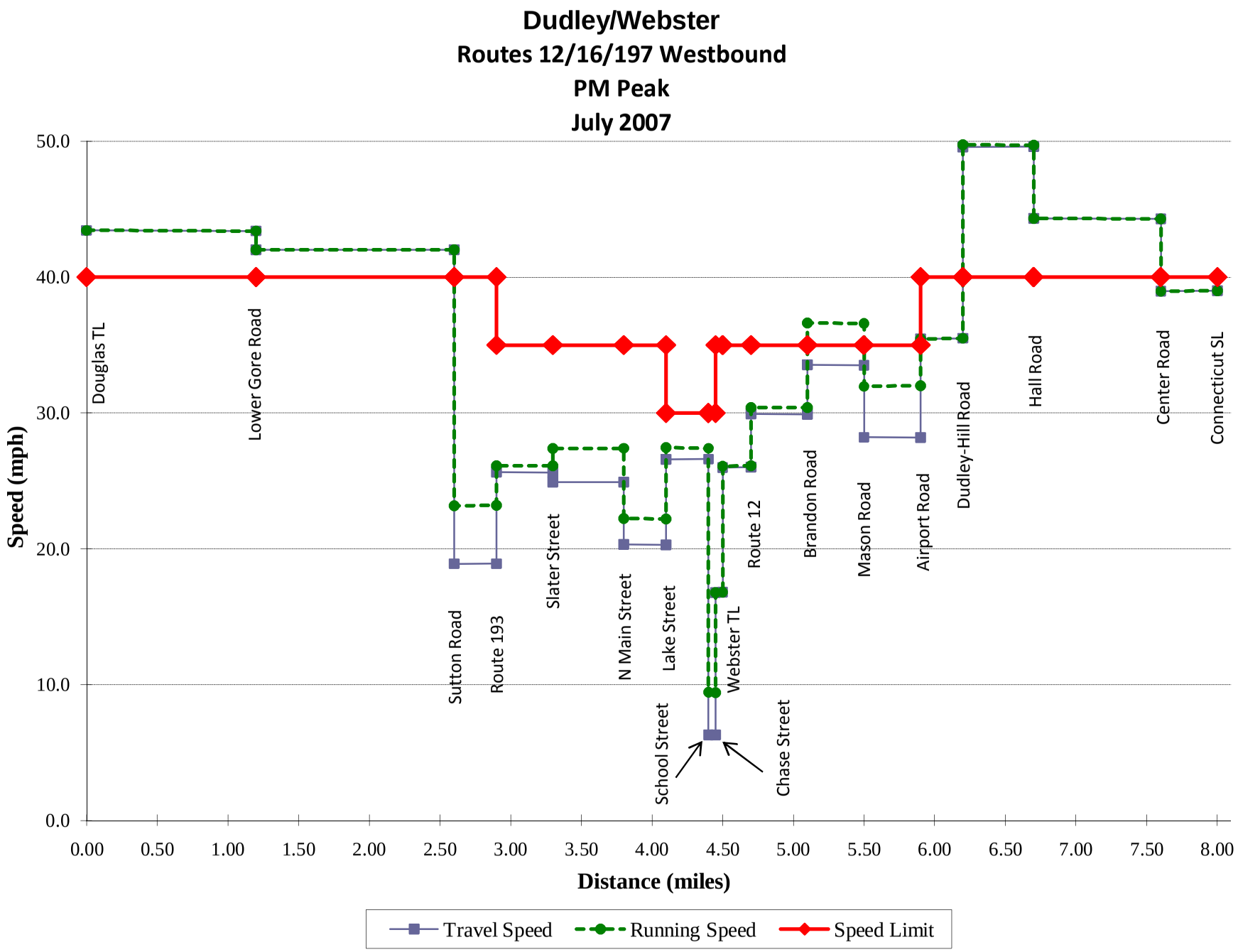
- Figure 23 -


Dudley/Webster
Routes 12/16/197 Westbound
AM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
Distance (miles)
Douglas TL
Lower Gore Road
Sutton Road
Route 193
Slater Street
N Main Street
Lake Street
School Street
Chase Street
Webster TL
Route 12
Brandon Road
Mason Road
Airport Road
Dudley-Hill Road
Hall Road
Center Road
Connecticut SL
Travel Speed
Running Speed
Speed Limit

- Figure 24 -


Dudley/Webster
Routes 12/16/197 Eastbound
PM Peak
July 2007
Speed (mph)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Connecticut SL
Center Road
Hall Road
Dudley-Hill Road
Airport Road
Mason Road
Brandon Road
Route 12
Webster TL
Chase Street
School Street
Lake Street
N Main Street
Slater Street
Route 193
Sutton Road
Lower Gore Road
Douglas TL
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
Distance (miles)
Travel Speed
Running Speed
Speed Limit

- Figure 25 -


Dudley/Webster
Routes 12/16/197 Westbound
PM Peak
July 2007
Speed (mph)
50.0
40.0
30.0
20.0
10.0
0.0
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
Distance (miles)
Douglas TL
Lower Gore Road
Sutton Road
Route 193
Slater Street
N Main Street
Lake Street
School Street
Webster TL
Chase Street
Route 12
Brandon Road
Mason Road
Airport Road
Dudley-Hill Road
Hall Road
Center Road
Connecticut SL
Travel Speed
Running Speed
Speed Limit

- Figure 26 -

3.3 Route 12/16/197 Intersection Peak Hour Traffic Volumes

CMRPC conducted Turning Movement Counts (TMCs) at each of the focus intersections from May to September of 2008. The traffic volumes observed on these sample days were then adjusted to reflect traffic volumes that would be expected during a "peak" travel month. In addition, a "balancing" exercise was conducted to account for both the typical addition and loss of traffic volume between adjacent study intersections due to local streets, site drives serving major land uses, and other private driveways, as well as the natural statistical fluctuation encountered when turning movement counts are conducted on different days. These adjusted and balanced volumes are indicated in **Figures 27 through 30** as existing AM and PM Peak Hour traffic flows.

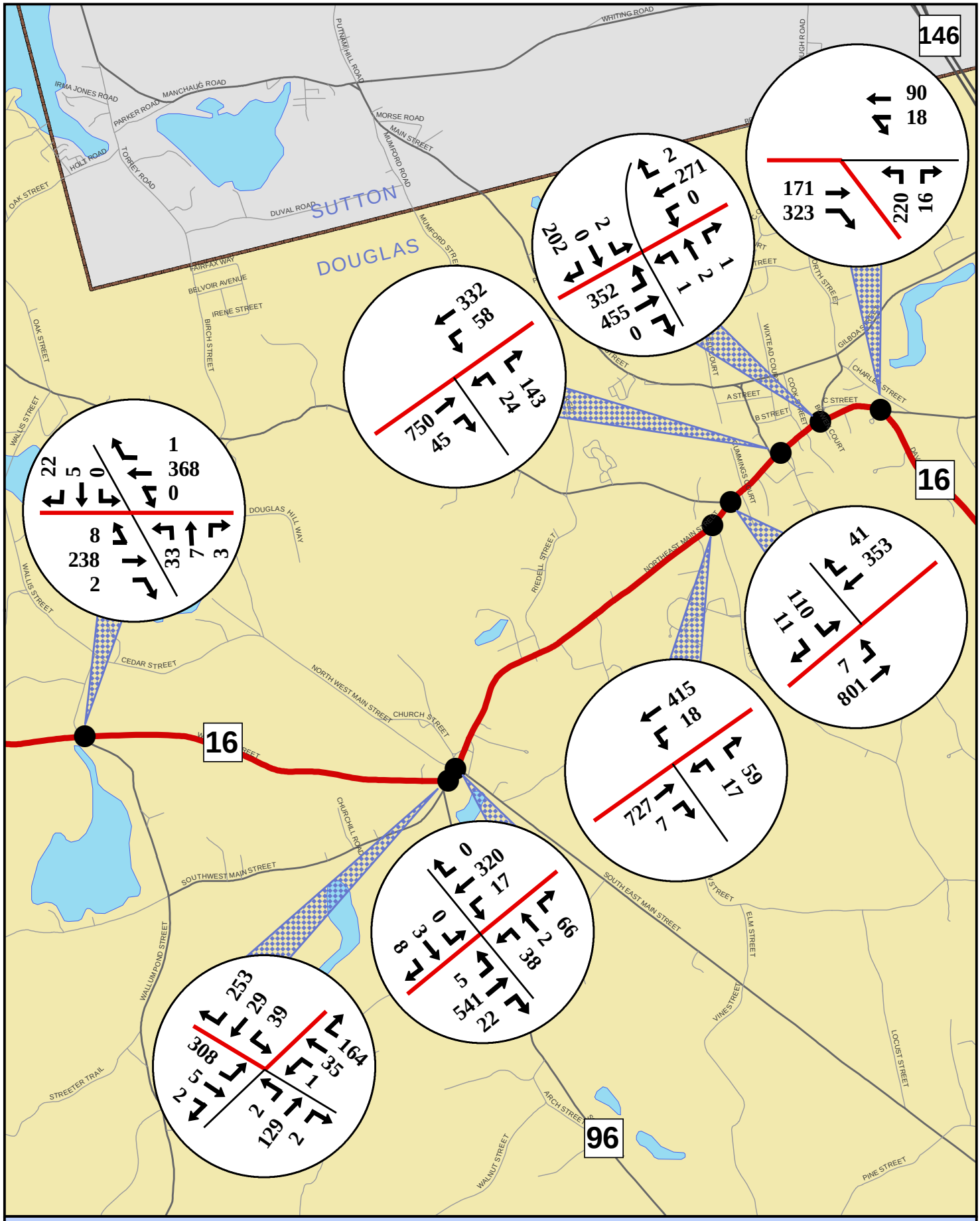
Figures 31 through 34 also illustrate 10-year projections of these volumes, assuming an annual growth rate of 0.8%. The complete TMC datasheets have been provided in the document's Technical Appendix. **Table 4** shows annual growth rates for the four towns included in the corridor study, compared to the entire Southeast and Southwest Subregions, according to CMRPCs regional area traffic simulation model.

Table 4

Projected Traffic Volume Growth Rates

	Annual Growth Rate	**Annual Growth Rate**
	2007-2020	**2020-2030***
Douglas	1.5%	1.1%
Webster	0.8%	0.6%
Dudley	0.8%	0.7%
Thompson, CT	NA	NA
Southeast Subregion	1.2%	0.8%
Southwest Subregion	1.0%	0.9%

Source: CMRPC Travel-Demand Model
*Future year model output provided for information purposes



ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF DOUGLAS AM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 27A

Legend

- Focus Intersection
- State Route 16

0 0.25 0.5 Miles

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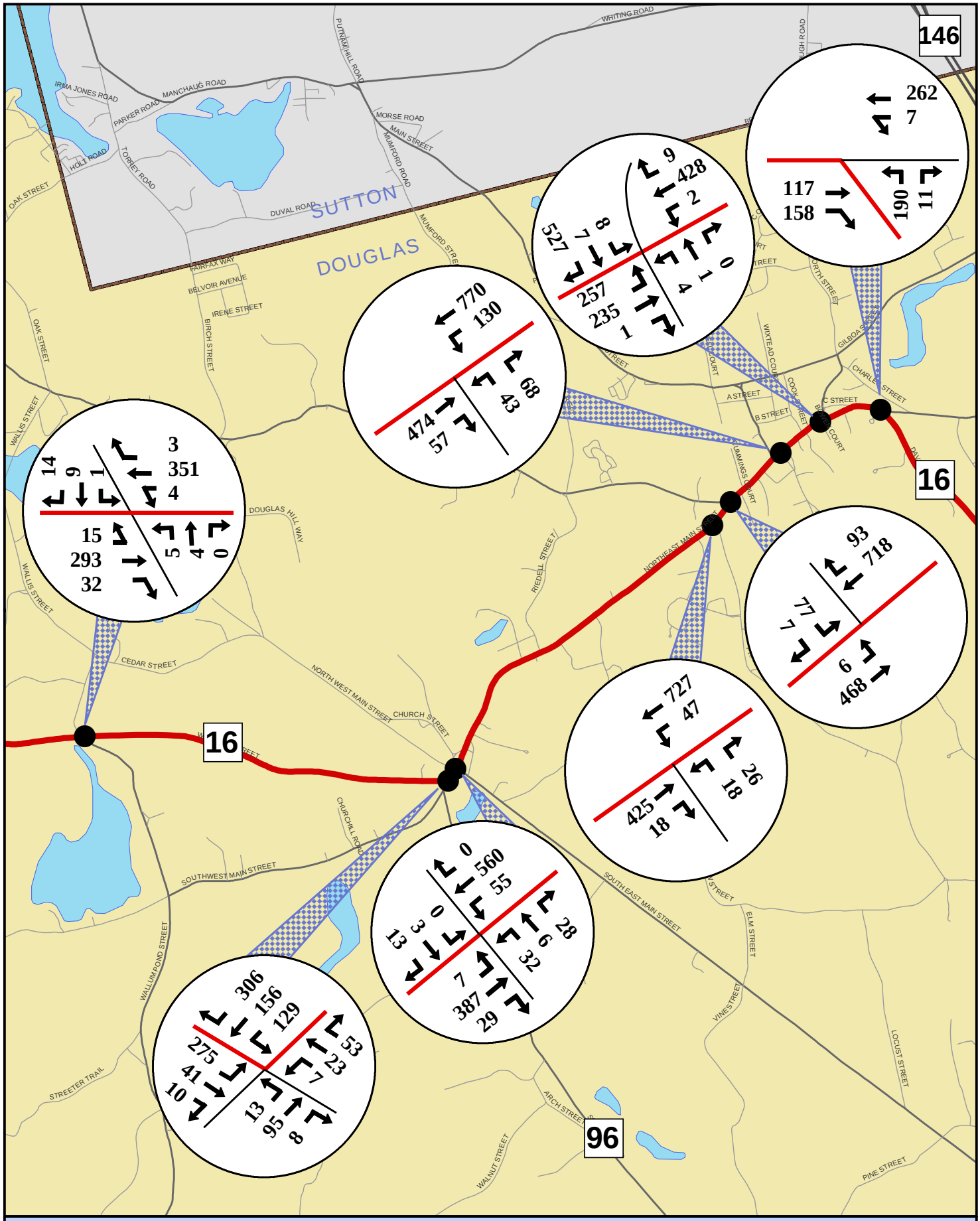

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF DOUGLAS PM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 27B

Legend

- Focus Intersection
- State Route 16

0 0.25 0.5 Miles

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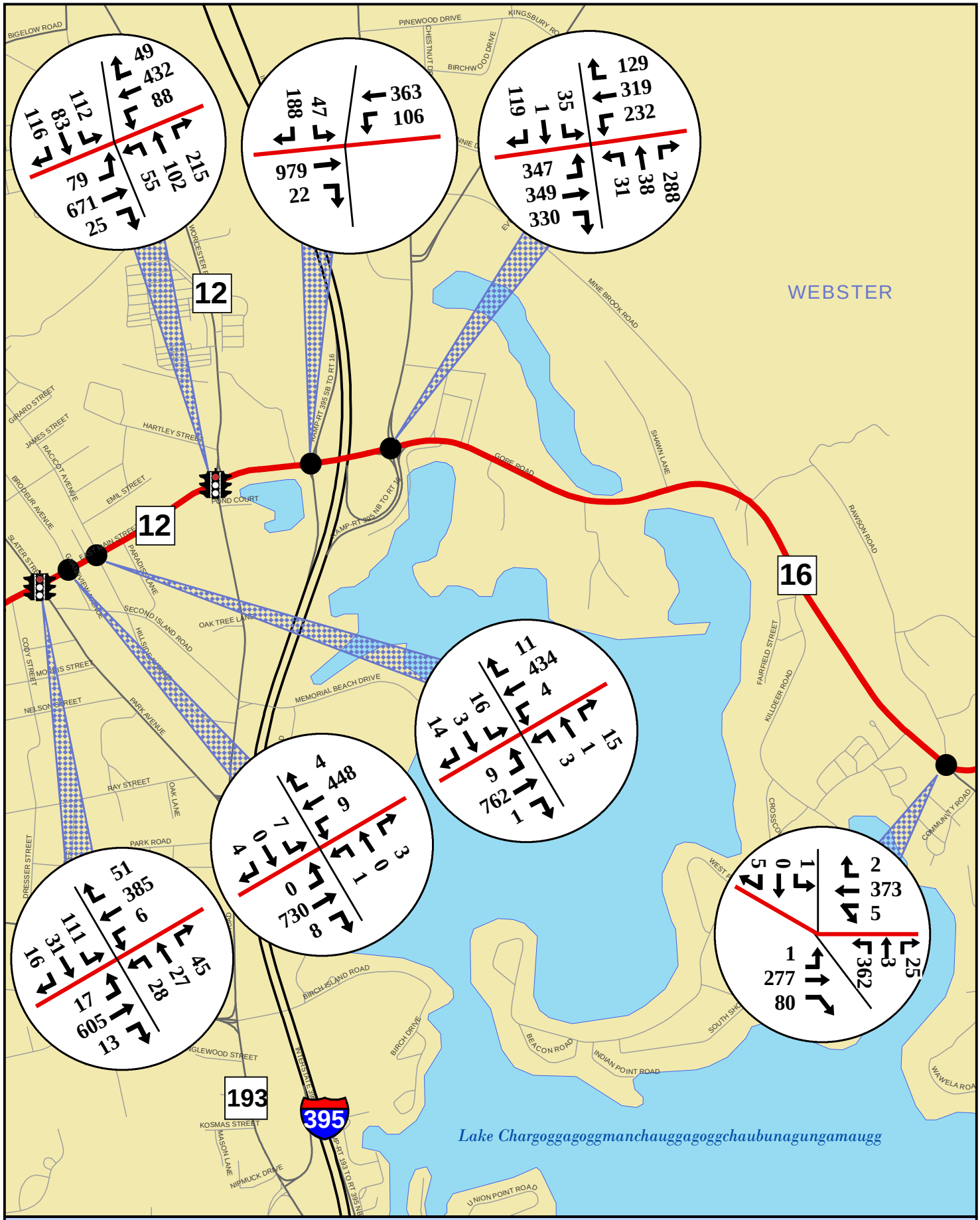

ROUTE 12/16197 CORRIDOR PROFILE: TOWN OF WEBSTER AM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 28A

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 12 & 16

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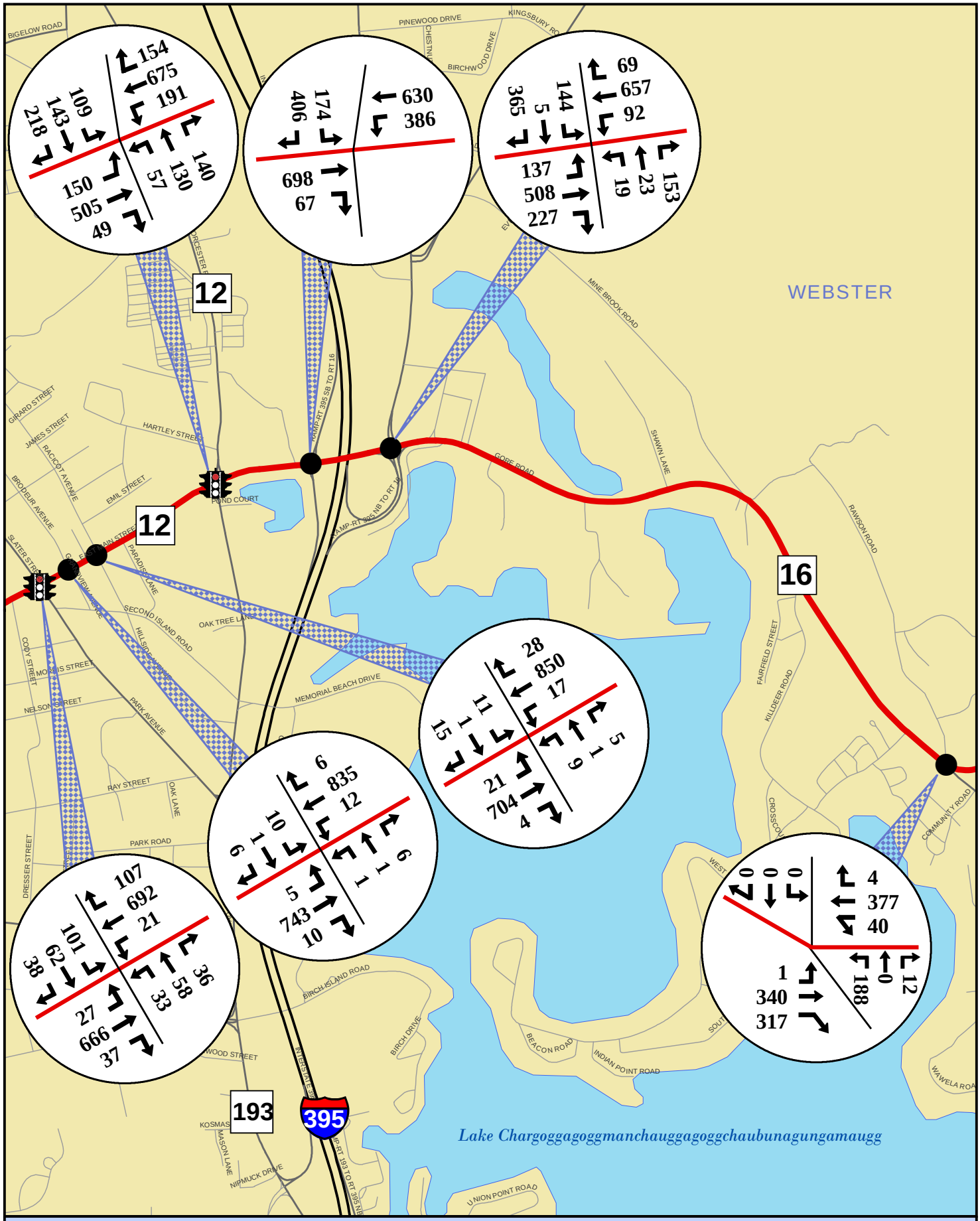

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF WEBSTER PM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 28B

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 12 & 16

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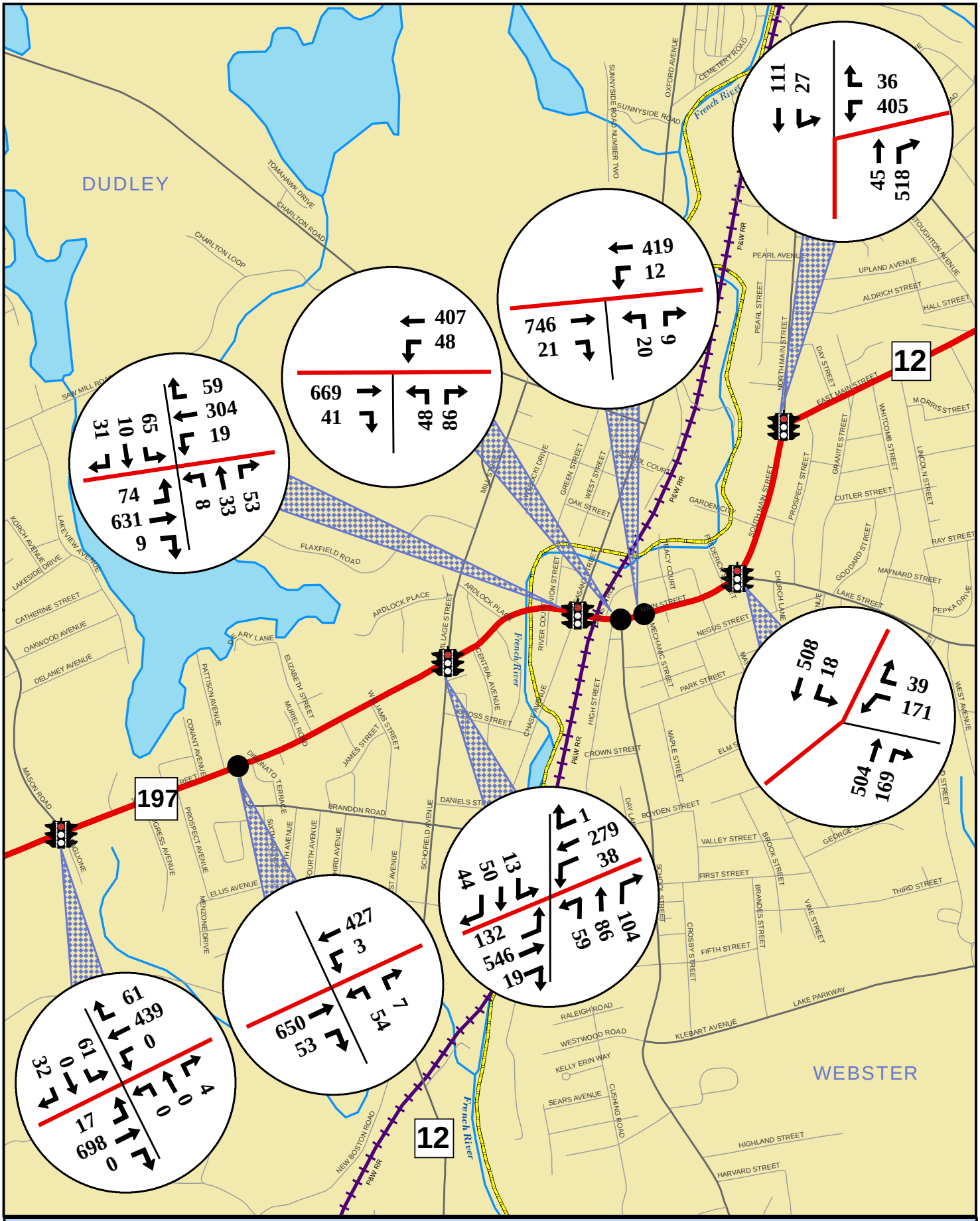

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF WEBSTER & DUDLEY AM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 29A

Legend

0 0.125 0.25 Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 12 & 197

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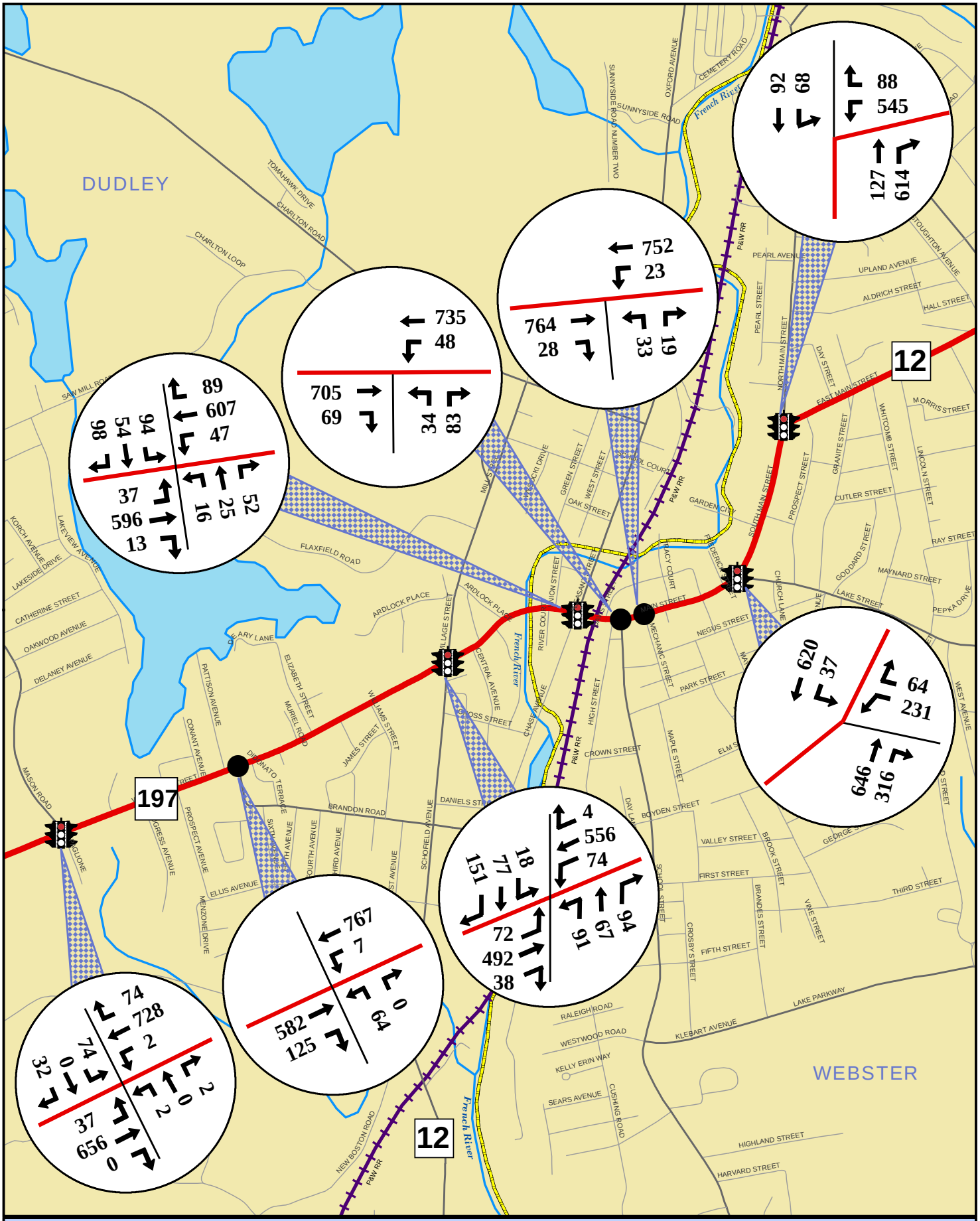

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF WEBSTER & DUDLEY PM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 29B

Legend

0 0.125 0.25 Miles

- Unsignalized Focus Intersection
- Signalized Focus Intersection
- State Route 12 & 197

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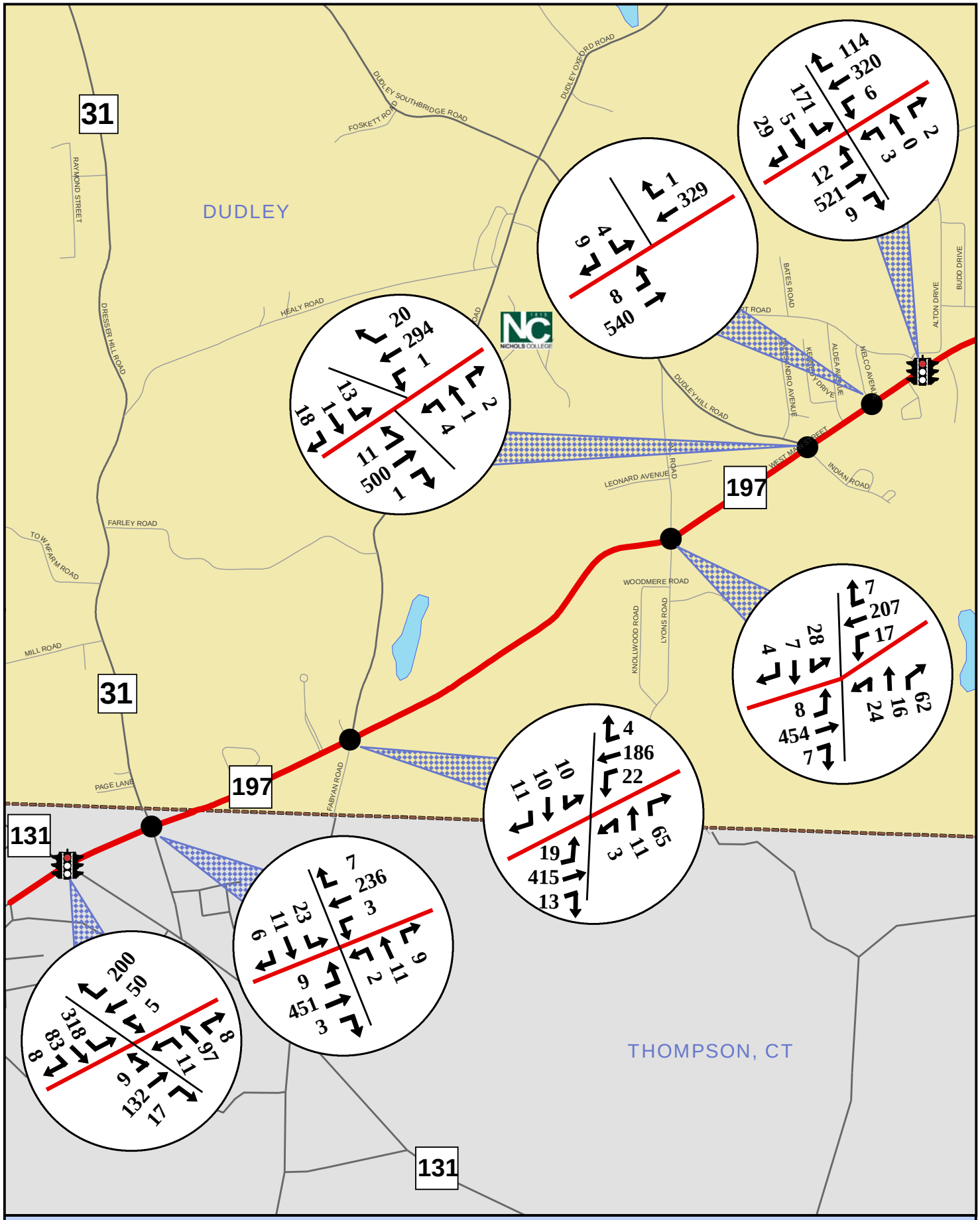

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF DUDLEY & THOMPSON, CT AM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 30A

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 197

CMRPC
Central Massachusetts Regional Planning Commission

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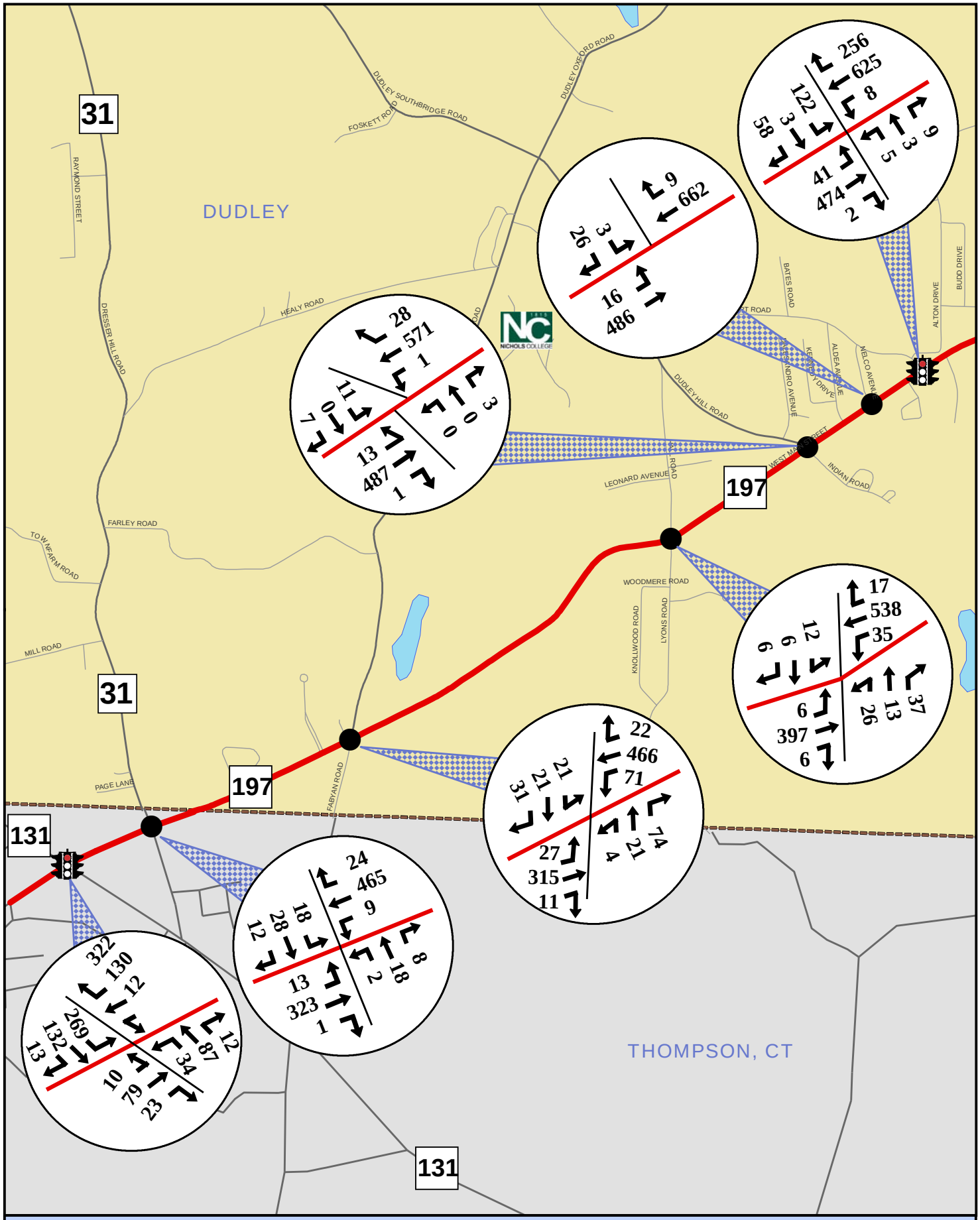

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF DUDLEY & THOMPSON, CT PM PEAK HOUR TRAFFIC FLOWS EXISTING CONDITIONS FIGURE 30B

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 197

CMRPC
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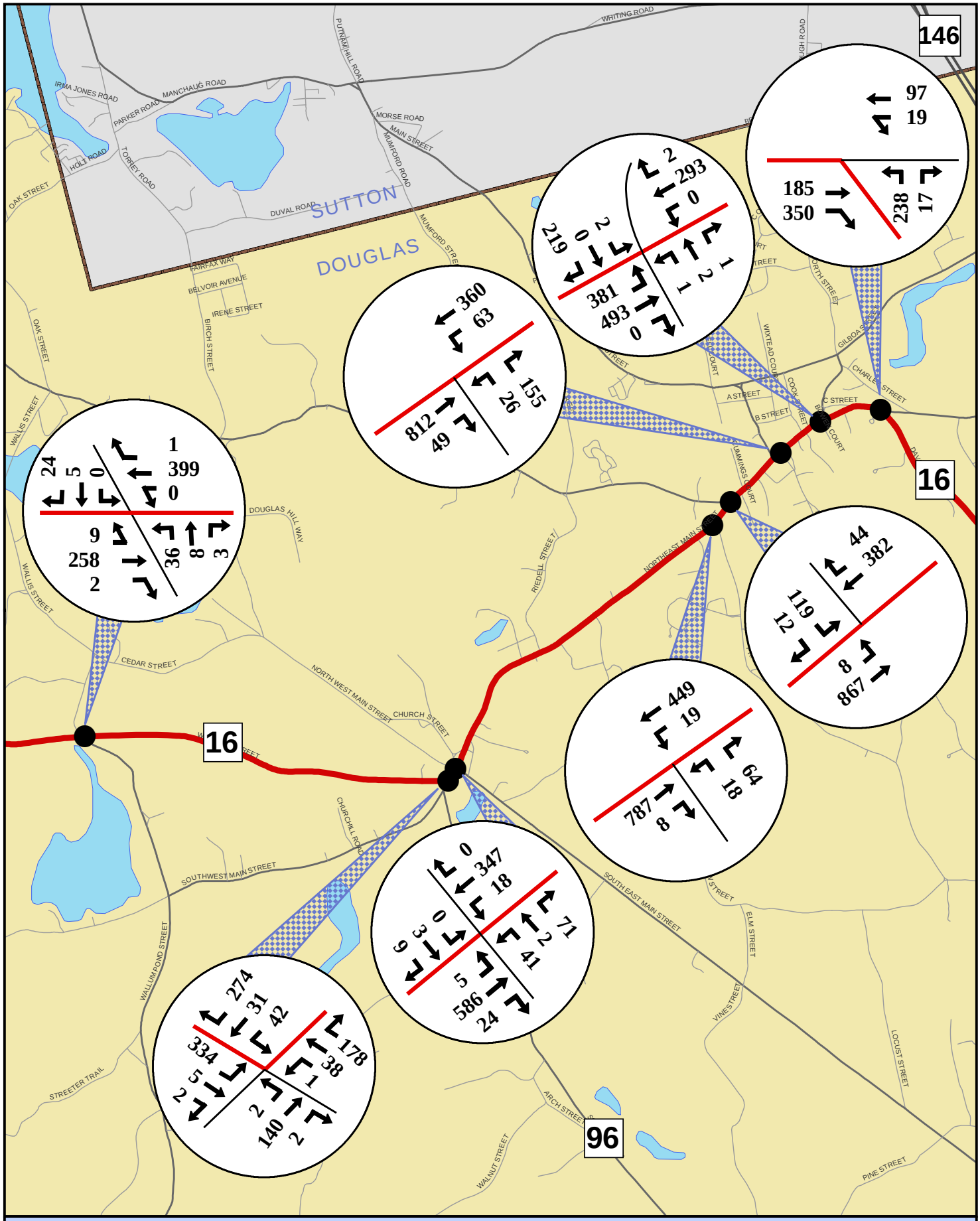

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF DOUGLAS AM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 31A

Legend

- Focus Intersection
- State Route 16

0 0.25 0.5 Miles

CMRPC Central Massachusetts Regional Planning Commission

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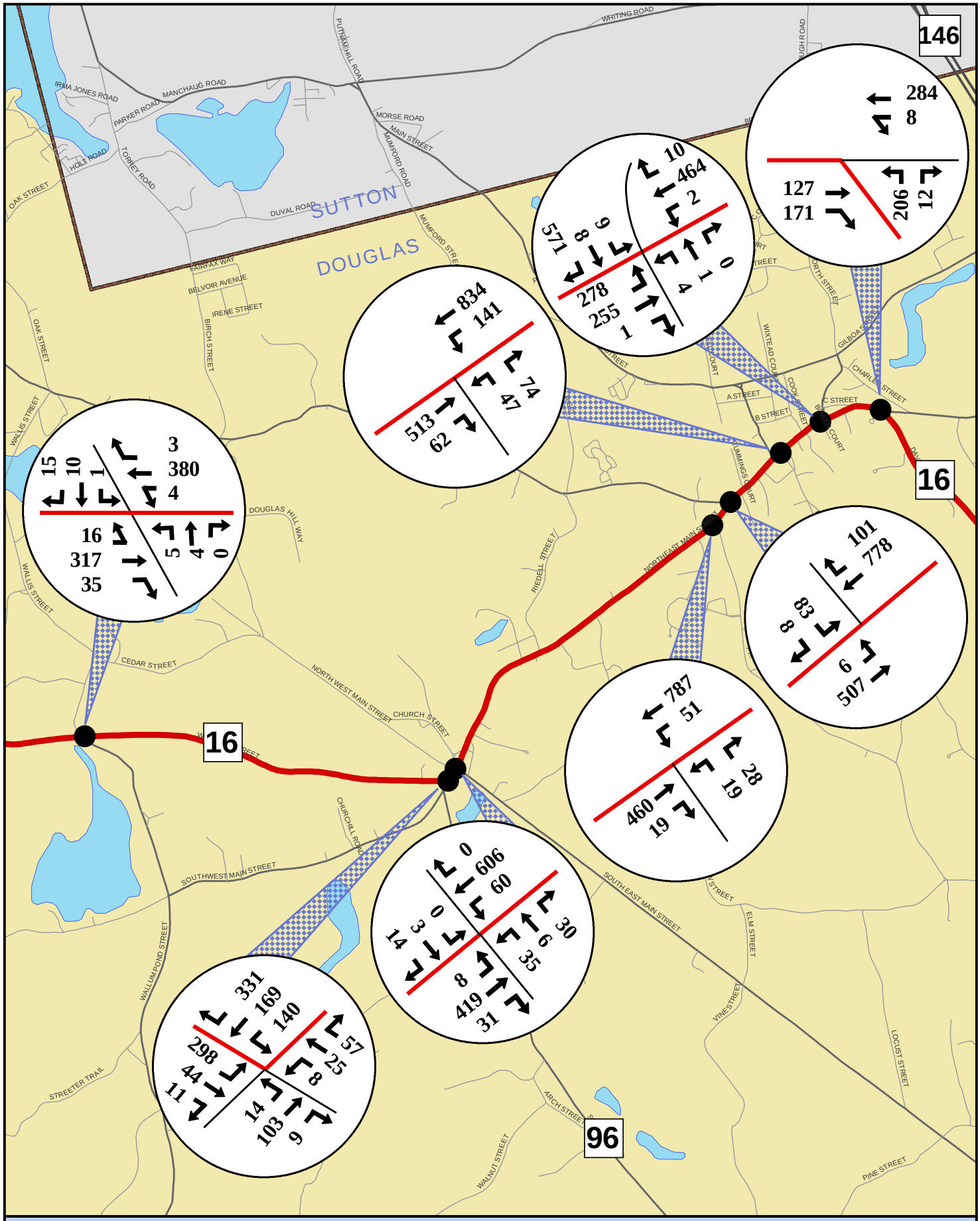

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF DOUGLAS PM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 31B

Legend

- Focus Intersection
- State Route 16

0 0.25 0.5
Miles

CMRPC
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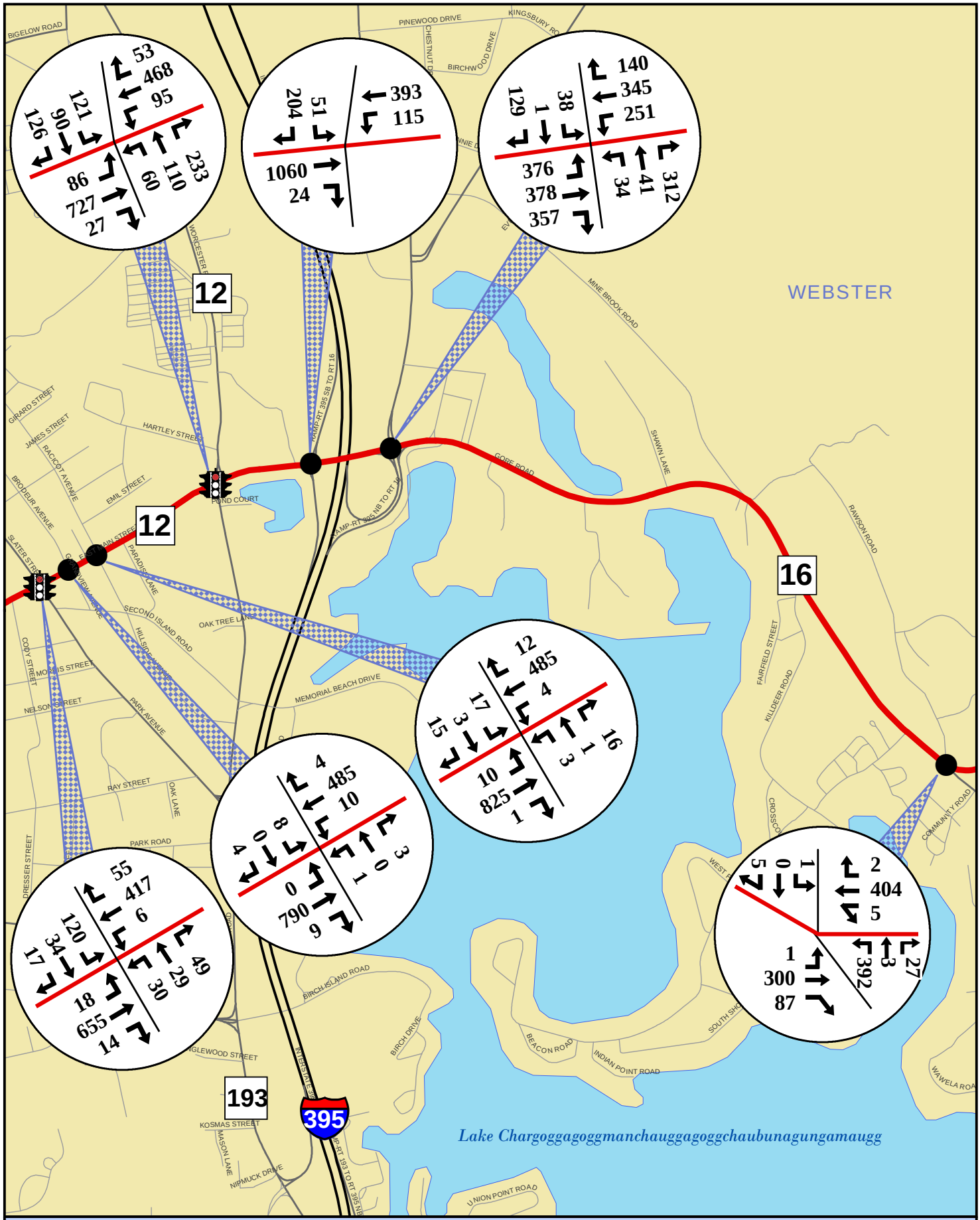

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF WEBSTER AM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 32A

Legend

0 0.125 0.25 Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 12 & 16

CMRPC Central Massachusetts Regional Planning Commission

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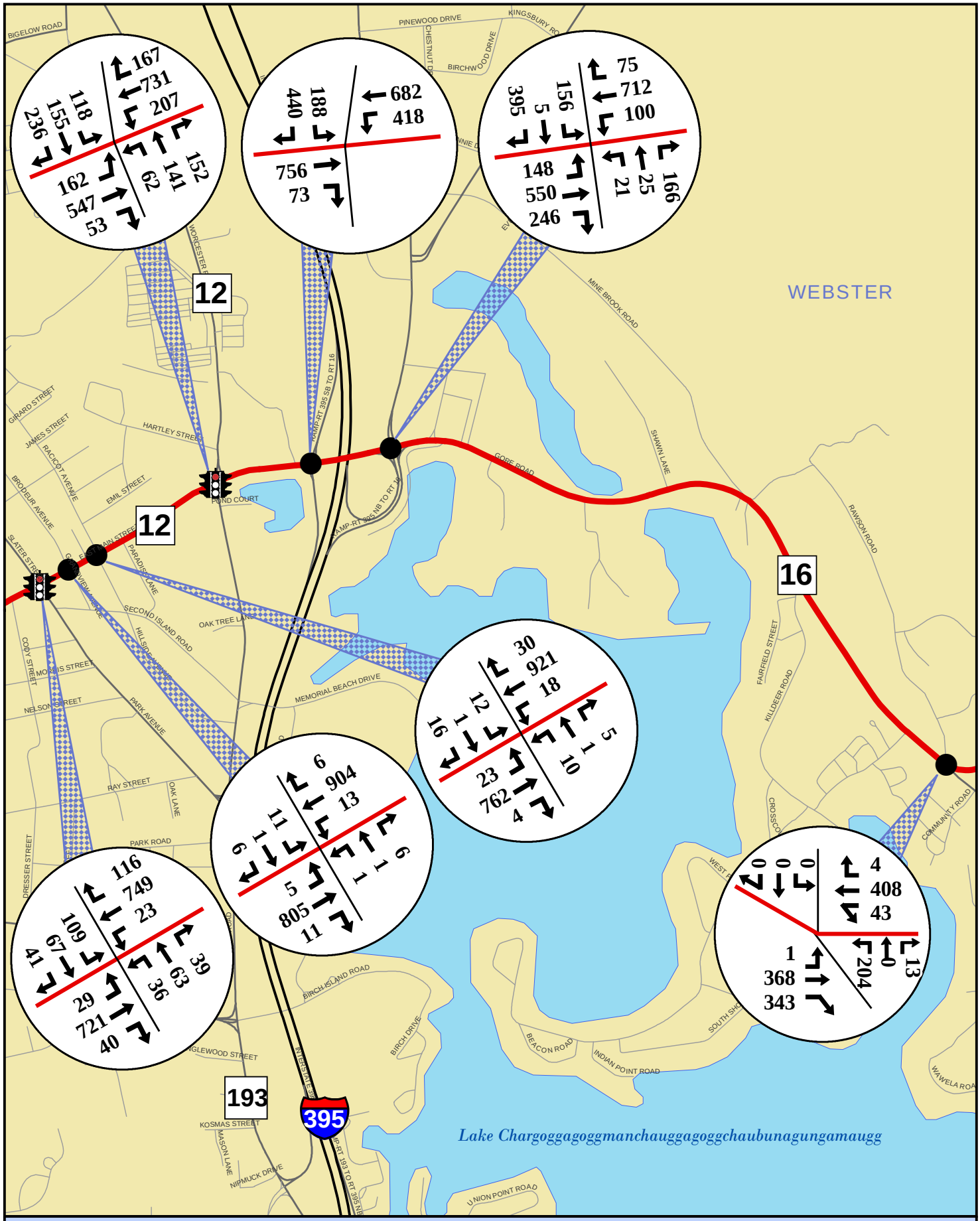

ROUTE 12/16/197 CORRIDOR PROFILE: TOWN OF WEBSTER PM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 32B

Legend

0 0.125 0.25 Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 12 & 16

CMRPC Central Massachusetts Regional Planning Commission

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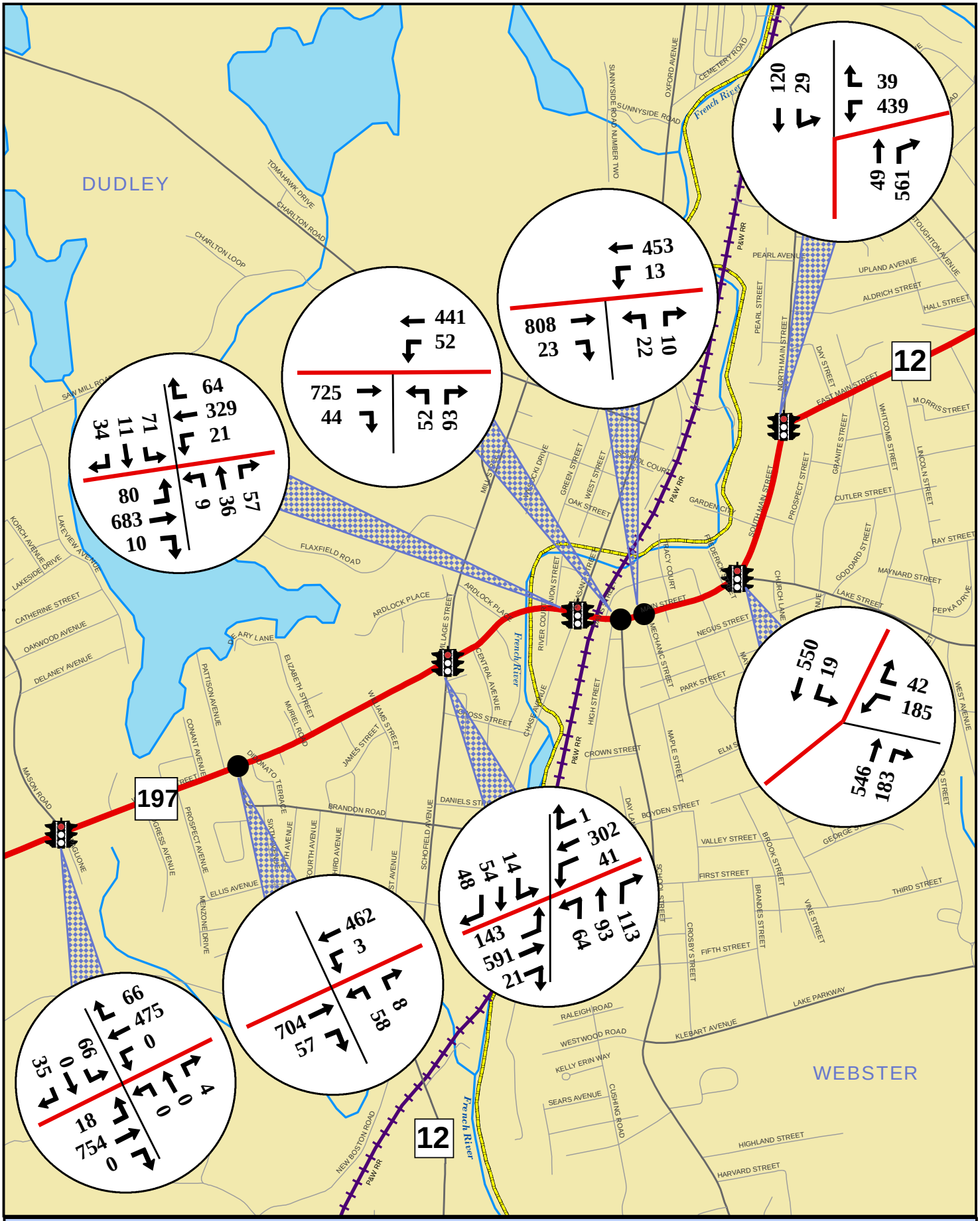
Map produced August 2008



ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF WEBSTER & DUDLEY AM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 33A

Legend

0 0.125 0.25 Miles

- Unsignalized Focus Intersection
- Signalized Focus Intersection
- State Route 12 & 197

CMRPC Central Massachusetts Regional Planning Commission

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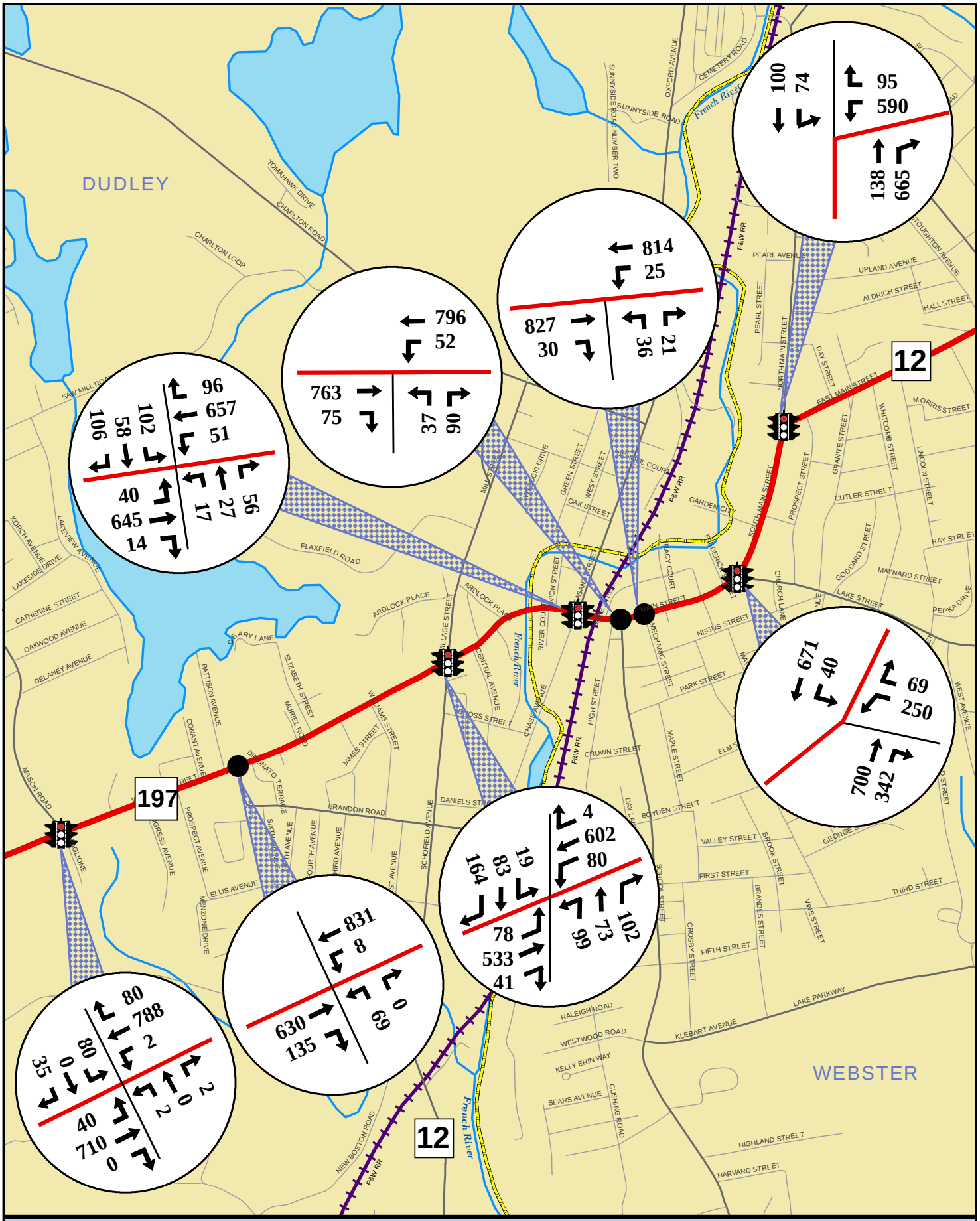

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF WEBSTER & DUDLEY PM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 33B

Legend

0 0.125 0.25 Miles

- Unsignalized Focus Intersection
- Signalized Focus Intersection
- State Route 12 & 197

CMRPC Central Massachusetts Regional Planning Commission

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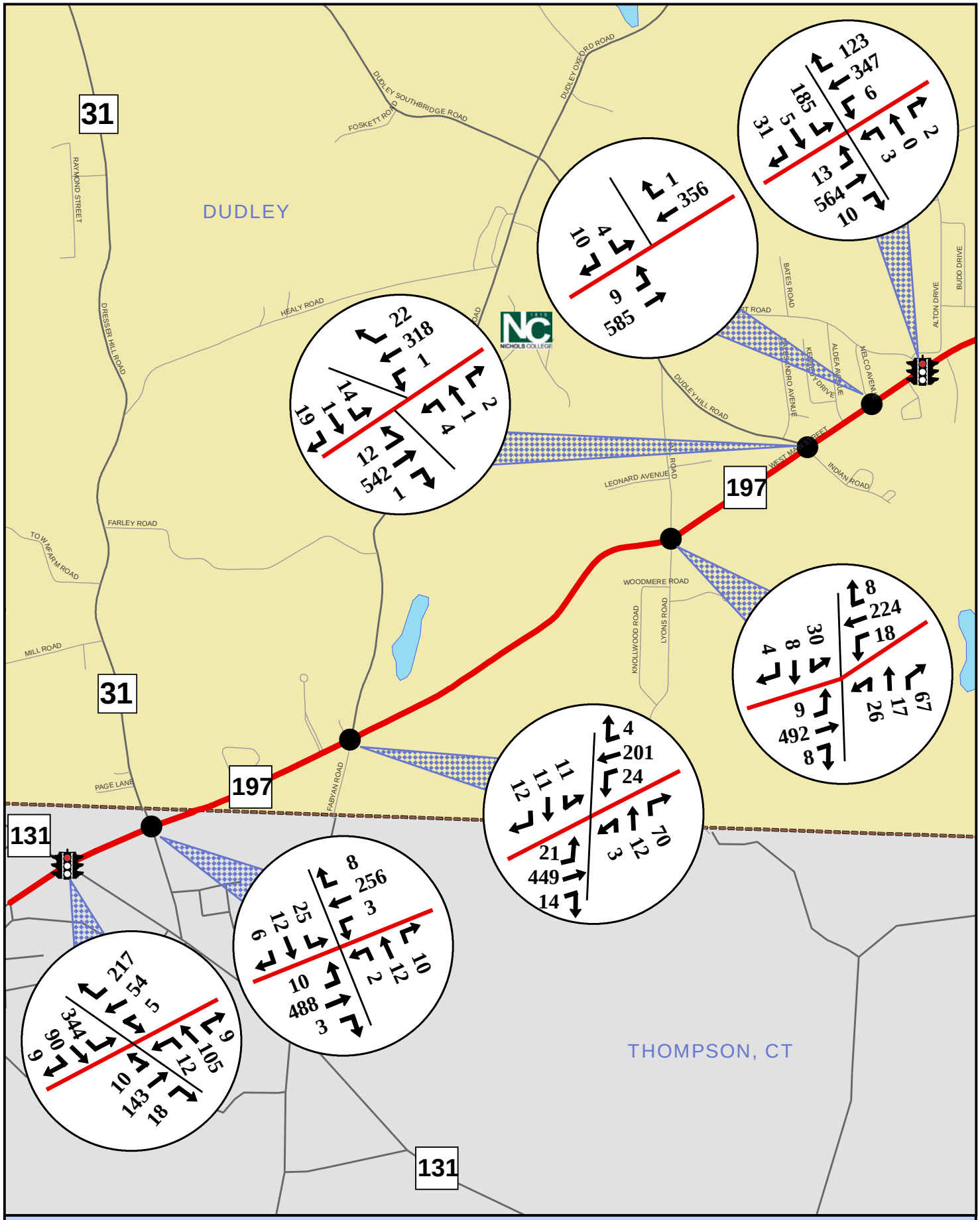

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF DUDLEY & THOMPSON, CT AM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 34A

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 197

CMRPC
Central Massachusetts Regional Planning Commission

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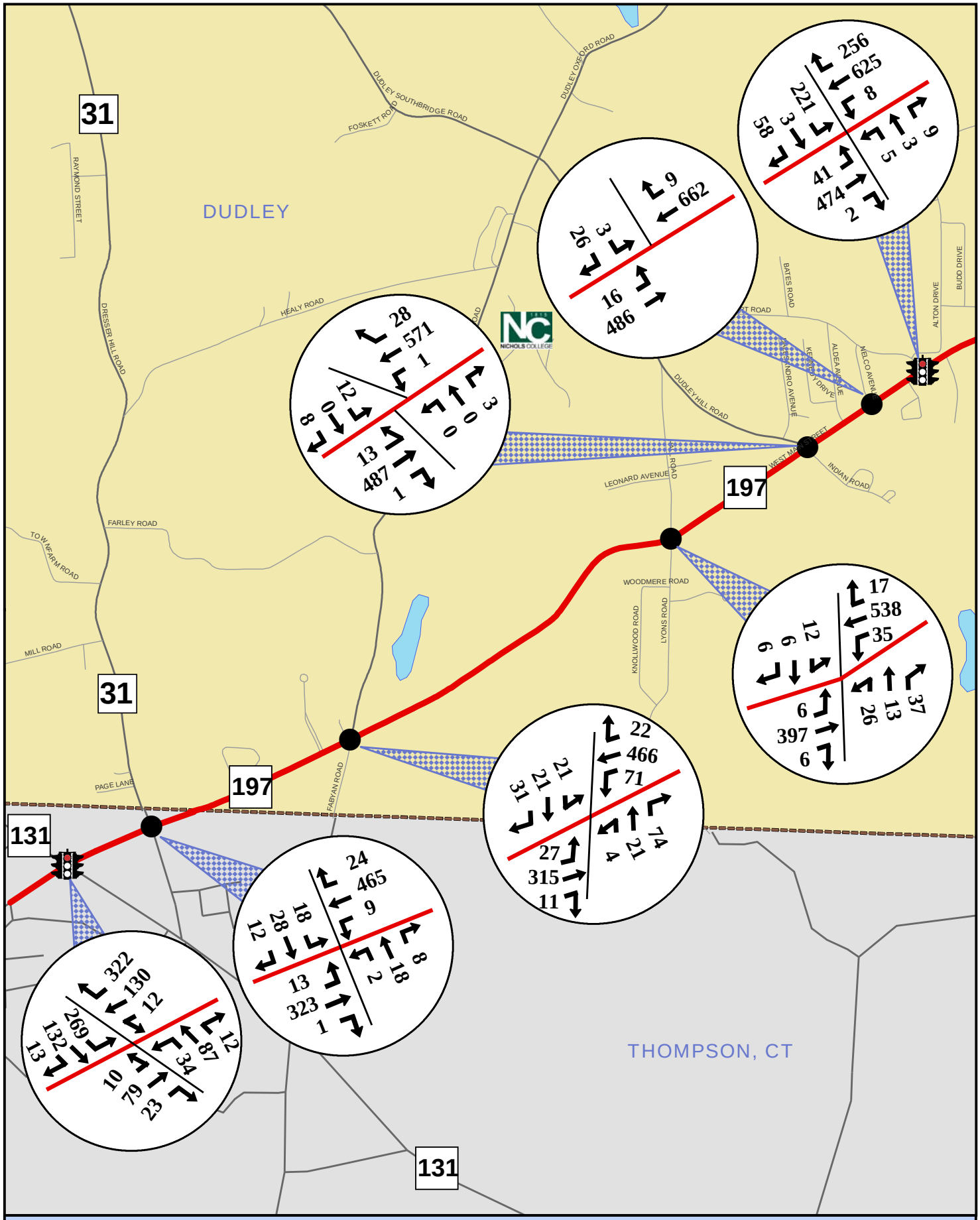

ROUTE 12/16/197 CORRIDOR PROFILE: TOWNS OF DUDLEY & THOMPSON, CT PM PEAK HOUR TRAFFIC FLOWS PROJECTED 2018 CONDITIONS FIGURE 34B

Legend

0 0.125 0.25
Miles

Unsignalized Focus Intersection

Signalized Focus Intersection

State Route 197

CMRPC
Central Massachusetts Regional Planning Commission

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Map produced August 2008

3.4 Route 12/16/197 Intersection Peak Hour Level-of-Service (LOS) Analyses

Table 5 lists the existing and projected Levels-of-Service (LOS) for the focus intersections. The complete LOS worksheets have been provided in the document's Technical Appendix. The following notable trends have been observed:

- All but six of the thirty focus intersections operate more poorly during the PM peak period than during the AM peak period.

- The unsignalized focus intersections operate much worse, in terms of LOS, than signalized intersections. The unsignalized intersections are operating with a LOS "C" or worse and the signalized intersections are much better with a majority of them having a LOS "A" or "B".

- The poorest performing location studied is the intersection of Route 16 with Sutton Road and the I-395 NB ramps in Webster, which operates at LOS "F" during both study periods. This location has over three hundred seconds of calculated average delay under existing and projected conditions. Also, the V/C ratio for this intersection is over two in both the AM and PM balanced and 2018 projected. The only other study intersection with a V/C ratio over two is Route 16 and the I-395 SB ramps.

- The intersection of Route 16/I-395 SB ramps in Webster has an AM delay of 42 seconds and then it rises to above 300 seconds in the PM.

- There are two intersections that have a LOS "A" for existing and projected conditions with a delay less than ten seconds. The first is Route 12/North Main Street in Webster and the second is Route 197/Mason Road/Paglione Drive in Dudley.

TABLE 5

Intersection Level Of Service (LOS) Analyses Results: Existing Conditions & Projected 2018 Conditions

		NETWORK											
		Existing Balanced						2018 Projected					
	ROUTE 12/16/197	AM			PM			AM			PM		
COMMUNITY	INTERSECTION	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS
	SIGNALIZED												
Webster	Route 12/Route 193	0.78	20	C	0.94	30	C	0.99	26	C	1.01	37	D
	Park Ave/Slater St	0.70	15	B	0.75	18	B	0.76	17	B	0.91	24	C
	North Main St	0.40	6	A	0.65	7	A	0.44	6	A	0.70	8	A
	Lake St	0.83	13	B	0.83	15	B	0.90	15	B	0.90	17	B
	Chase Ave/Pleasant St	0.71	14	B	0.68	14	B	0.78	16	B	0.74	16	B
Dudley	Route 12/Village St	0.55	10	A	0.61	14	B	0.67	11	B	0.66	15	B
	Mason Rd/Paglione Dr	0.55	6	A	0.61	8	A	0.60	7	A	0.66	9	A
	Airport Rd	0.63	9	A	0.73	10	A	0.68	10	A	0.78	11	B
Thompson-CT	Route 131	0.78	18	B	0.42	16	B	0.84	20	C	0.46	17	B
	UNSIGNALIZED[3]												
Douglas	North Main St	0.55	21	C	0.41	16	C	0.63	25	C	0.47	18	C
	North St/Bowen Ct	0.32	58	F	1.06	300	F	0.36	77	F	1.24	148	F
	Depot St	0.63	36	E	0.66	57	F	0.78	54	F	0.88	103	F
	West St	0.67	55	F	0.50	44	E	0.86	91	F	0.64	63	F
	Franklin St	0.26	21	C	0.15	19	C	0.32	24	C	0.18	22	C
	SE Main St/Common St	0.37	23	C	0.37	33	D	0.45	27	D	0.48	45	E
	Route 96/SW Main St	1.10	117	F	1.18	152	F	1.34	207	F	1.46	266	F
	Cedar St	0.15	18	C	0.05	16	C	0.18	20	C	0.06	17	C

TABLE 5 Continued

Intersection Level Of Service (LOS) Analyses Results: Existing Conditions & Projected 2018 Conditions

		NETWORK											
		Existing Balanced						2018 Projected					
	ROUTE 12/16/197	AM			PM			AM			PM		
COMMUNITY	INTERSECTION	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS
	UNSIGNALIZED[3]												
	Lower Gore Rd	1.40	231	F	1.20	179	F	1.67	300	F	1.50	300	F
	I-395 NB Ramps/Sutton Rd	>2.00	300	F	>2.00	300	F	>2.00	300	F	>2.00	300	F
	I-395 SB Ramps	0.79	42	E	>2.00	300	F	1.13	71	F	>2.00	300	F
Webster	Hillside Ave/Racicot Ave	0.17	27	D	0.22	53	F	0.21	33	D	0.30	74	F
	Grandview Ave/Brodeur Ave	0.06	26	D	0.17	47	E	0.08	31	D	0.22	63	F
	Mechanic St	0.16	26	D	0.36	42	E	0.20	31	D	0.47	57	F
	School St	0.61	40	E	0.60	45	E	0.76	60	F	0.76	71	F
	Brandon Rd	0.29	28	D	0.60	72	F	0.36	34	D	0.78	115	F
	Nelco Ave	0.03	13	B	0.06	14	B	0.03	13	B	0.07	15	B
Dudley	Dudley Hill Rd/Indian Rd	0.10	19	C	0.07	20	C	0.12	21	C	0.09	23	C
	Hall Rd/Lyons Rd	0.27	21	C	0.28	25	C	0.31	25	C	0.34	29	D
	Center Rd/Fabyan Rd	0.16	15	C	0.39	33	D	0.18	17	C	0.51	45	E
Thompson-CT	Route 31/Walker Rd	0.16	20	C	0.15	17	C	0.20	22	C	0.18	18	C

1) V(volume)/C(capacity) is for worst lane group; C is maximum flow under prevailing conditions

2) Delay in seconds

3) Delay and LOS are for minor street approach

3.5 Route 12/16/197 Roadway Segment Level-of-Service (LOS) Analyses

Utilizing the seasonally adjusted and network-balanced volumes of traffic entering and leaving each of the intersections, the level-of-service of the typical two-lane cross-section of Route 12/16/197 between the major intersections was determined. **Table 6** lists the results of this analysis.

As indicated, most Route 12/16/197 roadway segments have a LOS of "C" or "D" under existing and projected 2018 conditions. There are four segments in the town of Douglas that have a LOS of "A" or "B". The remaining segments are LOS "C" and "D". For the projected 2018 conditions, LOS will mostly stay the same or worsen slightly. Webster has the worst overall LOS with most segments having a LOS of "D". There is one segment with a LOS of "B" and it is from the Douglas town line to Lower Gore Road, but only in the AM. For the town of Dudley, most of the segments have an LOS of "C"; however, there are three segments in the AM that have a LOS of "B". Most of the segments stay the same for the projected 2018 conditions, but there are two segments in the AM where they worsen slightly. For the two segments in Thompson, CT, LOS is "B". In 2018, the AM LOS becomes a "C" while the PM period stays a "B". The complete LOS worksheets have been provided in the Technical Appendix.

TABLE 6

Roadway Segment Level-Of-Service (LOS) Analyses Results: Existing Conditions & Projected 2018 Conditions

ROUTE 12/16/197 SEGMENTS	Segment Length	# of Existing Lanes	Existing Conditions		Projected 2018 Conditions	
			AM	PM	AM	PM
Douglas						
Uxbridge TL to NE Main St	1.10	2	B	A	B	A
NE Main St to North St	0.20	2	B	B	B	B
North St to Depot St	0.30	2	D	D	D	D
Depot St to West St	0.30	2	C	D	D	D
West St to Franklin St	0.15	2	C	C	D	C
Franklin St to SE Main St	1.45	2	C	C	C	D
SE Main St to Route 96	0.10	2	C	C	C	C
Route 96 to Cedar St	1.50	2	B	B	B	B
Cedar St to Webster TL	2.60	2	B	B	B	B
Webster						
Douglas TL to Lower Gore Rd	1.20	2	B	C	B	C
Lower Gore Rd to Sutton Rd	1.40	2	D	D	D	D
Sutton Rd to I-395 SB Ramps	0.15	2	D	D	D	D
I-395 SB Ramps to Route 193	0.15	2	D	D	D	D
Route 193 to Racicot Ave	0.25	2	D	D	D	D
Racicot Ave to Brodeur Ave	0.07	2	C	D	D	D
Brodeur Ave to Slater St	0.08	2	C	D	D	D
Slater St to North Main St	0.50	2	C	D	C	D
North Main St to Lake St	0.30	2	C	D	C	D
Lake St to Mechanic St	0.20	2	D	D	D	D
Mechanic St to School St	0.10	2	D	D	D	D
School St to Chase Ave	0.05	2	C	D	C	D
Chase Ave to Dudley Town Line	0.05	2	C	D	C	D

TABLE 6 Continued

Roadway Segment Level-Of-Service (LOS) Analyses Results: Existing Conditions & Projected 2018 Conditions

ROUTE 12/16/197 SEGMENTS	Segment Length	# of Existing Lanes	Existing Conditions		Projected 2018 Conditions	
			AM	PM	AM	PM
Dudley						
Webster TL to Village St	0.20	2	C	C	C	D
Village St to Brandon Rd	0.40	2	C	D	C	D
Brandon Rd to Mason Rd	0.40	2	C	D	D	D
Mason Rd to Airport Rd	0.40	2	C	D	C	D
Airport Rd to Nelco Ave	0.10	2	C	C	C	C
Nelco Ave to Dudley Hill Rd	0.20	2	C	C	C	C
Dudley Hill Rd to Hall Rd	0.50	2	B	C	C	C
Hall Rd to Fabyan Rd	0.90	2	B	C	B	C
Fabyan Rd to Connecticut SL	0.40	2	B	C	B	C
Thompson, CT						
Connecticut SL to Route 31	0.10	2	B	B	C	B
Route 31 to Route 131	0.20	2	B	B	C	B

Analysis completed using Highway Capacity Software version 5.3

4.0 ROUTE 12/16/197 SAFETY ANALYSIS

For this Corridor Profile, CMRPC staff researched vehicle crash information for the three-year period including 2005, 2006, and 2007. Accident reports filed at the Douglas, Webster, and Dudley Police Departments were utilized for this effort. Also, accident reports from the Connecticut Department of Transportation were used for the town of Thompson, CT.

Tables 7 through 10 show summary statistics regarding the crash research collected for Douglas, Webster, Dudley and Thompson, CT. Each town's crashes are split by separate categories in order to aid analysis. The nine categories are severity, crash type, day of week, time of day, weather conditions, light conditions, road conditions, season, and the number of crashes at each intersecting street.

Table 7

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 16 IN THE TOWN OF DOUGLAS JANUARY 1, 2005 - DECEMBER 31, 2007

Route 16 Location	Jan '05-Dec '07
Monroe St	1
Young St	1
North St	2
Gleason Ct	1
Cook St	1
Pleasant St	2
Depot St	3
Mechanic St	3
Cottage St	1
Cummings St	1
Franklin St	**6**
Sunset Dr	3
Riedell St	1
Common St	1
SE Main St	2
Main St	**7**
Cedar St	**11**
Unknown	20
Other Roadway Segments	63
Total	130

(Bold text indicates crash diagram compiled)

Table 7 Continued

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 16 IN THE TOWN OF DOUGLAS JANUARY 1, 2005 - DECEMBER 31, 2007

Severity:

Property damage only	89	69%
Personal injury	41	31%
Fatality	0	0%
	130	100%

Crash Type:

Angle	22	17%
Rear End	28	22%
Sideswipe	9	7%
Cross Move	17	13%
Fixed Object	31	24%
Ran Off Road	5	4%
Hit Deer	8	6%
Hit Pedestrian	3	2%
Other	7	5%
	130	100%

Day of the Week:

Monday	19	15%
Tuesday	15	12%
Wednesday	23	18%
Thursday	16	12%
Friday	29	22%
Saturday	20	15%
Sunday	8	6%
	130	100%

Season:

Winter	37	28%
Spring	40	31%
Summer	19	15%
Fall	34	26%
	130	100%

Road Conditions:

Dry	64
Wet	29
Icy	4
Snow	33

Time of Day:

7 - 9 AM	15
4 - 6 PM	23
Remainder	92

Weather Conditions:

Clear	49
Cloudy	19
Rain	28
Snow	34

Light Conditions:

Daylight	79
Dusk	14
Dark	34
Dawn	3

Table 8

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 12/16 IN THE TOWN OF WEBSTER JANUARY 1, 2006 - DECEMBER 31, 2007

Route 12/16 Location	Jan '06-Dec '07
Old Douglas Rd	2
Lower Gore Rd	5
I-395 NB Ramp/Sutton Rd	**16**
I-395 SB On/Off Ramps	**18**
Route 12/Route 193	**10**
Paradis Ln	4
Racicot Ave/HillSide Ave	**10**
Brodeur Ave/Grandview Ave	8
Slater St/Park Ave	**14**
Cody St	7
Stoughton Ave	1
Deslaurier Ave	1
Lincon St	3
Whitcomb St	2
Granite St/Wakefield St	3
Day St	2
Prospect St	3
North Main St	6
Peter St	1
Lake St	3
Frederick St	1
Church St	5
Tracy Ct	5
Brown Ct	1
Mechanic St	5
School St	2
Davis St	5
High St	1
Pleasant St/Chase Ave	**9**
Union St	1
River Ct	2
Other Roadway Segments	60
Total	216

(Bold text indicates crash diagram compiled)

Table 8 Continued

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 12/16 IN THE TOWN OF WEBSTER JANUARY 1, 2006 - DECEMBER 31, 2007

Severity:

Property damage only	170	79%
Personal injury	46	21%
Fatality	0	0%
	216	100%

Crash Type:

Angle	57	26%
Rear End	102	47%
Sideswipe	15	7%
Cross Move	21	10%
Fixed Object	7	3%
Ran Off Road	3	1%
Hit Pedestrian	2	1%
Head on	1	1%
Other	8	4%
	216	100%

Day of the Week:

Monday	35	16%
Tuesday	25	12%
Wednesday	28	13%
Thursday	35	16%
Friday	42	19%
Saturday	23	11%
Sunday	28	13%
	216	100%

Season:

Winter	55	25%
Spring	44	20%
Summer	53	25%
Fall	64	30%
	216	100%

Road Conditions:

Dry	119
Wet	76
Snow	21

Time of Day:

7 - 9 AM	17
4 - 6 PM	46
Remainder	153

Weather Conditions:

Clear	93
Cloudy	41
Rain	61
Snow	21

Light Conditions:

Daylight	135
Dusk	31
Dark	46
Dawn	4

Table 9

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 12/197 IN THE TOWN OF DUDLEY JANUARY 1, 2005 - DECEMBER 31, 2007

Route 12/197 Location	Jan '05-Dec '07
River Ct	1
Mill St	2
Central St	2
Route 12/Village St	**40**
Williams St	3
Elizabeth St	1
Brandon Rd	3
Conant Ave	1
Prospect Ave	4
Progress Ave	4
Mason Rd/Paglione Dr	**21**
Airport Rd	**12**
Nelco Ave	**7**
Aldea Ave	1
Hall Rd/Lyons Rd	**7**
Center Rd/Fabyan Rd	**9**
Unknown	20
Other Roadway Segments	86
Total	224

(Bold text indicates crash diagram compiled)

Table 9 Continued

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 12/197 IN THE TOWN OF DUDLEY JANUARY 1, 2005 - DECEMBER 31, 2007

Severity:

Property damage only	168	75%
Personal injury	56	25%
Fatality	0	0%
	224	100%

Crash Type:

Angle	38	17%
Rear End	118	53%
Sideswipe	14	6%
Cross Move	20	9%
Fixed Object	12	5%
Ran Off Road	9	4%
Head on	1	1%
Hit Deer	5	2%
Hit Bicyclist	3	1%
Other	4	2%
	224	100%

Day of the Week:

Monday	28	13%
Tuesday	36	16%
Wednesday	35	16%
Thursday	35	16%
Friday	39	17%
Saturday	34	15%
Sunday	17	7%
	224	100%

Season:

Winter	53	24%
Spring	47	21%
Summer	56	25%
Fall	68	30%
	224	100%

Road Conditions:

Dry	120
Wet	75
Icy	5
Snow	24

Time of Day:

7 - 9 AM	19
4 - 6 PM	43
Remainder	162

Weather Conditions:

Clear	100
Cloudy	23
Rain	73
Snow	27
Sleet	1

Light Conditions:

Daylight	162
Dusk	23
Dark	34
Dawn	5

Table 10

SUMMARY OF REPORTED VEHICLE CRASHES ON ROUTE 197 IN THE TOWN OF THOMPSON, CT JANUARY 1, 2005 - DECEMBER 31, 2007

Route 197 Location	**Jan '05-Dec '07**
Route 31/Walker Rd	2
Route 131	**7**
Other Roadway Segments	2
Total	11

(Bold text indicates crash diagram compiled)

Severity:		
Property damage only	10	91%
Personal injury	1	9%
Fatality	0	0%
	11	100%

Crash Type:		
Angle	2	18%
Rear End	6	54%
Cross Move	2	18%
Fixed Object	1	10%
	11	100%

Day of the Week:		
Monday	1	10%
Tuesday	1	10%
Wednesday	0	0%
Thursday	2	18%
Friday	2	18%
Saturday	2	18%
Sunday	3	26%
	11	100%

Season:		
Winter	4	38%
Spring	3	26%
Summer	3	26%
Fall	1	10%
	11	100%

Time of Day:	
7 - 9 AM	1
4 - 6 PM	3
Remainder	7

Weather Conditions:	
Clear	9
Rain	1
Snow	1

Light Conditions:	
Daylight	6
Dusk	3
Dark	2

Road Conditions:	
Dry	8
Wet	1
Snow	2

4.1 Crash Analyses at Focus Intersections

As indicated in **Table 11**, the intersection of Route 12 with Route 197 and Village Street experienced the highest crash rate within the three-year study. The crash rate for the intersection was just below 2.0 and it was 124% above the District average. Also notable, seven additional intersections exceeded the average crash rate for the MassDOT District #3 region. In addition, there were zero crashes at three intersections between 2005 and 2007. Two of the intersections were in Douglas and the third was in Dudley.

Figures 35 through 50 represent the vehicle crash diagrams that were created from the vehicle crash research. Included before the crash diagrams are verbal descriptions summarizing the results.

Table 11

Vehicle Crash Rates at Focus Intersections

Focus Intersection	Crash Rate (per million entering vehicles)	Average Crash Rate (District 3)	Percent of District Average
Douglas			
Route 16/NE Main St	0.000	0.690	0%
Route 16/North St/Bowen Ct	0.111	0.690	16%
Route 16/Depot St	0.166	0.690	24%
Route 16/West St	0.000	0.690	0%
Route 16/Franklin St	0.391	0.690	57%
Route 16/SE Main St/Common St	0.147	0.690	21%
Route 16/Route 96/SW Main St	0.555	0.690	80%
Route 16/Cedar St	1.432	0.690	208%
Webster			
Route 16/Lower Gore Rd/Rawson Rd	0.482	0.690	70%
Route 16/Sutton Rd/I-395 NB Ramp	0.813	0.690	119%
Route 16/I-395 SB Ramp	0.910	0.690	132%
Route 12/Route 16/Route 193	0.495	0.870	57%
Route 12/Racicot Ave/Hillside Ave	0.773	0.690	112%
Route 12/Brodeur Ave/Grandview Ave	0.585	0.690	85%
Rotue 12/Park Ave/Slater St	1.036	0.870	119%
Route 12/North Main St	0.568	0.870	65%
Route 12/Lake St	0.193	0.870	22%
Route 12/Mechanic St	0.381	0.690	55%
Route 12/School St	0.143	0.690	21%
Route 12/Chase Ave/Pleasant St	0.661	0.870	76%
Dudley			
Route 12/Route 197/Village St	1.952	0.870	224%
Route 197/Brandon Rd	0.165	0.690	24%
Route 197/Mason Rd/Paglione Dr	1.074	0.870	123%
Route 197/Airport Rd	0.626	0.870	72%
Route 197/Nelco Ave	0.530	0.690	77%
Route 197/Dudley Hill Rd/indian Rd	0.000	0.690	0%
Route 197/Hall Rd/Lyon Rd	0.566	0.690	82%
Route 197/Center Rd/Fabyan Rd	0.740	0.690	107%
Thompson, CT			
Route 197/Route 31/Walker Rd	0.193	0.690	28%
Route 197/Route 131	0.556	0.870	64%

Notes: (1) Intersection crash rates were calculated from vehicle collision information compiled through research at the Douglas, Webster and Dudley Police Departments as well as the Connecticut Department of Transportation for the three-year period including 2005, 2006, and 2007.

(2) The most recent crash rate average for MassDOT District #3 is 0.87 for signalized intersections and 0.69 for unsignalized intersections. MassDOT specifies this rate for comparative use within the District.

Route 16/Franklin Street

This intersection had the fewest amount of crashes in a three-year period with a total of six. There were three rear ends, one angle crash, and two vehicles that hit a fixed object. A common characteristic of Route 16 crash data that was analyzed for the town of Douglas was that many incidents included vehicles that ran off the road and hit telephone poles, trees, and guardrails. Four out of the six crashes at this intersection occurred during rain or snow. The two rear end crashes in 2007 caused personal injuries. The rest of the crashes resulted in property damage.

Route 16/SW Main Street

This intersection had a total of seven crashes between January 2005 and December 2007. The majority of the crashes at this intersection were angle crashes. Vehicles would stop at the stop sign at the end of Webster Street and turn onto Main Street, where they would collide with vehicles already traveling on Main Street. Surprisingly, there were no personal injuries from these crashes. Angle crashes are usually the most common type of crash that results in injury. One of the angle crashes happened because one of the drivers went through the stop sign without stopping. There was also one turning movement crash and one sideswipe. All of the seven crashes occurred in the PM or early morning hours.

Route 16/Cedar Street

There were a total of eleven crashes that occurred at this intersection within a three-year period. This location is a four-way intersection with stop signs on both Cedar Street approaches. Five out of the eleven crashes were vehicles that ran off the road and hit a fixed object such as a tree or guardrail. Of the remaining six crashes, four were angle crashes, one was a rear end, and one was a turning movement crash. Only two of the crashes occurred in the AM. There were also three crashes that resulted in personal injury.

Route 16/Sutton Road/I-395 NB Ramps

This intersection had the second most crashes with a total of sixteen from 2006 to 2007. Of the sixteen crashes, only two caused personal injuries. There were five different types of crashes at this location. The majority of crashes were either rear ends or angle crashes. Over half of the crashes occurred while the roadway was wet. Since there are numerous angle crashes in the center of this intersection, there may be a need to install a traffic signal. Also, the traffic signal might reduce the number of rear ends on the minor streets. There was also one head on crash that occurred on Route 16. There usually are not too many head on crashes at an intersection.

Route 16/I-395 SB Ramps

This intersection had the highest number of crashes in the study area with a total of eighteen. The majority of crashes at this intersection were rear ends and angle crashes. Fifteen on the crashes occurred from vehicles exiting I-395 southbound onto Route 16. Nine rear ends occurred from vehicles trying to make a right turn onto Route 16 and six angle crashes happened when vehicles tried to make a left turn onto Route 16. The rear end crashes on the exit ramp could possibly be the result from drivers being in a hurry to get on Route 16. All but one of the eighteen crashes occurred in the PM. There were also six crashes that caused personal injuries, five of which were from rear ends.

Route 12/Route 16/Route 193

This signalized intersection had a total of ten crashes between January 2006 and December 2007. Two out of the ten crashes caused personal injuries. The majority of crashes that occurred at this intersection were angle crashes with a total of six. There were also three rear ends and one sideswipe. One of the angle crashes occurred because one of the vehicles drove through a red light. There were three other angle crashes from vehicles exiting the gas station in the northwest corner of the intersection. None of the crashes occurred from vehicles entering the intersection from Route 193. All of the crashes were on Route 12 and Route 16.

Route 12/Racicot Avenue/Hillside Avenue

This stop sign controlled intersection had a total of ten crashes in a two-year period. This intersection only had ten crashes, but six of them caused personal injuries. Two of the injuries resulted from a pedestrian being hit while crossing Hillside Avenue and a bicyclist being hit while riding along Route 12. The other four injuries resulted from two rear ends and two angle crashes. Installation of a traffic signal might reduce the amount of personal injuries at this location. Of the ten crashes, only three occurred in the AM.

Route 12/Park Avenue/Slater Street

This signalized intersection had a total of fourteen crashes from January 2006 to December 2007. The majority of crashes at this location were rear ends. There were also three sideswipes, which is high for the amount of crashes at this intersection. On Route 12 there is a dedicated left-turn lane traveling eastbound and a dedicated right-turn lane traveling westbound. Vehicles involved in sideswipes were probably in the wrong lane to travel through the intersection; so when they tried to get into the correct lane they collided with another vehicle already using that lane. Also at this intersection there was one angle crash, one turning movement crash, and one vehicle that hit a fixed object. The angle crash occurred because one of the vehicles drove through a red light. Surprisingly, there were no personal injuries from any of the crashes.

Route 12/Chase Avenue/Pleasant Street

This intersection had the smallest number of crashes in the Webster study with a total of nine from January 2006 to December 2007. There were four different types of crashes that occurred at this intersection. There were three rear ends, four angle crashes, one turning movement crash, and one sideswipe. Three of the angle crashes involved one of the vehicles traveling through a red light. Of the nine crashes, only one of the rear ends caused a personal injury. Only one crash occurred in the AM and most of the crashes happened when the road condition was either wet or snowy.

Route 12/Route 197/Village Street

This signalized intersection had the most crashes with a total of forty from 2005 to 2007. There are a wide variety of crashes at this location. Most of the crashes occurred during the week, with only nine happening on the weekend. The two most common types of crashes at this location were rear ends and angle crashes. These two types produced over half of the crashes at this intersection. There were also six sideswipes at this intersection, which is a pretty high amount, perhaps due to the fact that vehicles in the left-turn only lane went on to merge into the thru lane or vice versa. There were a total of eleven personal injuries at this intersection, which is a quarter of the total crashes. There is also a gas station at the northeast corner of the intersection that possibly aids in the crashes with numerous amounts of vehicles entering and exiting the roadway.

Route 197/Mason Road/Paglione Drive

This signalized intersection had the second highest number of crashes in the study area with a total of twenty-one. Of the twenty-one crashes that occurred, eight caused personal injuries. The most consistently seen type of crash was the rear end type. There were a total of sixteen at this intersection. Surprisingly, there are more rear end crashes leaving the intersection instead of approaching it. Especially in the PM, Route 197 is heavily congested between Mason Road and Route 12. The heavy traffic might have an effect on rear end crashes since vehicles are so close to each other. Other than rear end crashes, there were two turning movement crashes, one sideswipe, one angle crash, and one vehicle that hit a bicyclist.

Route 197/Airport Road

This signalized intersection had a total of twelve crashes between January 2005 and December 2007. There were four types of crashes at this intersection. There were eight rear ends, two sideswipes, one turning movement, and one angle crash. Only two of the twelve crashes caused personal injury. All but one crash occurred in the PM. Eleven of the twelve crashes occurred between Wednesday and Friday.

Route 197/Nelco Avenue

This intersection had a total of seven crashes in a three-year period. Two of the seven crashes caused personal injuries and in one of the crashes the driver was cited for drunk driving. Rear end crashes were the most common at this intersection. In fact, five of the seven crashes were rear ends. The other two types were an angle crash and an incident where a vehicle that ran off the road hit a telephone pole. All of the crashes that occurred at this intersection were in the PM. Nelco Street is located just west of a traffic signal and the possibility is there for vehicles to use this street as a short cut between Airport Road and Route 197 instead of using the traffic signal. Volumes at this road bear watching/monitoring.

Route 197/Hall Road/Lyons Road

This four-way intersection had a total of seven crashes from January 2005 to December 2007. The majority of crashes at this intersection were angle crashes. This intersection might also have a safety issue due to poor sight lines when exiting the minor roads, especially looking towards the eastbound direction because the vehicles are traveling on an incline approaching the intersection. This intersection has a municipal building on the southwest corner and a Dunkin Donuts in the southeast corner. It is surprising that there are not more incidents here. For the remaining crashes, one was a rear end and the other was a vehicle that hit a piece of debris in the roadway. Three out of the seven crashes caused personal injuries and five of the seven crashes occurred in the PM.

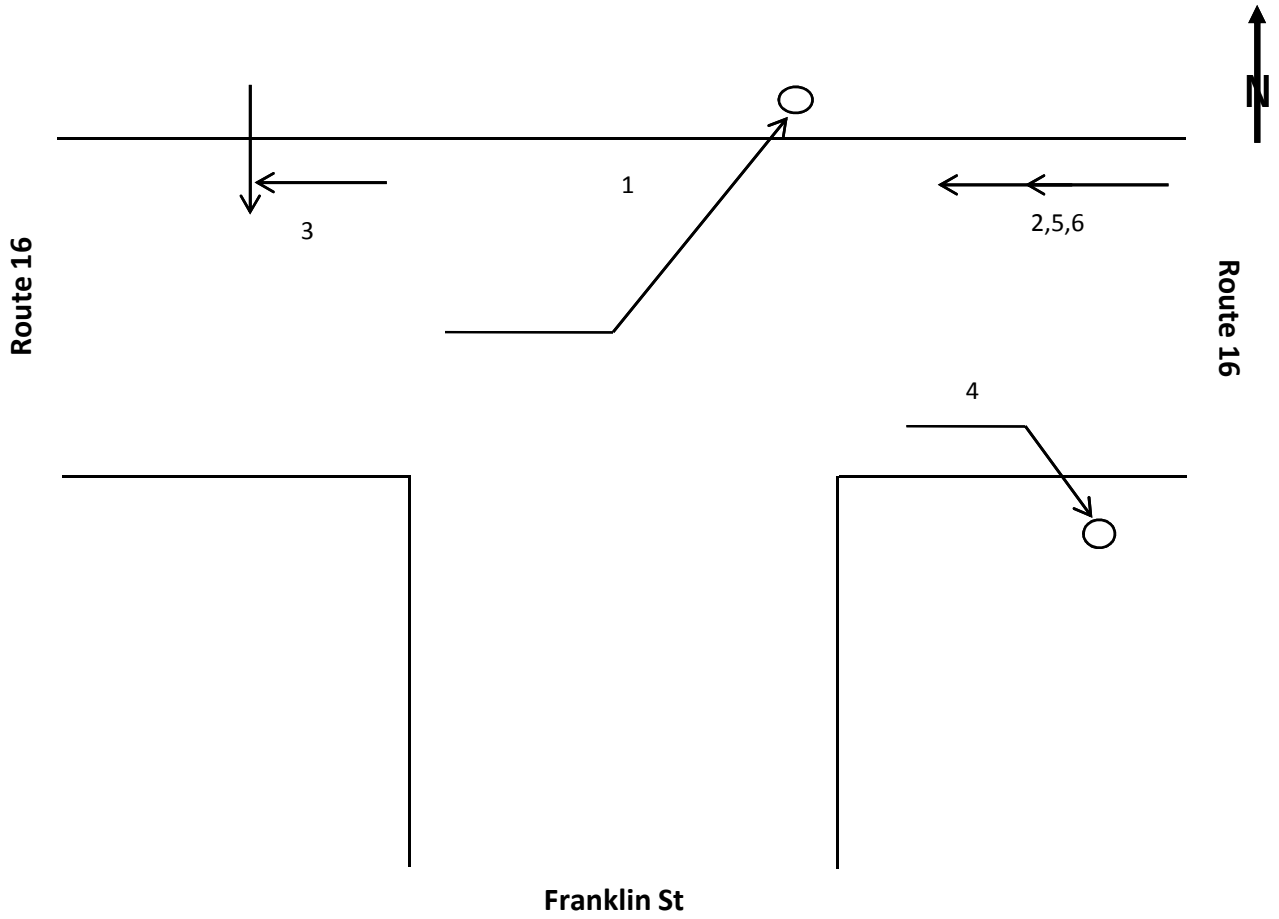
Route 197/Center Road/Fabyan Road

This intersection had a total of nine crashes from January 2005 to December 2007. Only one of the nine crashes caused personal injuries. The type of crash that occurred most often was an angle crash. Vehicles pulling out from the stop sign controlled minor roads did not allow enough time to safely enter onto the main road. One possible cause of these angle crashes is that vehicles on Route 197 could be traveling faster than expected for traffic trying to exit Center Road or Fabyan Road. The rest of the crashes consisted of two fixed object collisions, one turning movement, one rear end, and one vehicle that hit a bicyclist.

Route 197/Route 131

This signalized intersection had a total of seven crashes between January 2005 and December 2007. Only one of the seven crashes caused personal injury. Out of the seven crashes at this location, there were four different types of crashes. There were four rear ends, one turning movement crash, one angle crash, and one vehicle that struck a light pole. In regards to the angle crash, one of the drivers was cited for running a red light. Also, one of the drivers involved in a rear end crash was cited for drinking alcohol. Over half of the crashes occurred in the PM and a few of the crashes happened during rain or snow.

VEHICLE CRASH DIAGRAM	Figure 35
Dates: 1/1/05 - 12/31/07	Route 16 / Franklin Street - Douglas



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

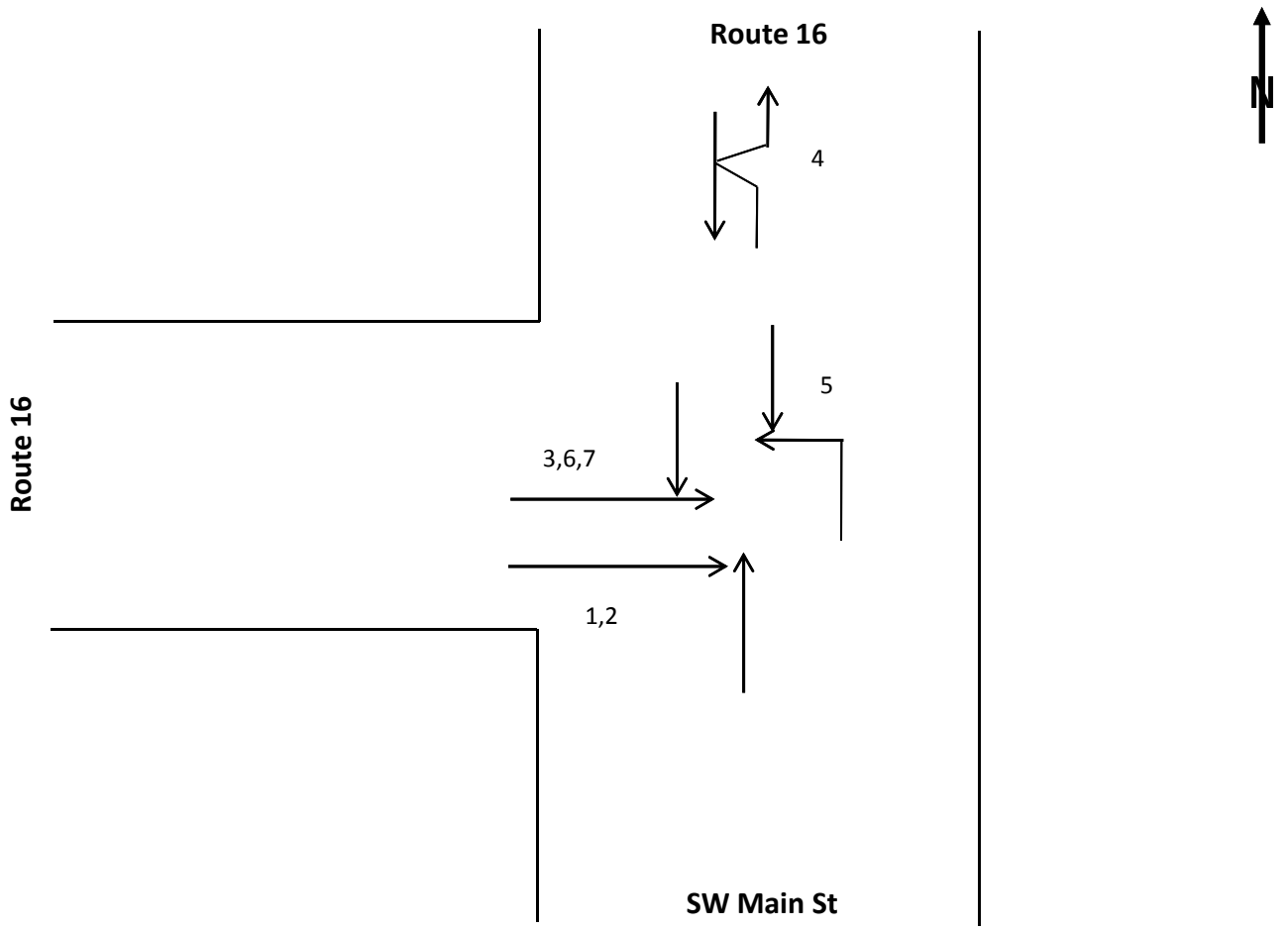
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	03/12/05	8:39	SAT	PD	1	3	0								
2	09/27/05	16:10	TUE	PD	1	2	0								
3	07/07/06	14:11	FRI	PD	1	1	0								
4	11/02/06	11:03	THUR	PD	1	2	0								
5	03/17/07	12:38	SAT	PI	1	3	0								
6	07/12/07	16:47	THUR	PI	1	1	0								

VEHICLE CRASH DIAGRAM	Figure 36
Dates: 1/1/05 - 12/31/07	Route 16/SW Main Street - Douglas



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

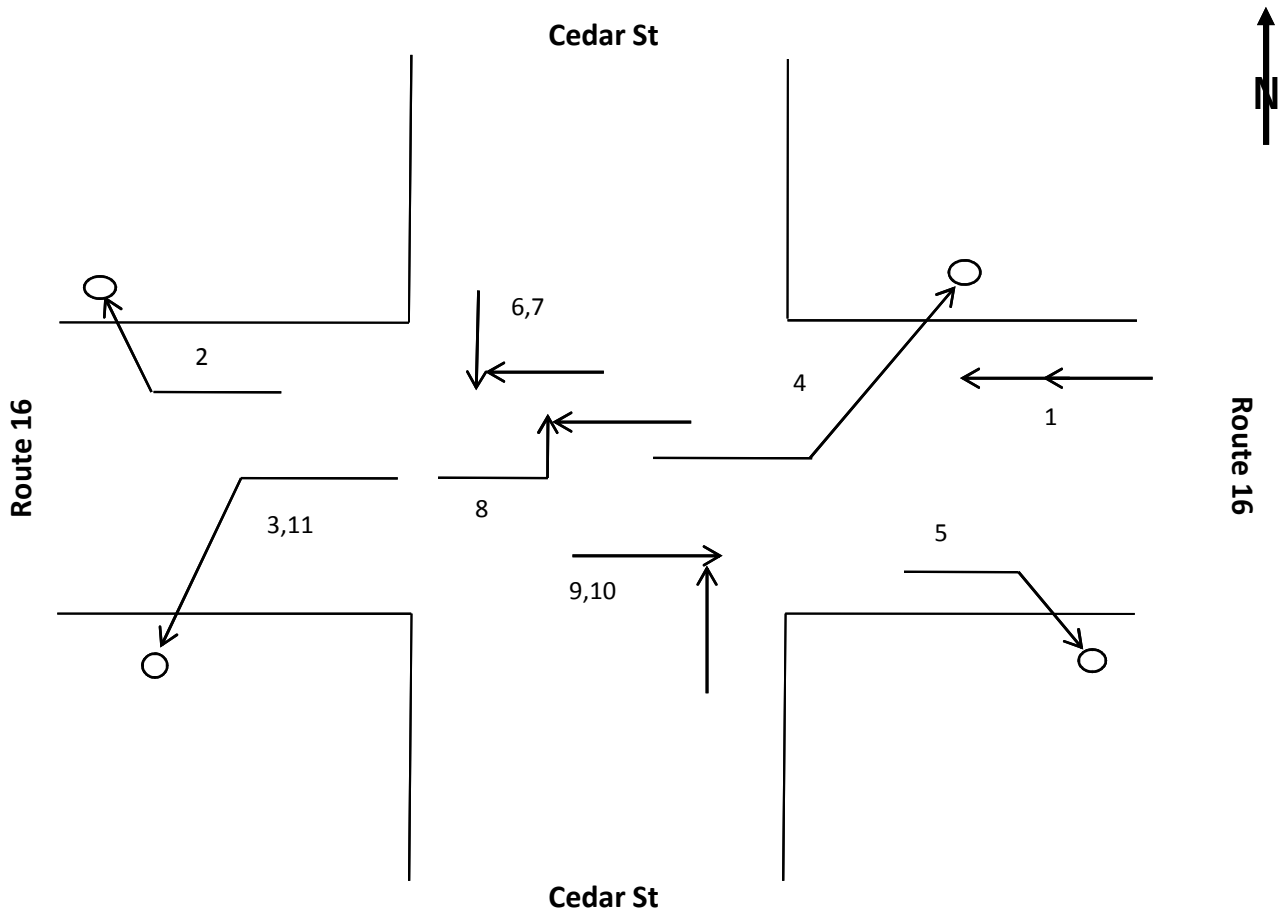
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	03/05/05	16:04	SAT	PD	1	1	0								
2	07/08/05	15:03	FRI	PD	1	2	0								
3	07/27/05	21:00	WED	PD	3	2	0								
4	07/28/05	15:51	THUR	PD	1	1	0								
5	01/18/06	17:02	WED	PD	2	3	0								
6	10/06/06	0:05	FRI	PD	3	1	2								
7	09/22/07	12:41	SAT	PD	1	1	3								

VEHICLE CRASH DIAGRAM	Figure 37
Dates: 1/1/05 - 12/31/07	Route 16 / Cedar Street - Douglas



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
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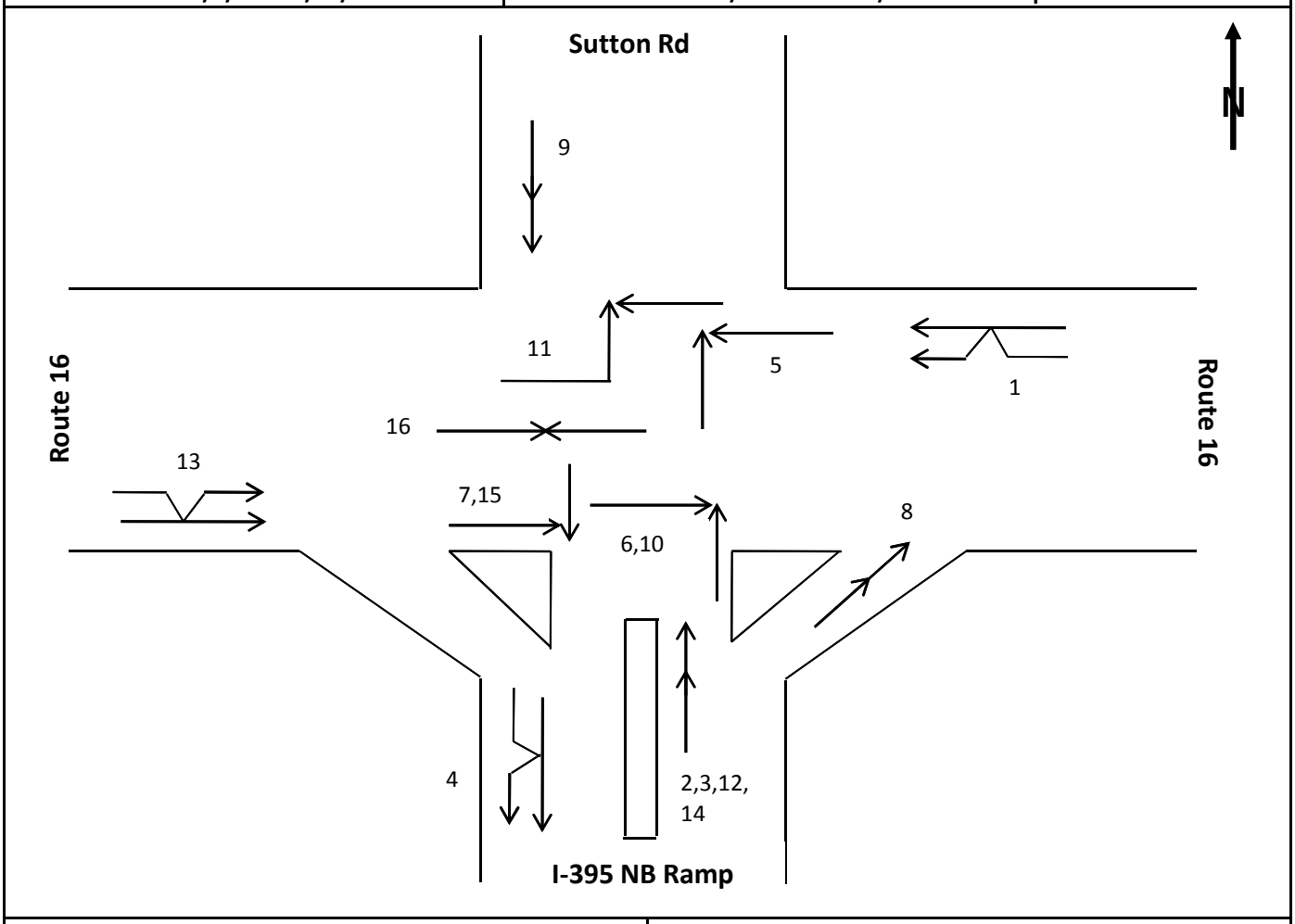
2	03/12/05	18:22	SAT	PD	3	3	0								
3	09/04/05	23:55	SUN	PD	3	1	0								
4	10/28/05	7:47	FRI	PI	1	2	0								
5	12/14/05	14:00	WED	PD	1	1	0								
6	12/19/05	17:52	MON	PD	2	3	0								
7	03/10/07	17:57	SAT	PI	3	2	0								
8	03/23/07	17:47	FRI	PI	2	1	0								
9	06/18/07	7:56	MON	PD	1	1	0								
10	09/01/07	13:39	SAT	PD	1	1	0								
11	12/13/07	13:25	THUR	PD	1	3	0								

VEHICLE CRASH DIAGRAM	Figure 38
Dates: 1/1/06 - 12/31/07	Route 16 / Sutton Road / I-395 NB Ramps - Webster



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

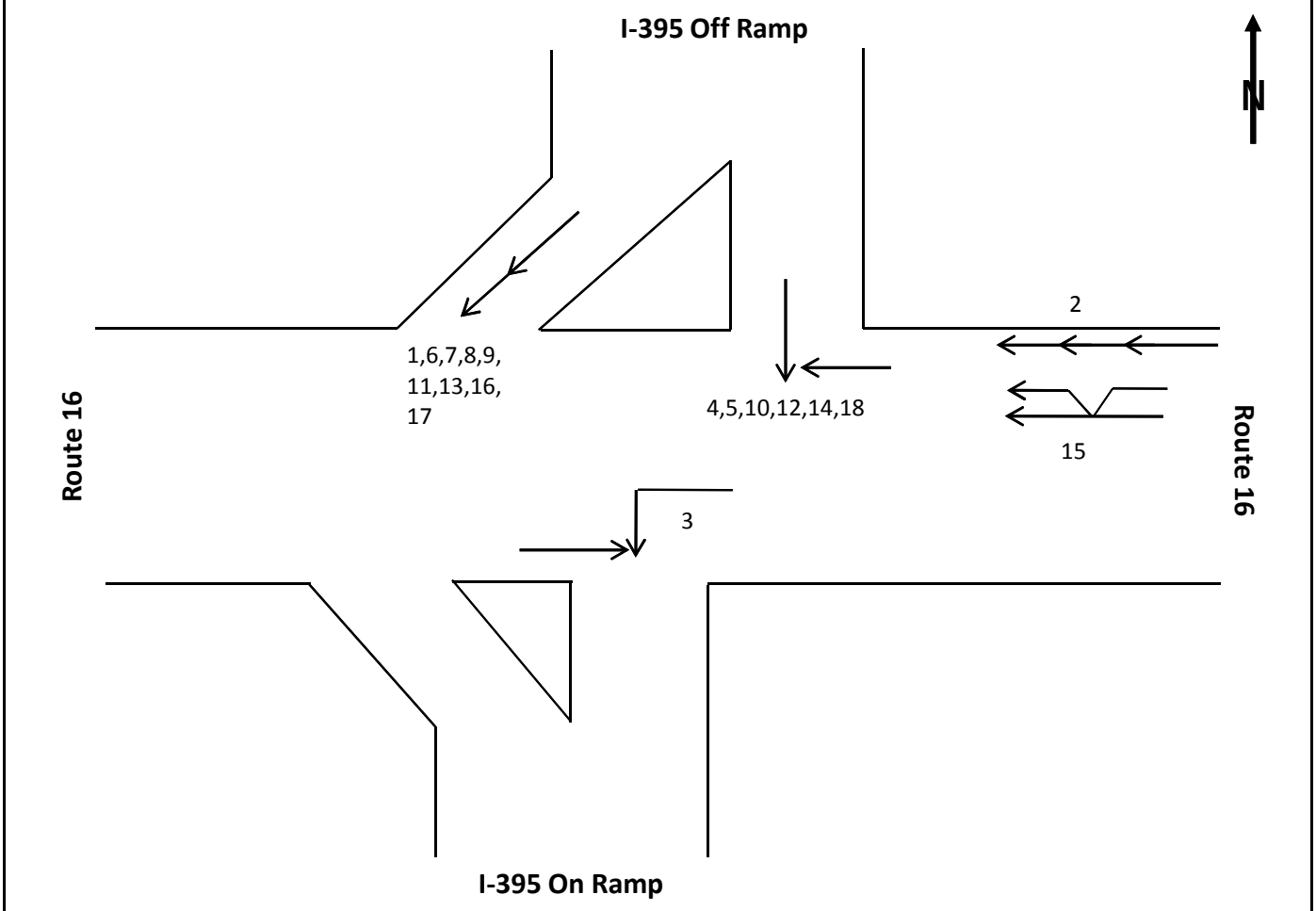
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	01/22/06	17:28	SUN	PD	2	1	0	16	11/26/07	18:40	MON	PD	3	2	0
2	04/03/06	7:28	MON	PD	1	2	0								
3	06/11/06	13:12	SUN	PD	1	2	0								
4	09/14/06	11:18	THUR	PD	1	2	0								
5	09/15/06	15:03	FRI	PI	1	2	0								
6	12/04/06	7:22	MON	PD	1	1	0								
7	02/12/07	7:59	MON	PI	1	1	0								
8	02/16/07	7:11	FRI	PD	1	1	0								
9	05/08/07	12:27	TUE	PD	1	1	0								
10	06/13/07	16:59	WED	PD	1	2	0								
11	08/21/07	6:28	TUE	PD	2	1	0								
12	08/26/07	11:54	SUN	PD	1	2	0								
13	08/27/07	18:56	MON	PD	3	1	0								
14	09/10/07	16:06	MON	PD	1	2	0								
15	09/14/07	20:08	FRI	PD	3	2	2								

VEHICLE CRASH DIAGRAM	Figure 39
Dates: 1/1/06 - 12/31/07	Route 16 / I-395 SB Ramps - Webster



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

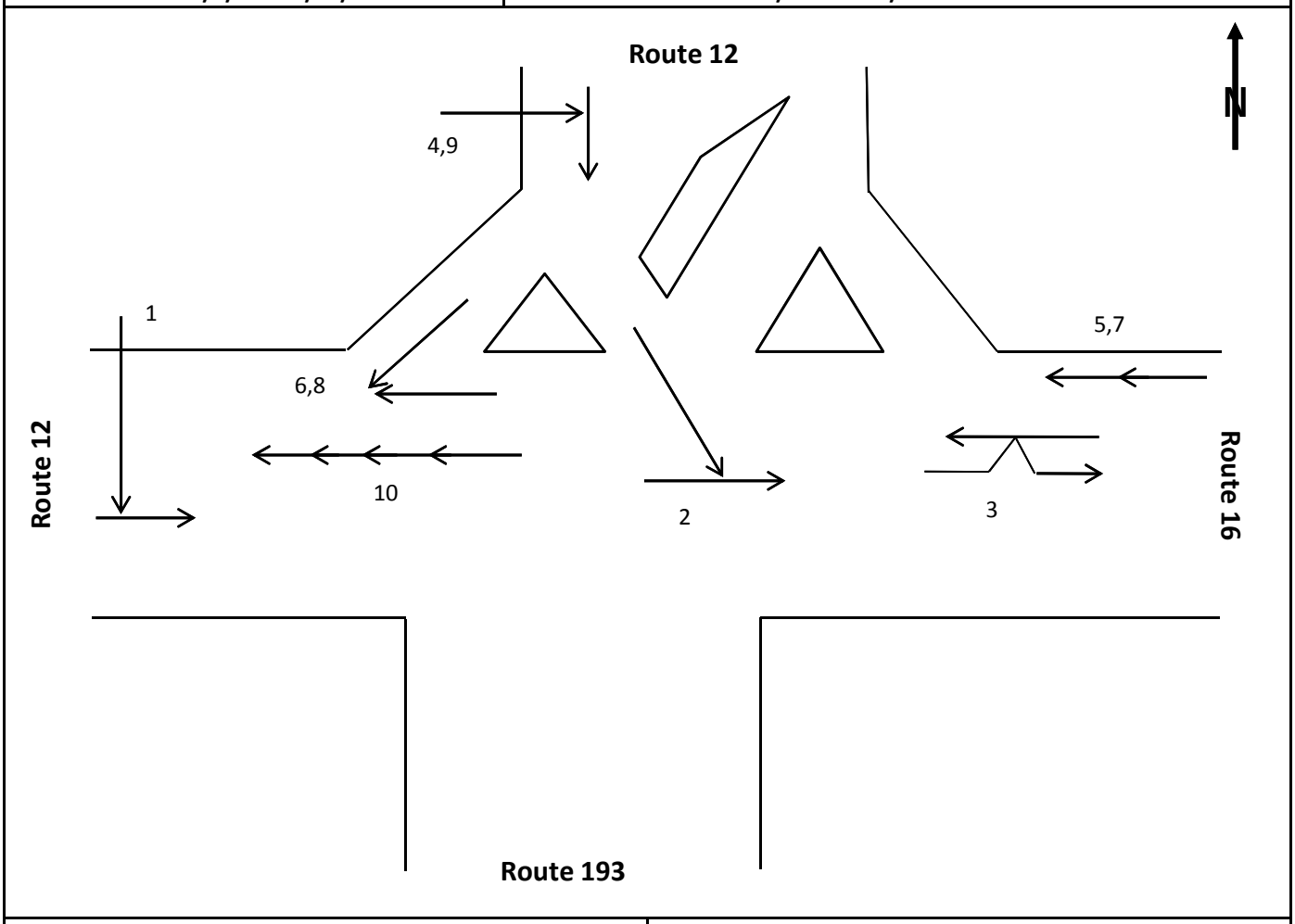
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	02/04/06	19:12	SAT	PI	3	2	0	16	11/01/07	16:51	THUR	PD	2	1	0
2	02/28/06	17:11	TUE	PI	2	1	0	17	11/18/07	11:35	SUN	PD	1	1	0
3	03/07/06	16:45	TUE	PD	2	1	0	18	12/15/07	13:00	SAT	PI	1	1	0
4	03/29/06	16:12	WED	PD	1	1	0								
5	05/26/06	17:08	FRI	PD	1	2	0								
6	06/03/06	19:28	SAT	PD	3	2	0								
7	07/24/06	22:06	MON	PI	3	1	0								
8	08/17/06	15:50	THUR	PI	1	1	0								
9	10/18/06	18:30	WED	PD	3	2	0								
10	12/04/06	16:49	MON	PD	2	1	0								
11	01/02/07	17:07	TUE	PI	2	2	5								
12	04/03/07	16:54	TUE	PD	2	3	0								
13	06/07/07	18:09	THUR	PD	1	1	0								
14	08/23/07	15:38	THUR	PD	1	1	2								
15	10/17/07	20:02	WED	PD	3	1	0								

VEHICLE CRASH DIAGRAM	Figure 40
Dates: 1/1/06 - 12/31/07	Route 12 / Route 16 / Route 193 - Webster



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

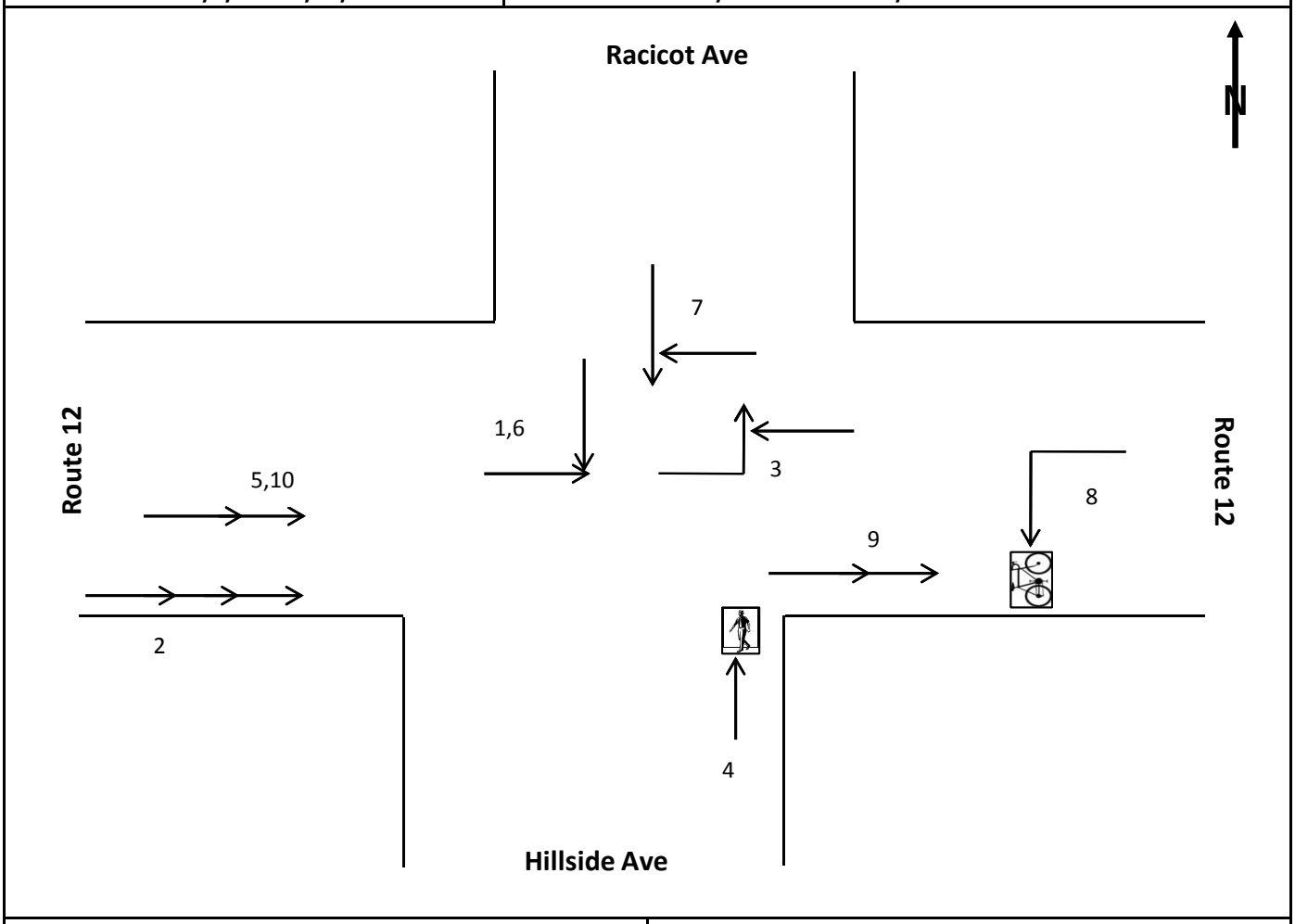
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	08/25/06	7:53	FRI	PD	1	2	0								
2	11/29/06	17:00	WED	PD	2	1	0								
3	12/04/06	8:56	MON	PD	1	1	0								
4	02/24/07	7:42	SAT	PD	1	1	0								
5	05/22/07	21:41	TUE	PD	3	1	0								
6	06/23/07	4:43	SAT	PI	3	1	0								
7	07/21/07	13:00	SAT	PI	1	1	0								
8	07/27/07	15:03	FRI	PD	1	1	4								
9	10/26/07	17:27	FRI	PD	2	2	0								
10	11/05/07	13:53	MON	PD	1	1	5								

VEHICLE CRASH DIAGRAM	Figure 41
Dates: 1/1/06 - 12/31/07	Route 12 / Racicot Avenue / Hillside Avenue - Webster



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

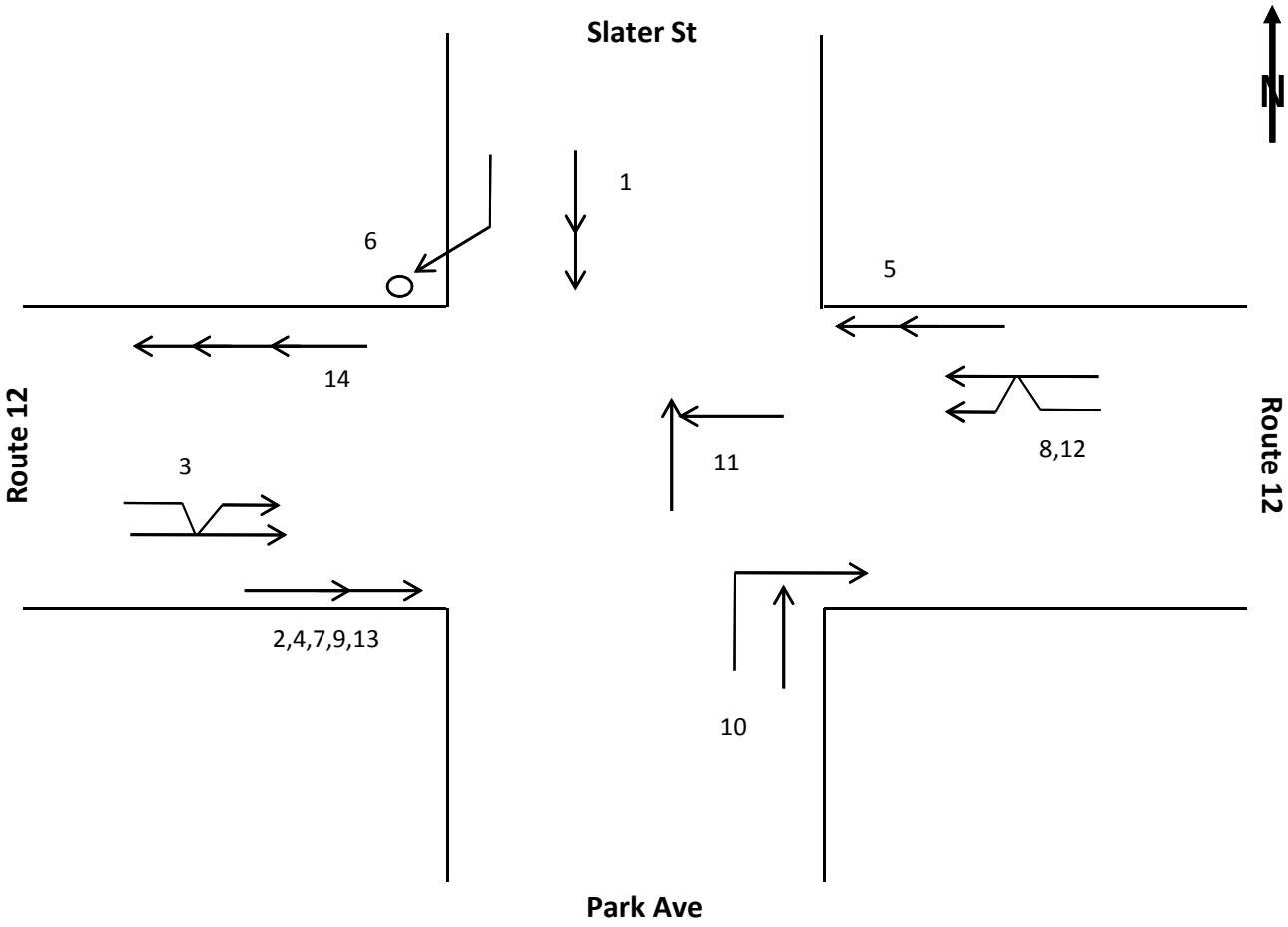
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	01/30/06	17:41	MON	PI	2	1	0								
2	06/30/06	12:51	FRI	PI	1	1	0								
3	06/30/06	16:38	FRI	PD	1	1	0								
4	07/15/06	10:36	SAT	PI	1	1	0								
5	10/06/06	20:27	FRI	PI	3	1	0								
6	06/04/07	8:30	MON	PD	1	2	0								
7	06/19/07	15:49	TUE	PI	1	1	0								
8	07/06/07	11:49	FRI	PI	1	1	0								
9	07/09/07	16:19	MON	PD	1	2	0								
10	10/26/07	16:35	FRI	PD	1	2	0								

VEHICLE CRASH DIAGRAM	Figure 42
Dates: 1/1/06 - 12/31/07	Route 12 / Park Avenue / Slater Street - Webster



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

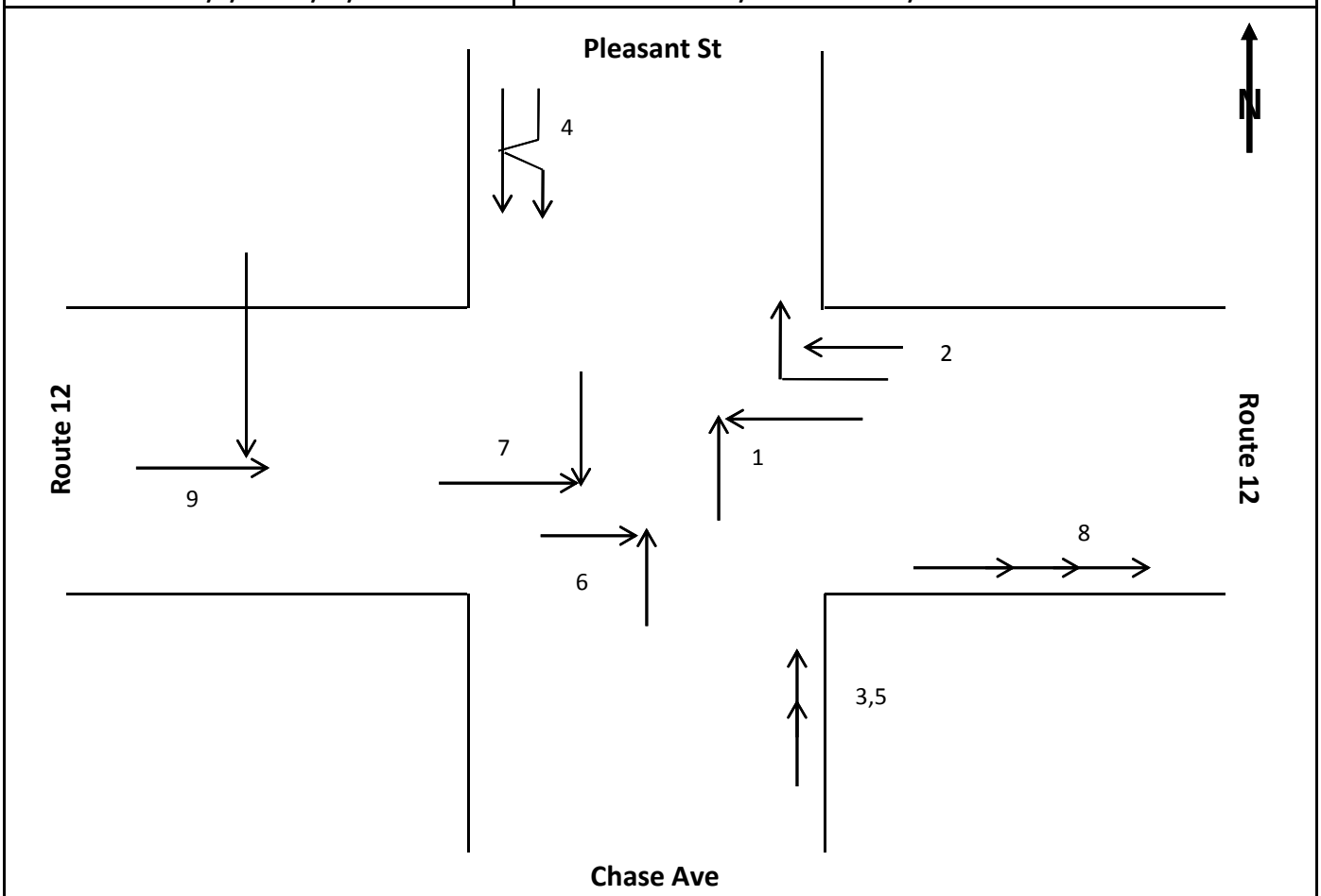
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	06/21/06	17:11	WED	PD	1	1	0								
2	09/28/06	19:04	THUR	PD	3	1	0								
3	02/03/07	15:50	SAT	PD	1	3	0								
4	05/02/07	13:59	WED	PD	1	2	0								
5	05/26/07	23:50	SAT	PD	3	1	0								
6	07/12/07	13:15	THUR	PD	1	1	0								
7	09/01/07	14:06	SAT	PD	1	1	0								
8	09/12/07	11:55	WED	PD	1	1	0								
9	09/16/07	16:23	SUN	PD	1	1	0								
10	09/28/07	9:11	FRI	PD	1	2	0								
11	09/30/07	15:46	SUN	PD	1	1	4								
12	10/04/07	19:10	THUR	PD	3	1	0								
13	10/18/07	19:54	THUR	PD	3	1	0								
14	12/27/07	17:26	THUR	PD	2	3	0								

VEHICLE CRASH DIAGRAM	Figure 43
Dates: 1/1/06 - 12/31/07	Route 12 / Chase Avenue / Pleasant Street - Webster



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

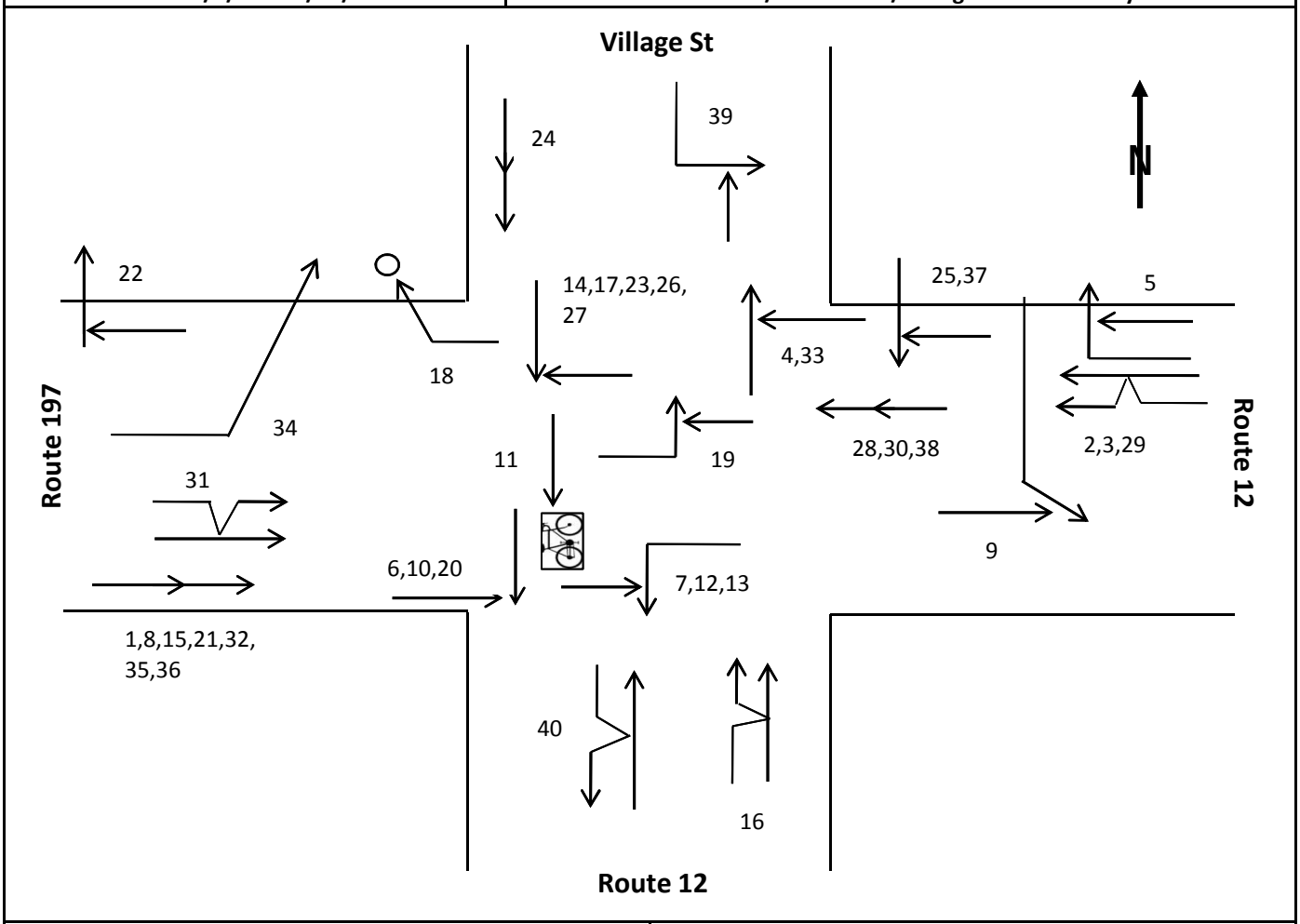
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	04/23/06	18:09	SUN	PD	2	2	4								
2	06/08/06	21:36	THUR	PD	3	2	0								
3	08/04/06	13:58	FRI	PD	1	2	0								
4	08/18/06	6:43	FRI	PD	2	1	0								
5	08/16/06	18:46	FRI	PD	3	1	0								
6	10/09/06	14:17	MON	PD	1	1	4								
7	01/25/07	19:18	THUR	PD	3	3	4								
8	08/17/07	16:55	FRI	PI	1	2	0								
9	10/04/07	23:00	THUR	PD	3	1	0								

VEHICLE CRASH DIAGRAM	Figure 44
Dates: 1/1/05 - 12/31/07	Route 12 / Route 197 / Village Street - Dudley



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

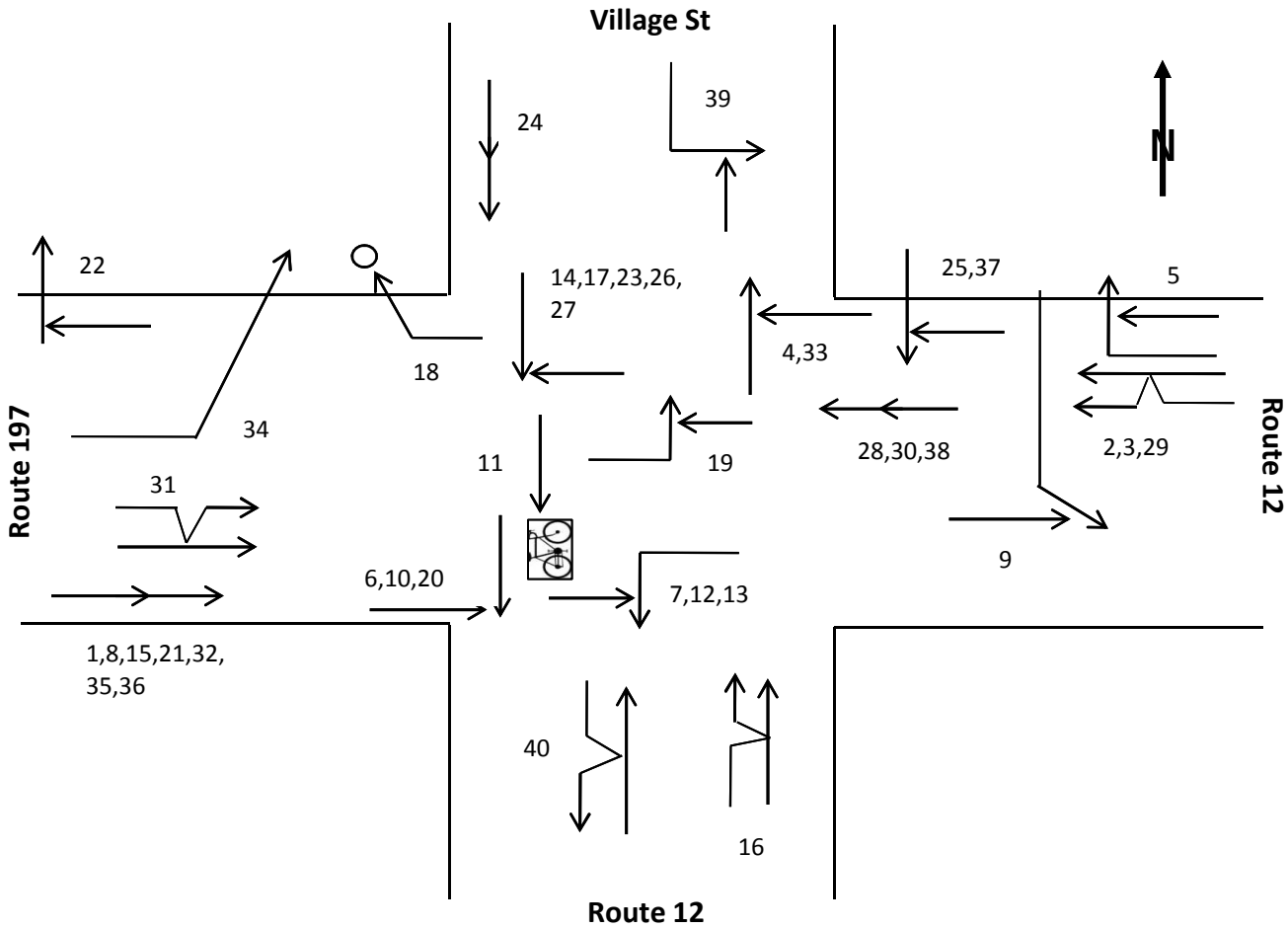
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	02/01/05	10:45	TUE	PD	1	1	0	16	02/02/06	11:40	THUR	PD	1	1	0
2	02/02/05	20:03	WED	PD	3	1	0	17	02/08/06	15:56	WED	PD	1	1	0
3	03/03/05	15:35	THUR	PD	1	1	0	18	05/18/06	15:15	THUR	PD	1	1	0
4	05/04/05	12:49	WED	PI	1	1	0	19	05/19/06	20:06	FRI	PI	3	2	0
5	06/23/05	19:01	THUR	PD	3	1	0	20	06/22/06	15:44	THUR	PI	1	1	0
6	06/28/05	16:03	TUE	PI	1	2	2	21	06/30/06	9:21	FRI	PD	1	1	0
7	07/08/05	17:12	FRI	PI	2	0	0	22	07/23/06	12:02	SUN	PD	1	1	0
8	07/11/05	19:15	MON	PD	3	1	0	23	08/01/06	9:11	TUE	PD	1	1	0
9	08/01/05	10:54	MON	PD	1	2	0	24	08/07/06	15:14	MON	PD	1	2	0
10	11/19/05	13:43	SAT	PD	1	1	0	25	08/16/06	16:04	WED	PD	1	1	0
11	11/21/05	9:50	MON	PI	1	2	0	26	11/13/06	19:32	MON	PD	3	2	0
12	11/23/05	14:51	WED	PD	1	3	0	27	11/16/06	18:36	THUR	PI	3	2	0
13	12/02/05	17:57	FRI	PI	3	3	0	28	01/05/07	10:08	FRI	PD	1	2	0
14	12/17/05	13:59	SAT	PD	1	1	4	29	01/07/07	16:06	SUN	PD	1	2	0
15	01/14/06	19:27	SAT	PD	3	3	0	30	01/24/07	8:24	WED	PD	1	1	0

VEHICLE CRASH DIAGRAM	Figure 44 Continued
Dates: 1/1/05 - 12/31/07	Route 12 / Route 197 / Village Street - Dudley



SYMBOLS

Angle

Turning Move

Rear End

Sideswipe

Backing

Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

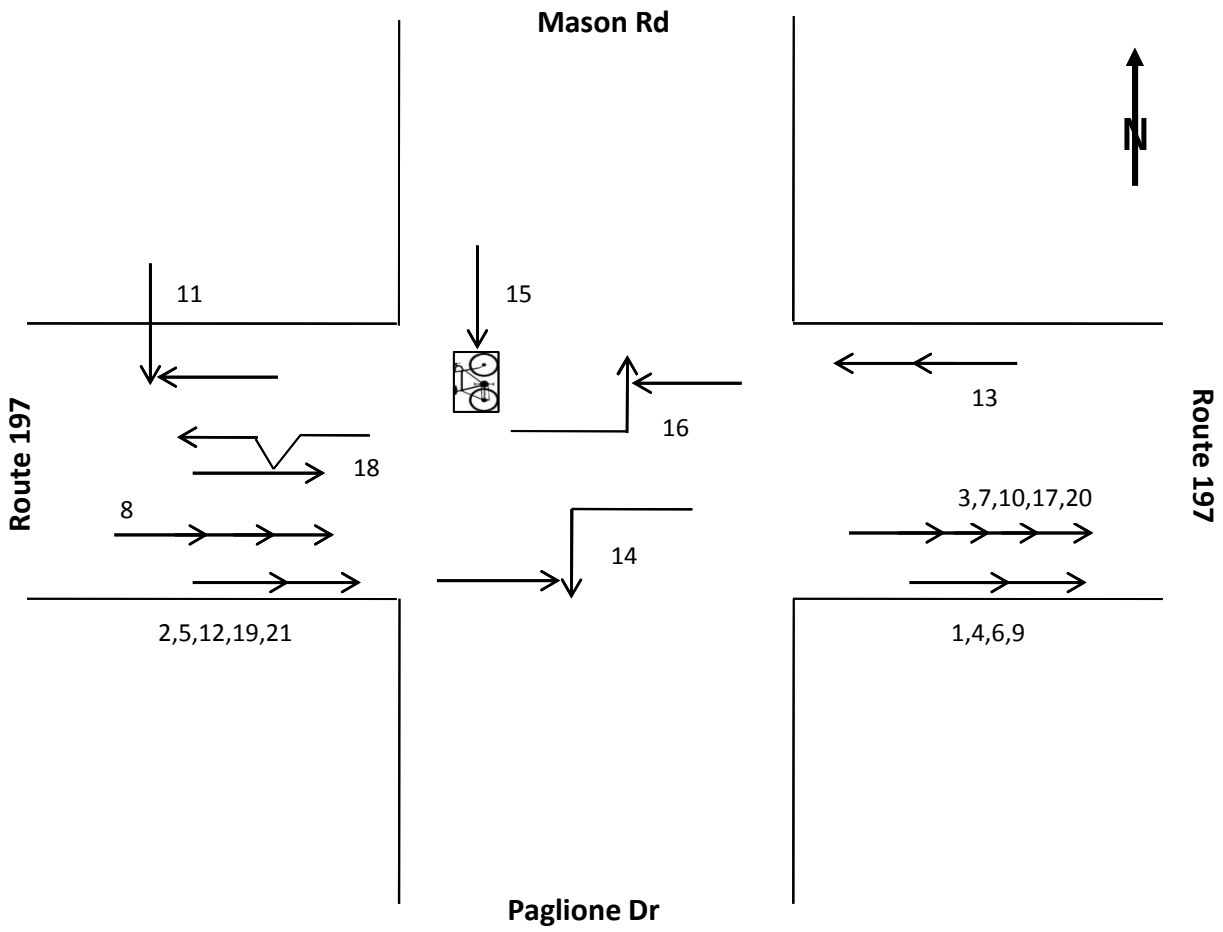
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
31	02/14/07	9:45	WED	PD	1	3	0								
32	02/16/07	14:21	FRI	PD	1	1	0								
33	03/04/07	12:21	SUN	PD	1	1	0								
34	04/22/07	14:26	SUN	PI	1	1	0								
35	05/19/07	17:42	SAT	PI	2	2	0								
36	06/16/07	21:53	SAT	PI	3	2	0								
37	10/24/07	16:01	WED	PD	1	2	0								
38	10/26/07	17:31	FRI	PD	2	2	0								
39	11/20/07	6:25	TUE	PD	2	3	0								
40	12/13/07	12:20	THUR	PD	1	3	0								

VEHICLE CRASH DIAGRAM	Figure 45
Dates: 1/1/05 - 12/31/07	Route 197 / Mason Road / Paglione Drive - Dudley



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

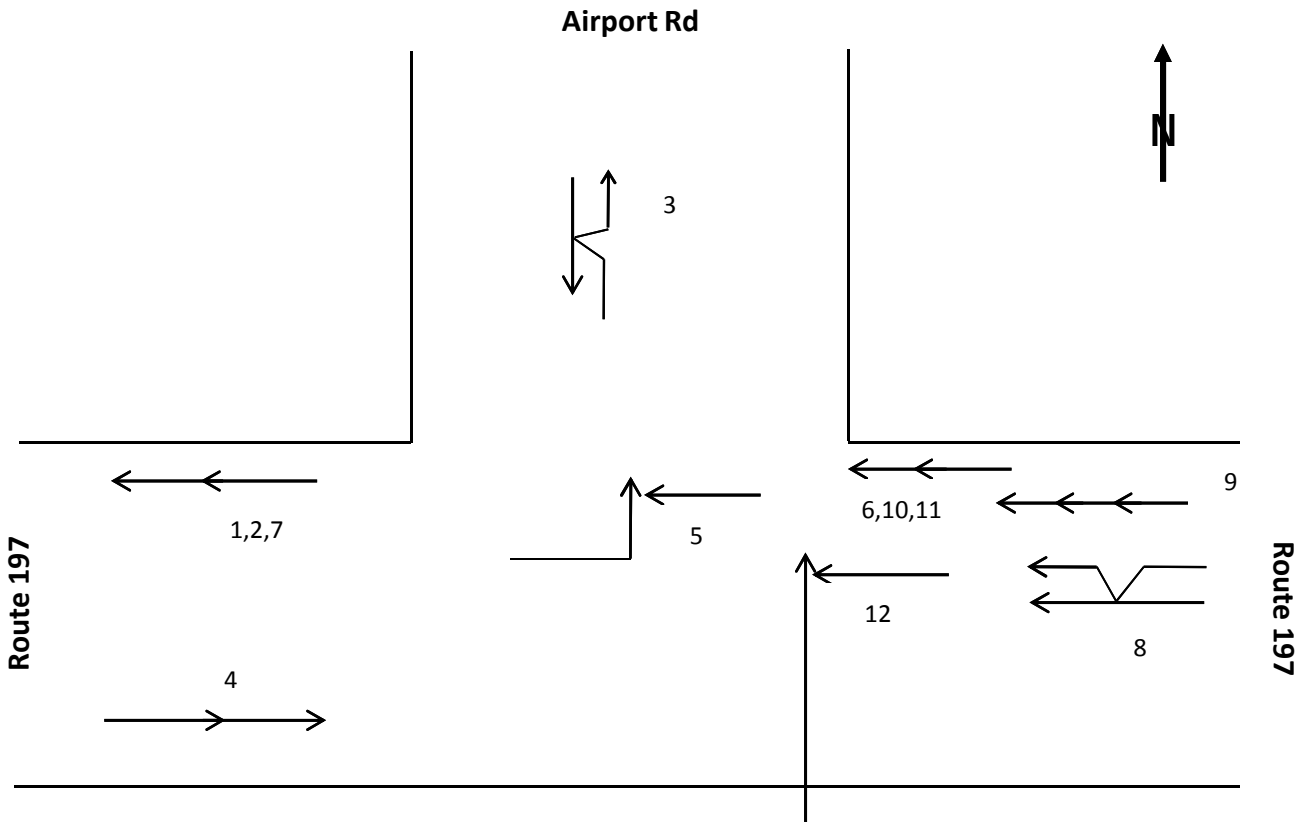
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	01/31/05	9:15	MON	PD	1	1	0	16	09/22/06	17:10	FRI	PI	2	1	0
2	02/05/05	10:49	SAT	PI	1	1	0	17	09/25/06	15:38	MON	PI	1	1	0
3	05/03/05	16:17	TUE	PI	1	1	0	18	10/23/06	11:20	MON	PI	1	2	0
4	06/08/05	14:28	WED	PD	1	2	0	19	01/04/07	8:34	THUR	PD	1	1	0
5	08/24/05	17:03	WED	PD	1	2	0	20	07/03/07	15:09	TUE	PD	1	1	0
6	09/10/05	11:13	SAT	PD	1	1	0	21	11/21/07	11:30	WED	PD	1	1	0
7	10/03/05	14:41	MON	PI	1	1	5								
8	10/22/05	17:01	SAT	PI	2	2	0								
9	11/03/05	11:36	THUR	PD	1	1	0								
10	11/08/05	8:36	TUE	PD	1	1	0								
11	11/23/05	9:11	WED	PD	1	3	0								
12	03/31/06	15:07	FRI	PI	1	1	0								
13	04/09/06	20:39	SUN	PD	3	1	0								
14	05/21/06	17:42	SUN	PD	2	2	2								
15	08/10/06	16:54	THUR	PD	1	1	0								

VEHICLE CRASH DIAGRAM	Figure 46
Dates: 1/1/05 - 12/31/07	Route 197 / Airport Road - Dudley



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

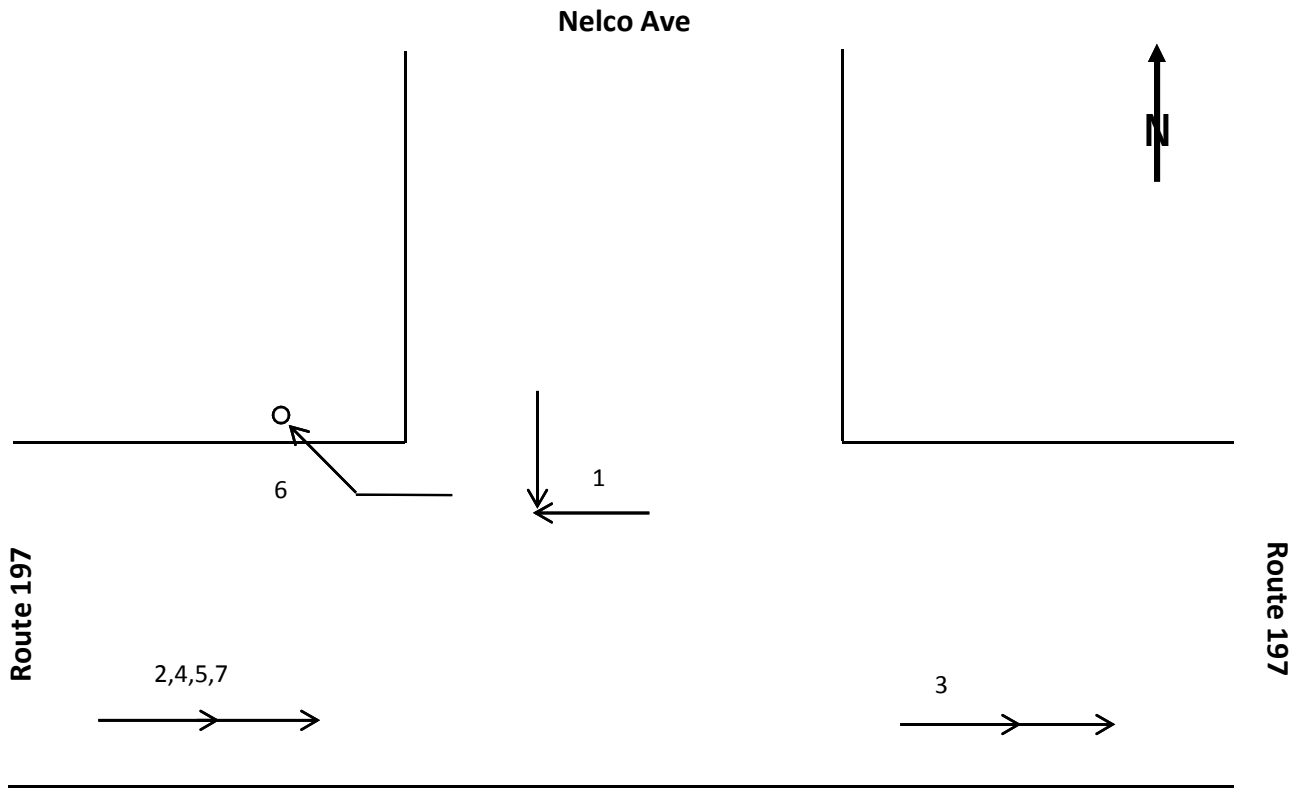
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	02/02/05	13:16	WED	PI	1	2	0								
2	05/20/05	16:01	FRI	PD	1	1	0								
3	06/02/05	18:34	THUR	PD	2	1	0								
4	08/11/05	17:46	THR	PD	2	1	0								
5	10/02/05	14:08	SUN	PD	1	1	0								
6	02/08/06	16:38	WED	PD	2	1	0								
7	03/02/06	15:17	THUR	PD	1	3	0								
8	03/01/06	18:50	WED	PD	3	3	0								
9	08/30/06	10:19	WED	PI	1	1	0								
10	11/02/06	17:45	THUR	PD	2	2	0								
11	01/02/07	16:02	TUE	PD	1	2	0								
12	08/28/07	18:33	TUE	PD	2	1	0								

VEHICLE CRASH DIAGRAM	Figure 47
Dates: 1/1/05 - 12/31/07	Route 197 / Nelco Avenue - Dudley



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

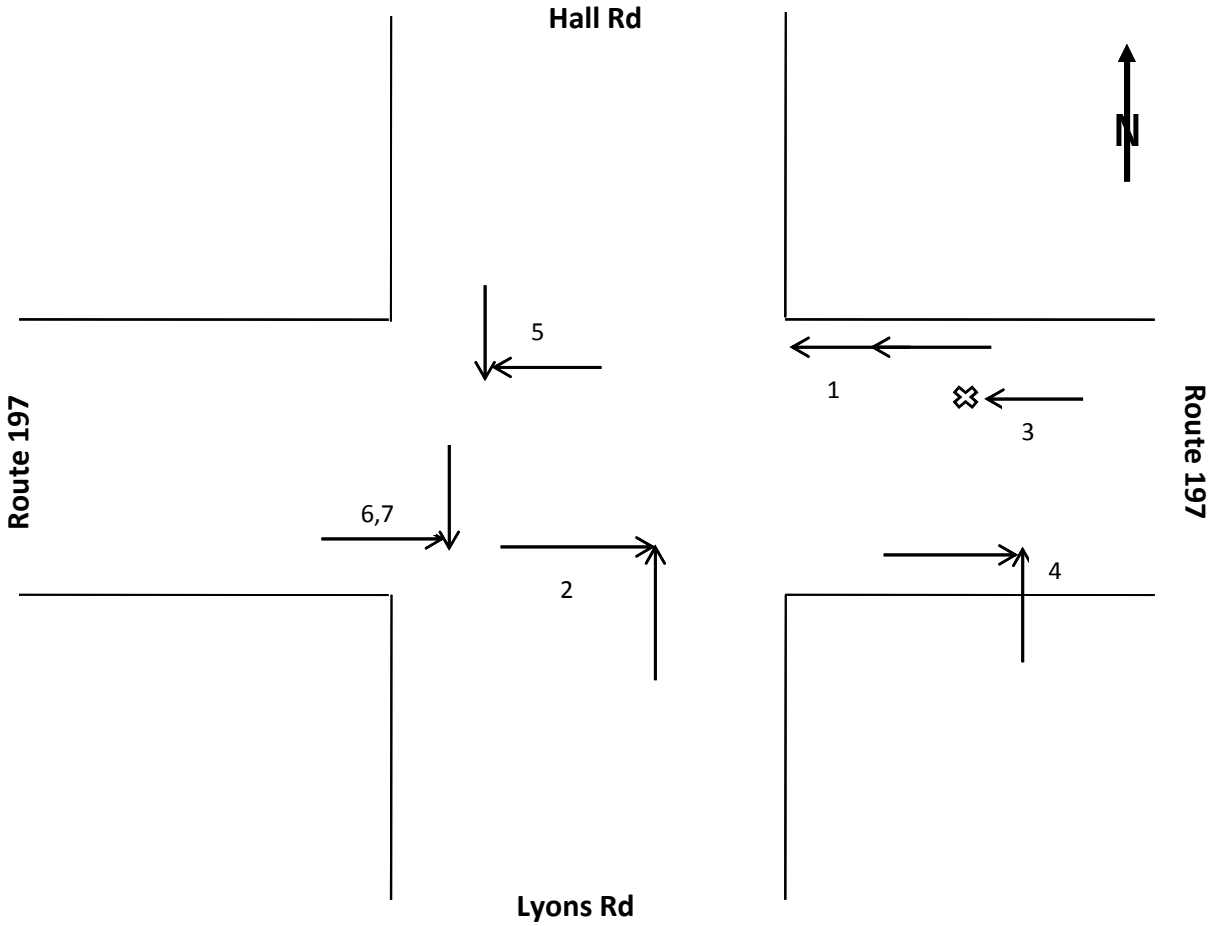
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	07/06/05	17:23	WED	PD	2	2	0								
2	09/20/05	13:31	TUE	PI	1	2	10								
3	09/21/05	13:02	WED	PI	1	1	0								
4	10/17/06	15:53	TUE	PD	1	2	0								
5	10/28/06	13:54	SAT	PD	1	2	0								
6	07/27/07	15:35	FRI	PD	1	1	0								
7	12/20/07	19:42	THUR	PD	3	3	0								

VEHICLE CRASH DIAGRAM	Figure 48
Dates: 1/1/05 - 12/31/07	Route 197 / Hall Road / Lyons Road



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object
Object in Road

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

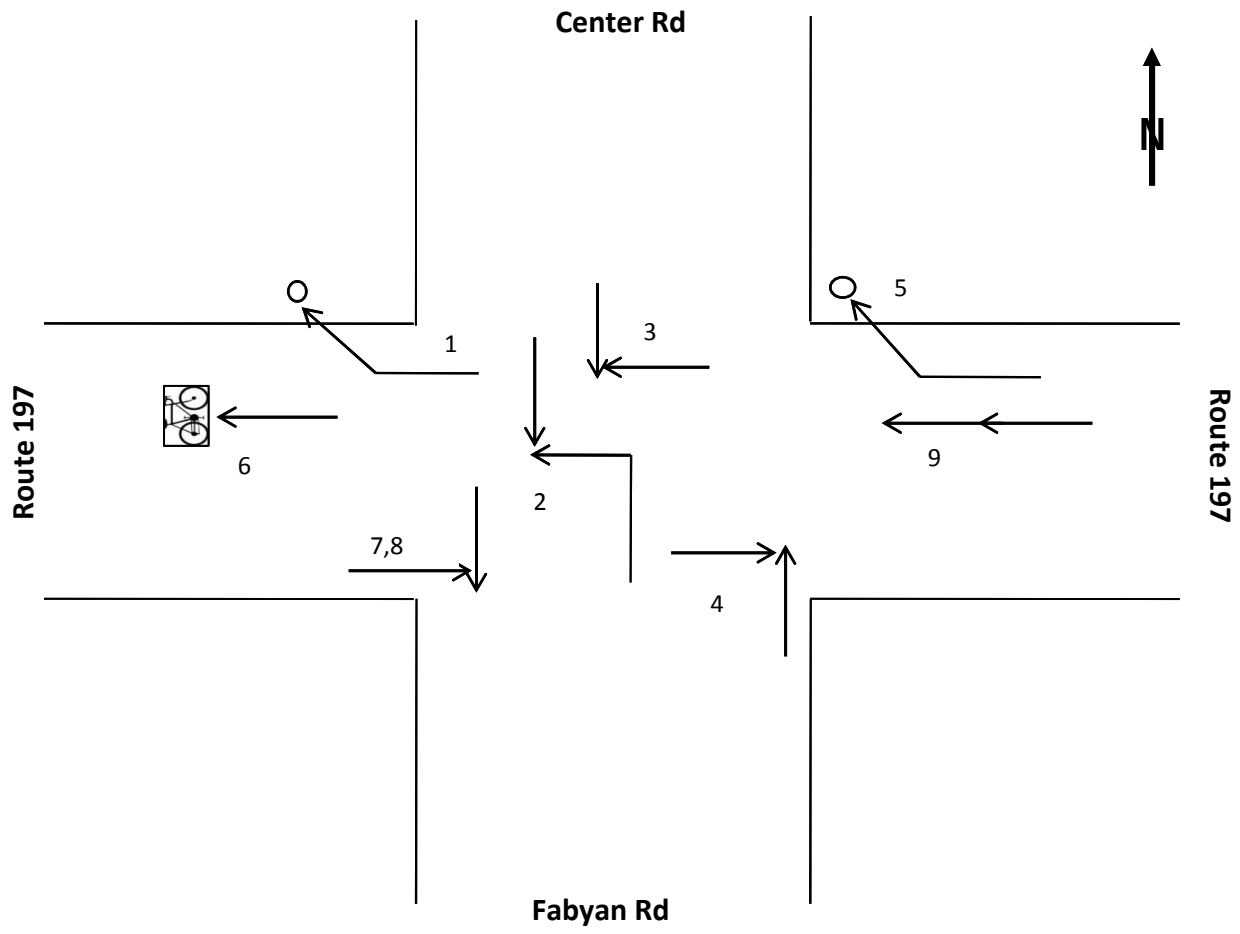
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	06/27/05	15:14	MON	PI	1	1	0								
2	07/09/05	14:00	SAT	PD	1	2	0								
3	08/03/05	20:49	WED	PI	3	1	0								
4	08/30/05	7:25	TUE	PD	1	2	0								
5	02/02/06	18:31	FRI	PD	3	3	0								
6	08/04/06	8:58	FRI	PD	1	2	0								
7	09/08/06	15:22	FRI	PI	1	1	0								

VEHICLE CRASH DIAGRAM	Figure 49
Dates: 1/1/05 - 12/31/07	Route 197 / Center Road / Fabyan Road - Dudley



SYMBOLS

Angle
Turning Move
Rear End
Sideswipe
Head On
Fixed Object

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

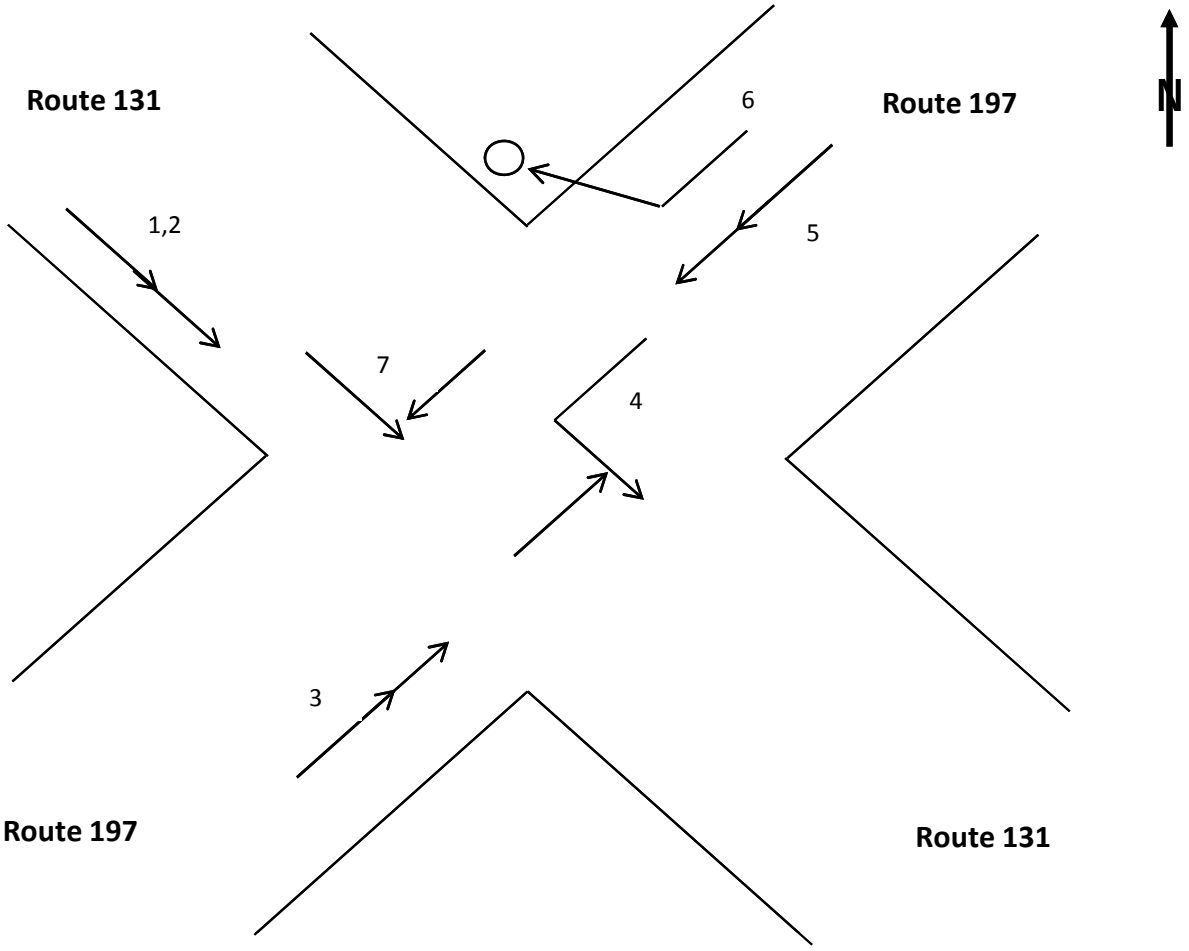
LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	04/27/05	10:26	WED	PD	1	2	0								
2	08/16/06	12:48	WED	PD	1	1	0								
3	10/14/06	8:33	SAT	PD	1	1	0								
4	02/17/07	9:20	SAT	PD	1	1	0								
5	07/03/07	9:38	TUE	PD	1	1	0								
6	09/18/07	16:18	TUE	PI	1	1	0								
7	10/21/07	16:11	SUN	PD	1	1	0								
8	10/21/07	22:11	SUN	PD	3	1	0								
9	12/25/07	12:48	TUE	PD	1	1	0								

VEHICLE CRASH DIAGRAM	Figure 50
Dates: 1/1/05 - 12/31/07	Route 131 / Route 197 - Thompson, CT



SYMBOLS

Angle
Head On
Turning Move
Fixed Object
Rear End
Sideswipe

SEVERITY CODES

Property damage	PD
Personal Injury	PI
Fatality	F

LIGHT CONDITIONS
1 Daylight
2 Dawn or Dusk
3 Darkness
4 Unknown

ROAD CONDITIONS
1 Dry
2 Wet
3 Snow or Icy
4 Unknown

VIOLATIONS
0 No Violations
1 Speed Too Fast
2 Failure To Yield
3 Ran Stop Sign
4 Ran Traffic Signal
5 Following Too Close
6 Improper Passing
7 Wrong Side of Road
8 Improper Turning
9 Improper Backing
10 Had Been Drinking
11 Pedestrian Violation
12 Reckless Driving
13 Improper Light or Brakes

#	DATE	TIME	DAY	SEV	L	R	V	#	DATE	TIME	DAY	SEV	L	R	V
1	01/16/05	17:21	SUN	PD	2	1	0								
2	01/24/05	9:29	MON	PD	1	3	0								
3	09/18/05	19:20	SUN	PD	3	1	0								
4	12/29/05	17:46	THUR	PD	3	2	2								
5	05/27/06	13:20	SAT	PD	1	1	10								
6	02/02/07	21:43	FRI	PD	3	3	0								
7	05/22/07	7:05	TUE	PI	1	1	4								

4.2 Crash Analyses along Route 12/16/197 Roadway Segments

Roadway segment vehicle crashes were researched in cooperation with the Douglas, Webster and Dudley Police Departments as well as the Connecticut Department of Transportation. Crashes from 2005 to 2007 were analyzed for the study. Essentially, these are the remaining crashes on Route 12/16/197 after the major intersections addressed above have been broken out and studied separately.

Town of Douglas

In the town of Douglas, there were a total of 106 "segment" crashes between 2005 and 2007. 36 of the 106 crashes caused personal injuries. Most crashes happened during the daylight hours and in clear weather conditions. Most of Douglas is rural, but the town center is somewhat urban with a numerous businesses in close proximity to one another. The downtown can get very congested at time, but overall traffic flows smoothly through the town. There are 20 crashes that occurred on Route 16 which lacked a precise location. These are included in the segment crashes. Rear ends and fixed object collisions accounted for the highest numbers of crashes during the three-year analysis period with a total of 24 each. Over half of the fixed object crashes occurred between Route 96 and the Webster town line. These crashes commonly involved hitting trees off the roadway. Associated with Douglas having a lot of forest land there were eight crashes that involved a vehicle hitting a deer. A horse that escaped its enclosure also got hit by a vehicle. Near the downtown area, there were three pedestrians that were hit crossing the road. There were also eight sideswipe crashes along Route 16. Since most sideswipes occur on a roadway that has multiple lanes, it was surprising to see so many on this two-lane road. The complete list of roadway segment crashes can be found in **Table 12**.

Town of Webster

The town of Webster had a total of 139 "segment" crashes from 2006 to 2007. There would be additional crashes in a standard 3-year observation period, but only two years of research was completed for this town. Fewer than one quarter of the crashes caused personal injuries. The highest occurring type was the rear end with a total of 68 and the second highest was an angle crash with a total of 31. These two crash types are 75% of the total number of crashes. Next, cross movement crashes were the third most frequent type with a total of 16. Most of the segment crashes occur on Route 12 between Route 193 and the Dudley town line. Route 12 is very densely populated with numerous side streets and curb cuts. Also, traffic can get very congested, especially during the AM and PM peak hours. There were six fixed object crashes along with three vehicles running off the road, but most of them occurred on Route 16, at the eastern part of town. As in the town of Douglas, a high percentage of crashes in Webster took place during the daytime, in clear weather, and on a dry road. For the complete list of roadway segment crashes see **Table 13**.

Town of Dudley

There were 128 “segment” crashes from 2005 to 2007 in the town of Dudley. Out of the 128 crashes, there were only 28 that caused personal injuries. With a total of 76 crashes, rear ends occurred the most in the three-year period. Angle crashes were a distant second with 12 and cross movements had 10. Similar to the other two towns in the Corridor Profile, there were several fixed object crashes and vehicles that ran off the road. Even though Dudley is not as rural as Douglas, there were still five crashes involving deer. Of the 128 crashes, 20 of them were at unspecified locations on Route 197. As in Douglas and Webster, most of the crashes were during the daytime, in clear weather, and on a dry road. The details of all of the roadway crashes can be found in **Table 14**.

Town of Thompson, CT

The town of Thompson, CT had the fewest crashes by far. This Corridor Profile only includes 0.3 miles of Route 197, from the Dudley town line to Route 131. There were only 11 crashes in three-year analysis period, seven of which occurred at Route 131. A crash diagram was produced for this intersection and it can be found in section 4.1. Besides the seven crashes at Route 131 there were two crashes at Route 31 and Walker Road and two additional crashes along the focus segment. Of the four segment crashes that occurred, two were rear ends, one was a cross movement and one was an angle crash. A table was not produced for the segment crashes since there are so few.

TABLE 12
Route 16 Roadway Segment Crashes
Town of Douglas

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
1	23	183 - Davis St	02/06/06	Monday	7:41	Fixed Object	Property Damage	Snow	Daylight	Snowy	None
2	91	174 - Davis St	10/11/07	Thursday	8:52	Rear End	Property Damage	Rain	Daylight	Wet	No License
3	93	169 - Davis St	07/20/05	Wednesday	13:46	Fixed Object	Property Damage	Clear	Daylight	Dry	None
4	151	169 - Davis St	12/16/05	Friday	17:51	Fixed Object	Personal Injury	Snow	Dusk	Snowy	Speeding
5	127	121 - Davis St	10/15/05	Saturday	14:46	Cross Move	Personal Injury	Rain	Daylight	Wet	FT Yield
6	125	115 - Davis St	10/03/05	Monday	21:18	Ran Off Road	Personal Injury	Cloudy	Darkness	Dry	None
7	43	110 - Davis St	04/08/06	Saturday	11:03	Sideswipe	Property Damage	Rain	Daylight	Wet	None
8	81	Monroe St	06/20/05	Monday	9:24	Cross Move	Personal Injury	Clear	Daylight	Dry	None
9	104	Young St	11/30/07	Friday	14:46	Hit Deer	Property Damage	Clear	Daylight	Dry	None
10	69	33 - Davis St	05/12/05	Thursday	7:20	Rear End	Property Damage	Clear	Daylight	Dry	None
11	58	?? Davis St	04/14/05	Thursday	19:29	Hit Deer	Property Damage	Clear	Darkness	Dry	None
12	39	?? Davis St	03/16/07	Friday	15:21	Rear End	Property Damage	Snow	Daylight	Snowy	None
13	122	?? Davis St	12/20/07	Thursday	15:37	Fixed Object	Property Damage	Snow	Daylight	Snowy	None
14	123	?? Davis St	12/24/07	Monday	8:12	Fixed Object	Property Damage	Rain	Daylight	Wet	None
15	11	North St	01/12/06	Thursday	13:19	Rear End	Property Damage	Rain	Daylight	Wet	None
16	78	North St	07/31/06	Monday	16:30	Cross Move	Property Damage	Clear	Daylight	Dry	None
17	56	365 - Main St	05/09/07	Wednesday	9:24	Rear End	Property Damage	Clear	Daylight	Dry	None
18	51	Gleason Ct	05/13/06	Saturday	10:52	Angle	Property Damage	Rain	Daylight	Wet	None
19	111	Cook St	09/12/05	Monday	20:35	Rear End	Personal Injury	Clear	Darkness	Dry	None
20	94	328 - Main St	09/15/06	Friday	16:47	Hit Parked Car	Property Damage	Cloudy	Daylight	Dry	None
21	77	324 - Main St	06/04/05	Saturday	11:40	Rear End	Property Damage	Clear	Daylight	Dry	None
22	83	319 - Main St	08/08/06	Tuesday	20:41	Hit Pedestrian	Personal Injury	Clear	Darkness	Dry	None
23	56	311 - Main St	04/04/05	Monday	18:29	Angle	Personal Injury	Rain	Dusk	Wet	None
24	117	311 - Main St	11/03/06	Friday	8:22	Rear End	Property Damage	Cloudy	Daylight	Dry	Neglegent Driving
25	120	311 - Main St	11/06/06	Monday	18:39	Hit Pedestrian	Personal Injury	Clear	Darkness	Dry	FT Stop for Pedestrian
26	44	311 - Main St	03/21/07	Wednesday	15:19	Angle	Personal Injury	Clear	Daylight	Dry	None
27	38	306 - Main St	03/22/06	Wednesday	18:10	Angle	Property Damage	Cloudy	Dusk	Dry	None
28	118	306 - Main St	11/03/06	Friday	15:50	Hit Pedestrian	Personal Injury	Cloudy	Daylight	Dry	None
29	6	303 - Main St	01/06/06	Friday	18:19	Rear End	Personal Injury	Rain	Darkness	Wet	None
30	39	300 - Main St	03/28/06	Tuesday	19:19	Angle	Property Damage	Clear	Darkness	Dry	None

Violation Codes: FT=Failure To OUI=Operating Under the Influence

TABLE 12
Route 16 Roadway Segment Crashes
Town of Douglas

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
31	82	300 - Main St	09/09/07	Sunday	12:03	Hit Parked Car	Property Damage	Rain	Daylight	Wet	None
32	71	296 - Main St	05/18/05	Wednesday	12:01	Rear End	Property Damage	Cloudy	Daylight	Dry	None
33	100	296 - Main St	07/29/05	Friday	14:22	Rear End	Property Damage	Cloudy	Daylight	Dry	None
34	93	295 - Main St	09/15/06	Friday	12:36	Hit Parked Car	Property Damage	Cloudy	Daylight	Dry	None
35	149	Pleasant St	12/14/05	Wednesday	14:22	Rear End	Property Damage	Clear	Daylight	Dry	None
36	85	Pleasant St	09/12/07	Wednesday	16:46	Cross Move	Property Damage	Clear	Daylight	Dry	None
37	129	Depot St	10/21/05	Friday	7:30	Rear End	Personal Injury	Clear	Daylight	Dry	None
38	56	Depot St	05/22/06	Monday	12:55	Sideswipe	Property Damage	Clear	Daylight	Dry	None
39	11	Depot St	01/24/07	Wednesday	15:49	Hit Parked Car	Property Damage	Cloudy	Daylight	Dry	None
40	51	Mechanic St	03/24/05	Thursday	14:36	Angle	Property Damage	Snow	Daylight	Snowy	None
41	87	Mechanic St	06/30/05	Thursday	16:37	Angle	Property Damage	Cloudy	Daylight	Dry	None
42	129	Mechanic St	12/01/06	Friday	18:20	Rear End	Property Damage	Rain	Darkness	Wet	None
43	30	Cottage St	02/25/06	Saturday	11:37	Angle	Property Damage	Snow	Daylight	Snowy	None
44	46	244 - Main St	03/14/05	Monday	22:25	Fixed Object	Personal Injury	Clear	Darkness	Icy	None
45	20	244 - Main St	02/14/07	Wednesday	5:52	Angle	Property Damage	Snow	Darkness	Snowy	None
46	114	230 - Main St	12/15/07	Saturday	17:38	Sideswipe	Property Damage	Clear	Darkness	Dry	None
47	87	Cummings St	08/22/06	Tuesday	8:30	Cross Move	Personal Injury	Clear	Daylight	Dry	None
48	114	163 - Main St	11/01/06	Wednesday	5:18	Fixed Object	Personal Injury	Rain	Darkness	Wet	None
49	116	Sunset Dr	09/22/05	Thursday	14:52	Rear End	Personal Injury	Clear	Daylight	Dry	None
50	110	Sunset Dr	10/24/06	Tuesday	17:34	Cross Move	Property Damage	Cloudy	Dusk	Dry	None
51	98	Sunset Dr	10/23/07	Tuesday	8:34	Rear End	Personal Injury	Rain	Daylight	Wet	None
52	43	121 - Main St	03/19/07	Monday	14:21	Hit Deer	Property Damage	Snow	Daylight	Snowy	None
53	46	100 - Main St	04/12/06	Wednesday	16:23	Cross Move	Property Damage	Clear	Daylight	Dry	None
54	34	100 - Main St	03/14/07	Wednesday	20:01	Hit Deer	Property Damage	Rain	Darkness	Wet	None
55	53	Main St - 84	04/21/07	Saturday	0:19	Fixed Object	Property Damage	Clear	Darkness	Dry	None
56	22	Riedell Rd	02/16/07	Friday	11:46	Cross Move	Property Damage	Clear	Daylight	Dry	FT Yield
57	88	63 - Main St	07/03/05	Sunday	11:40	Cross Move	Property Damage	Clear	Daylight	Dry	None
58	85	63 - Main St	08/14/06	Monday	19:58	Hit Bicycle	Personal Injury	Clear	Darkness	Dry	None
59	101	63 - Main St	09/24/06	Sunday	18:40	Cross Move	Personal Injury	Rain	Dusk	Wet	None
60	4	63 - Main St	01/12/07	Friday	15:21	Cross Move	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To OUI=Operating Under the Influence

TABLE 12
Route 16 Roadway Segment Crashes
Town of Douglas

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
61	26	63 - Main St	03/02/07	Friday	17:47	Cross Move	Personal Injury	Snow	Dusk	Snowy	None
62	88	63 - Main St	09/25/07	Tuesday	16:04	Cross Move	Personal Injury	Clear	Daylight	Dry	FT Yield
63	92	61 - Main St	09/11/06	Monday	7:45	Rear End	Property Damage	Clear	Daylight	Dry	None
64	160	56 - Main St	12/29/05	Thursday	13:47	Angle	Property Damage	Rain	Daylight	Wet	None
65	84	33 - Main St	09/11/07	Tuesday	15:05	Fixed Object	Property Damage	Clear	Daylight	Dry	None
66	135	28 - Main St	11/05/05	Saturday	17:04	Ran Off Road	Property Damage	Cloudy	Dusk	Dry	None
67	115	19 - Main St	09/22/05	Thursday	12:45	Tire Fell Off	Property Damage	Clear	Daylight	Dry	None
68	7	SE Main St	01/07/06	Saturday	14:46	Angle	Property Damage	Clear	Daylight	Dry	None
69	9	SE Main St	01/23/07	Tuesday	9:51	Angle	Personal Injury	Snow	Daylight	Snowy	FT Yield
70	48	Common St	04/14/06	Friday	7:56	Cross Move	Property Damage	Rain	Daylight	Wet	None
71	85	?? Main St	06/25/05	Saturday	18:18	Cross Move	Personal Injury	Clear	Dusk	Dry	8 people injured
72	158	?? Main St	12/26/05	Monday	23:39	Hit Deer	Property Damage	Snow	Darkness	Snowy	None
73	16	?? Main St	01/17/06	Tuesday	7:48	Rear End	Property Damage	Clear	Daylight	Dry	None
74	127	?? Main St	11/29/06	Wednesday	17:50	Rear End	Property Damage	Cloudy	Darkness	Dry	None
75	108	?? Main St	12/04/07	Tuesday	15:13	Sideswipe	Property Damage	Snow	Daylight	Snowy	None
76	12	16 - Webster St	01/13/06	Friday	23:45	Fixed Object	Personal Injury	Cloudy	Darkness	Dry	None
77	31	16 - Webster St	03/02/06	Thursday	13:21	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
78	84	16 - Webster St	08/08/06	Tuesday	20:56	Hit Horse	Personal Injury	Clear	Darkness	Dry	None
79	77	35 - Webster St	08/29/07	Wednesday	6:30	Rear End	Property Damage	Clear	Dawn	Dry	None
80	40	47 - Webster St	03/11/05	Friday	14:57	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
81	4	72 - Webster St	01/03/06	Tuesday	17:43	Fixed Object	Personal Injury	Snow	Darkness	Snowy	None
82	28	80 - Webster St	02/08/05	Tuesday	17:50	Rear End	Personal Injury	Clear	Darkness	Dry	None
83	1	88 - Webster St	01/08/07	Monday	9:12	Rear End	Property Damage	Rain	Daylight	Wet	Neglegent Driving
84	124	89 - Webster St	12/28/07	Friday	6:28	Fixed Object	Property Damage	Rain	Dawn	Wet	None
85	41	92 - Webster St	03/11/05	Friday	15:01	Ran Off Road	Property Damage	Snow	Daylight	Snowy	None
86	42	92 - Webster St	03/11/05	Friday	15:01	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
87	14	92 - Webster St	01/16/06	Monday	11:30	Fixed Object	Property Damage	Clear	Daylight	Icy	None
88	54	98 - Webster St	03/30/05	Wednesday	6:12	Fixed Object	Property Damage	Clear	Darkness	Icy	None
89	115	98 - Webster St	11/01/06	Wednesday	20:29	Fixed Object	Personal Injury	Rain	Darkness	Wet	OUI
90	144	117 - Webster St	12/04/05	Sunday	20:19	Ran Off Road	Personal Injury	Snow	Darkness	Snowy	OUI

Violation Codes: FT=Failure To OUI=Operating Under the Influence

TABLE 12
Route 16 Roadway Segment Crashes
Town of Douglas

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
91	35	181 - Webster St	03/16/07	Friday	11:52	Ran Off Road	Property Damage	Snow	Daylight	Snowy	None
92	62	216 - Webster St	06/06/07	Wednesday	13:00	Rear End	Personal Injury	Clear	Daylight	Dry	None
93	50	?? Webster St	03/24/05	Thursday	4:24	Fixed Object	Property Damage	Snow	Darkness	Snowy	None
94	53	?? Webster St	03/29/05	Tuesday	23:06	Hit Deer	Property Damage	Rain	Darkness	Wet	None
95	65	?? Webster St	04/30/05	Saturday	17:19	Sideswipe	Property Damage	Rain	Dusk	Wet	None
96	150	?? Webster St	12/16/05	Friday	6:56	Fixed Object	Property Damage	Snow	Dawn	Snowy	None
97	13	?? Webster St	01/15/06	Sunday	9:05	Fixed Object	Property Damage	Snow	Daylight	Snowy	None
98	5	?? Webster St	01/13/07	Saturday	9:30	Sideswipe	Property Damage	Rain	Daylight	Wet	None
99	38	?? Webster St	03/16/07	Friday	12:46	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
100	69	?? Webster St	06/27/07	Wednesday	9:56	Sideswipe	Personal Injury	Rain	Daylight	Wet	None
101	107	?? Webster St	12/03/07	Monday	7:32	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
102	109	?? Webster St	12/05/07	Wednesday	17:05	Sideswipe	Property Damage	Snow	Dusk	Snowy	None
103	60	Telephone Pole #56	04/16/05	Saturday	13:23	Rear End	Property Damage	Clear	Daylight	Dry	None
104	4	Telephone Pole #77	01/05/05	Wednesday	20:30	Hit Deer	Property Damage	Snow	Darkness	Snowy	None
105	52	Telephone Pole #90	03/27/05	Sunday	22:19	Hit Deer	Property Damage	Clear	Darkness	Dry	None
106	27	??	03/02/07	Friday	21:32	Fixed Object	Property Damage	Snow	Darkness	Snowy	None

Violation Codes: FT=Failure To OUI=Operating Under the Influence

TABLE 13
Route 12/16 Roadway Segment Crashes
Town of Webster

(NOTE: Table does not include crashes at major study intersections)

#	WPD ID #	Route 12/16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
1	181	106 - Douglas Rd	01/03/06	Tuesday	15:38	Hit Dog	Property Damage	Snow	Daylight	Snowy	Speeding
2	12093	80 - Douglas Rd	07/24/07	Tuesday	14:17	Rear End	Property Damage	Cloudy	Daylight	Dry	None
3	4498	42 - Douglas Rd	03/23/07	Friday	18:00	Angle	Personal Injury	Cloudy	Dusk	Dry	None
4	5722	Old Douglas Rd	04/15/07	Sunday	21:43	Fixed Object	Personal Injury	Snow	Darkness	Snowy	None
5	7954	Old Douglas Rd	05/21/07	Monday	17:19	Ran Off Road	Property Damage	Cloudy	Dusk	Dry	None
6	72	Douglas Rd/Gore Rd	01/02/06	Monday	9:07	Fixed Object	Personal Injury	Snow	Daylight	Snowy	None
7	1981	Douglas Rd/Gore Rd	02/05/06	Sunday	18:45	Ran Off Road	Personal Injury	Rain	Darkness	Wet	None
8	13750	Douglas Rd/Gore Rd	09/01/06	Friday	18:50	Angle	Property Damage	Clear	Dusk	Dry	None
9	19987	Douglas Rd/Gore Rd	12/25/06	Monday	18:33	Cross Move	Property Damage	Rain	Darkness	Wet	None
10	2434	Douglas Rd/Gore Rd	02/14/07	Wednesday	6:08	Ran Off Road	Property Damage	Snow	Darkness	Snowy	None
11	17805	200 - Gore Rd	10/25/07	Thursday	1:12	Sideswipe	Property Damage	Rain	Darkness	Wet	None
12	8242	177 - Gore Rd	05/26/07	Saturday	12:53	Rear End	Property Damage	Clear	Daylight	Dry	None
13	17601	161 - Gore Rd	10/21/07	Sunday	14:42	Cross Move	Personal Injury	Clear	Daylight	Dry	None
14	9930	148 - Gore Rd	06/23/07	Saturday	14:41	Rear End	Property Damage	Clear	Daylight	Dry	None
15	14450	145 - Gore Rd	09/14/06	Thursday	17:18	Fixed Object	Property Damage	Rain	Daylight	Wet	None
16	9741	Killdeer Rd	06/20/07	Wednesday	17:06	Angle	Personal Injury	Rain	Daylight	Wet	None
17	19729	Rawson Rd	11/26/07	Monday	15:53	Cross Move	Personal Injury	Rain	Daylight	Wet	FTUC in Turning
18	4129	99 - Gore Rd	03/16/07	Friday	15:13	Sideswipe	Personal Injury	Snow	Daylight	Snowy	None
19	4381	91 - Gore Rd	03/21/07	Wednesday	11:46	Fixed Object	Property Damage	Clear	Daylight	Dry	None
20	7595	91 - Gore Rd	05/15/07	Tuesday	18:23	Rear End	Personal Injury	Rain	Dusk	Wet	None
21	7049	Arthur Remmillard Way	05/08/06	Monday	12:38	Cross Move	Property Damage	Clear	Daylight	Dry	None
22	8899	Arthur Remmillard Way	06/02/06	Monday	10:16	Cross Move	Property Damage	Clear	Daylight	Dry	None
23	2002	11 - Gore Rd	02/07/07	Wednesday	7:26	Rear End	Property Damage	Clear	Daylight	Dry	None
24	8735	129 - East Main St	06/02/07	Saturday	22:06	Motorcycle Fell	Personal Injury	Clear	Darkness	Dry	None
25	17746	128 - East Main St	11/16/06	Thursday	16:47	Angle	Property Damage	Rain	Dusk	Wet	None
26	8760	128 - East Main St	06/03/07	Sunday	11:23	Angle	Property Damage	Rain	Daylight	Wet	None
27	21552	128 - East Main St	12/26/07	Wednesday	12:46	Rear End	Property Damage	Rain	Daylight	Wet	None
28	4124	127 - East Main St	03/17/06	Friday	16:48	Rear End	Property Damage	Clear	Daylight	Dry	None
29	6539	125 - East Main St	04/28/07	Saturday	19:41	Angle	Property Damage	Rain	Darkness	Wet	FT Yield
30	18933	121 - East Main St	11/13/07	Tuesday	8:37	Rear End	Property Damage	Rain	Daylight	Wet	None

Violation Codes: FT=Failure To FTUC=Failure To Use Care OUI=Operating Under the Influence ROW=Right Of Way FTC=Following Too Close

TABLE 13
Route 12/16 Roadway Segment Crashes
Town of Webster

(NOTE: Table does not include crashes at major study intersections)

#	WPD ID #	Route 12/16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
31	6100	118 - East Main St	04/20/06	Thursday	13:37	Angle	Property Damage	Clear	Daylight	Dry	None
32	11497	118 - East Main St	07/26/06	Wednesday	11:41	Angle	Property Damage	Cloudy	Daylight	Wet	None
33	18629	118 - East Main St	12/01/06	Friday	9:08	Cross Move	Personal Injury	Rain	Daylight	Wet	None
34	2180	118 - East Main St	02/09/07	Friday	17:57	Angle	Personal Injury	Snow	Darkness	Snowy	None
35	7075	118 - East Main St	05/07/07	Monday	19:33	Rear End	Personal Injury	Clear	Darkness	Dry	None
36	7809	118 - East Main St	05/18/07	Friday	14:47	Angle	Personal Injury	Rain	Daylight	Wet	None
37	9853	118 - East Main St	06/22/07	Friday	12:53	Angle	Property Damage	Rain	Daylight	Wet	None
38	12193	118 - East Main St	07/25/07	Wednesday	19:37	Angle	Property Damage	Clear	Darkness	Dry	FT Yield
39	19150	118 - East Main St	11/16/07	Friday	15:01	Sideswipe	Property Damage	Rain	Daylight	Wet	None
40	19555	118 - East Main St	11/23/07	Friday	5:51	Sideswipe	Property Damage	Clear	Darkness	Dry	None
41	20146	118 - East Main St	12/03/07	Monday	14:36	Rear End	Property Damage	Snow	Daylight	Snowy	FTC
42	8813	115 - East Main St	06/04/07	Monday	16:08	Angle	Property Damage	Rain	Daylight	Wet	None
43	17153	115 - East Main St	10/13/07	Saturday	19:12	Angle	Property Damage	Clear	Darkness	Dry	FT Yield
44	11746	113 - East Main St	07/30/06	Sunday	9:03	Rear End	Property Damage	Clear	Daylight	Dry	None
45	2066	Paradis Ln	02/07/06	Tuesday	8:47	Rear End	Property Damage	Cloudy	Daylight	Wet	None
46	14606	Paradis Ln	09/17/06	Sunday	16:25	Rear End	Property Damage	Clear	Daylight	Dry	None
47	5567	Paradis Ln	04/12/07	Thursday	15:16	Rear End	Property Damage	Snow	Daylight	Snowy	FTC
48	14091	Paradis Ln	08/25/07	Saturday	17:39	Rear End	Property Damage	Clear	Dusk	Dry	None
49	14315	100 - East Main St	09/12/06	Tuesday	15:08	Rear End	Property Damage	Clear	Daylight	Dry	None
50	13278	Brodeur/Grandview	08/24/06	Thursday	17:54	Rear End	Property Damage	Cloudy	Dusk	Wet	None
51	15588	Brodeur/Grandview	10/06/06	Friday	16:41	Angle	Personal Injury	Clear	Daylight	Dry	None
52	16472	Brodeur/Grandview	10/23/06	Monday	14:22	Cross Move	Personal Injury	Cloudy	Daylight	Wet	None
53	2398	Brodeur/Grandview	02/13/07	Tuesday	14:40	Angle	Property Damage	Snow	Daylight	Snowy	None
54	4443	Brodeur/Grandview	03/22/07	Thursday	15:50	Rear End	Personal Injury	Rain	Daylight	Wet	None
55	6821	Brodeur/Grandview	05/03/07	Thursday	17:34	Rear End	Personal Injury	Clear	Dusk	Dry	Speeding
56	7118	Brodeur/Grandview	05/08/07	Tuesday	14:25	Cross Move	Personal Injury	Clear	Daylight	Dry	None
57	21625	Brodeur/Grandview	12/27/07	Thursday	20:31	Sideswipe	Property Damage	Snow	Darkness	Snowy	None
58	16701	79 - East Main St	10/27/06	Friday	19:24	Cross Move	Property Damage	Clear	Darkness	Dry	None
59	19519	72 - East Main St	12/17/06	Sunday	16:55	Rear End	Property Damage	Clear	Dusk	Dry	None
60	21821	71 - East Main St	12/31/07	Monday	13:48	Rear End	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To FTUC=Failure To Use Care OUI=Operating Under the Influence ROW=Right Of Way FTC=Following Too Close

TABLE 13
Route 12/16 Roadway Segment Crashes
Town of Webster

(NOTE: Table does not include crashes at major study intersections)

#	WPD ID #	Route 12/16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
61	19633	Cody St	12/19/06	Tuesday	8:32	Rear End	Property Damage	Snow	Daylight	Snowy	None
62	1491	Cody St	01/28/07	Sunday	14:16	Rear End	Personal Injury	Cloudy	Daylight	Wet	None
63	6401	Cody St	04/26/07	Thursday	14:07	Rear End	Property Damage	Clear	Daylight	Dry	None
64	13928	Cody St	08/23/07	Thursday	14:31	Angle	Property Damage	Cloudy	Daylight	Dry	None
65	16843	Cody St	10/08/07	Monday	12:32	Rear End	Personal Injury	Rain	Daylight	Wet	None
66	16867	Cody St	10/08/07	Monday	19:12	Rear End	Property Damage	Rain	Darkness	Wet	None
67	20009	Cody St	11/30/07	Friday	18:26	Rear End	Personal Injury	Clear	Darkness	Dry	FTC
68	11101	Stoughton Ave	07/10/07	Tuesday	11:05	Angle	Property Damage	Cloudy	Daylight	Dry	None
69	8236	Deslaurier Ave	05/31/06	Wednesday	13:22	Rear End	Property Damage	Cloudy	Daylight	Dry	None
70	14113	46 - East Main St	09/08/06	Friday	13:16	Rear End	Property Damage	Clear	Daylight	Dry	None
71	1538	46 - East Main St	01/29/07	Monday	12:49	Angle	Property Damage	Clear	Daylight	Dry	None
72	5743	46 - East Main St	04/16/07	Monday	6:35	Rear End	Personal Injury	Rain	Dawn	Wet	None
73	6826	46 - East Main St	05/03/07	Thursday	18:26	Rear End	Personal Injury	Clear	Dusk	Dry	None
74	13687	46 - East Main St	08/19/07	Sunday	17:01	Rear End	Property Damage	Clear	Daylight	Dry	None
75	16193	46 - East Main St	09/27/07	Thursday	8:16	Rear End	Property Damage	Cloudy	Daylight	Wet	None
76	1703	Lincoln St	01/31/06	Tuesday	10:29	Rear End	Personal Injury	Cloudy	Daylight	Wet	None
77	15869	Lincoln St	10/11/06	Wednesday	17:24	Rear End	Property Damage	Rain	Dusk	Wet	None
78	15073	Lincoln St	09/08/07	Saturday	22:44	Rear End	Property Damage	Rain	Darkness	Wet	None
79	7626	Whitcomb St	05/20/06	Saturday	1:12	Cross Move	Property Damage	Rain	Darkness	Wet	FT Yield
80	18430	Whitcomb St	11/04/07	Sunday	2:37	Hit Parked Car	Property Damage	Clear	Darkness	Dry	None
81	17596	28 - East Main St	10/21/07	Sunday	12:46	Rear End	Personal Injury	Clear	Daylight	Dry	None
82	2844	Granite St/Wakefield St	02/21/06	Tuesday	14:13	Angle	Property Damage	Clear	Daylight	Dry	None
83	166693	Granite St/Wakefield St	10/27/06	Friday	17:20	Angle	Property Damage	Clear	Dusk	Dry	None
84	1923	Granite St/Wakefield St	02/05/07	Monday	16:38	Rear End	Property Damage	Clear	Dusk	Dry	None
85	2306	Day St	02/11/06	Saturday	10:52	Rear End	Property Damage	Clear	Daylight	Dry	None
86	5755	Day St	04/14/06	Friday	20:18	Angle	Property Damage	Cloudy	Darkness	Wet	None
87	17692	11 - East Main St	11/15/06	Wednesday	16:48	Angle	Property Damage	Rain	Dusk	Wet	None
88	18306	Prospect St	11/26/06	Sunday	15:45	Rear End	Property Damage	Clear	Daylight	Dry	None
89	4272	Prospect St	03/19/07	Monday	15:25	Rear End	Property Damage	Snow	Daylight	Snowy	FTC
90	21758	Prospect St	12/30/07	Sunday	12:26	Rear End	Personal Injury	Snow	Daylight	Snowy	None

Violation Codes: FT=Failure To FTUC=Failure To Use Care OUI=Operating Under the Influence ROW=Right Of Way FTC=Following Too Close

TABLE 13
Route 12/16 Roadway Segment Crashes
Town of Webster

(NOTE: Table does not include crashes at major study intersections)

#	WPD ID #	Route 12/16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
91	755	North Main St	01/13/06	Friday	13:20	Rear End	Personal Injury	Cloudy	Daylight	Dry	OUI
92	1973	North Main St	02/05/06	Sunday	11:25	Sideswipe	Property Damage	Rain	Daylight	Wet	None
93	8255	North Main St	05/31/06	Wednesday	18:25	Cross Move	Property Damage	Cloudy	Dusk	Dry	None
94	1905	North Main St	02/05/07	Monday	11:12	Rear End	Property Damage	Clear	Daylight	Dry	None
95	1967	North Main St	02/06/07	Tuesday	10:59	Angle	Property Damage	Clear	Daylight	Dry	None
96	18818	North Main St	11/11/07	Sunday	8:09	Rear End	Property Damage	Clear	Daylight	Dry	None
97	1806	628 - South Main St	02/02/06	Thursday	8:10	Angle	Property Damage	Cloudy	Daylight	Dry	None
98	21238	Peter St	12/20/07	Thursday	18:26	Sideswipe	Property Damage	Snow	Darkness	Snowy	None
99	15796	Lake St	10/10/06	Tuesday	11:11	Sideswipe	Property Damage	Clear	Daylight	Dry	None
100	10989	Lake St	07/08/07	Sunday	12:16	Rear End	Property Damage	Rain	Daylight	Wet	None
101	11200	Lake St	07/11/07	Wednesday	16:39	Fixed Object	Property Damage	Rain	Daylight	Wet	None
102	300	Frederick St	01/05/06	Thursday	20:27	Rear End	Property Damage	Snow	Darkness	Snowy	None
103	8670	350 - Main St	06/01/07	Friday	22:45	Angle	Property Damage	Rain	Darkness	Wet	FT Yield ROW
104	15070	350 - Main St	09/08/07	Saturday	22:11	Rear End	Property Damage	Rain	Darkness	Wet	None
105	18411	339 - Main St	11/28/06	Tuesday	11:51	Cross Move	Property Damage	Cloudy	Daylight	Dry	None
106	6783	Church St	05/03/06	Wednesday	15:05	Rear End	Property Damage	Rain	Daylight	Wet	None
107	11493	Church St	07/26/06	Wednesday	10:58	Hit Parked Car	Property Damage	Cloudy	Daylight	Wet	None
108	13721	Church St	09/01/06	Friday	11:25	Cross Move	Property Damage	Clear	Daylight	Dry	None
109	15053	Church St	09/08/07	Saturday	18:35	Angle	Property Damage	Rain	Dusk	Wet	None
110	18693	Church St	11/08/07	Thursday	19:39	Rear End	Personal Injury	Clear	Darkness	Dry	None
111	10206	279 - Main St	06/28/07	Thursday	11:32	Rear End	Property Damage	Clear	Daylight	Dry	None
112	2301	268 - Main St	02/12/07	Monday	6:58	Rear End	Property Damage	Clear	Dawn	Dry	None
113	12014	268 - Main St	07/23/07	Monday	13:09	Rear End	Personal Injury	Rain	Daylight	Wet	None
114	3333	Tracy Ct	03/03/06	Friday	15:34	Rear End	Property Damage	Clear	Daylight	Dry	None
115	15917	Tracy Ct	10/12/06	Thursday	14:26	Cross Move	Property Damage	Rain	Daylight	Wet	None
116	6770	Tracy Ct	05/02/07	Wednesday	16:39	Rear End	Property Damage	Rain	Daylight	Wet	None
117	16544	Tracy Ct	10/03/07	Wednesday	12:24	Bicyle Hit Car	Property Damage	Cloudy	Daylight	Dry	None
118	19125	Tracy Ct	11/16/07	Friday	8:45	Rear End	Property Damage	Rain	Daylight	Wet	None
119	18616	Brown Ct	12/01/06	Friday	17:14	Rear End	Property Damage	Rain	Dusk	Wet	None
120	12546	218 - Main St	08/12/06	Saturday	11:08	Rear End	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To FTUC=Failure To Use Care OUI=Operating Under the Influence ROW=Right Of Way FTC=Following Too Close

TABLE 13
Route 12/16 Roadway Segment Crashes
Town of Webster

(NOTE: Table does not include crashes at major study intersections)

#	WPD ID #	Route 12/16 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
121	1028	218 - Main St	01/19/07	Friday	14:58	Rear End	Property Damage	Snow	Daylight	Snowy	None
122	19897	218 - Main St	11/29/07	Thursday	10:11	Sideswipe	Property Damage	Cloudy	Daylight	Wet	FT Yield
123	7816	Mechanic St	05/23/06	Tuesday	12:28	Angle	Property Damage	Clear	Daylight	Dry	None
124	8199	Mechanic St	05/30/06	Tuesday	16:45	Rear End	Property Damage	Clear	Daylight	Dry	None
125	9858	Mechanic St	06/30/06	Friday	17:59	Angle	Property Damage	Clear	Dusk	Dry	None
126	20185	Mechanic St	12/29/06	Friday	12:14	Rear End	Property Damage	Clear	Daylight	Dry	None
127	680	Mechanic St	01/13/07	Saturday	11:37	Cross Move	Property Damage	Rain	Daylight	Wet	None
128	5899	School St	04/17/06	Monday	16:01	Rear End	Property Damage	Rain	Daylight	Wet	None
129	19003	School St	11/14/07	Wednesday	8:06	Cross Move	Property Damage	Cloudy	Daylight	Dry	None
130	19321	Davis St	12/14/06	Thursday	10:13	Rear End	Personal Injury	Cloudy	Daylight	Dry	None
131	2445	Davis St	02/14/07	Wednesday	11:40	Rear End	Property Damage	Snow	Daylight	Snowy	None
132	7730	Davis St	05/17/07	Thursday	13:47	Rear End	Property Damage	Cloudy	Daylight	Dry	None
133	8468	Davis St	05/29/07	Sunday	18:53	Hit Pedestrian	Personal Injury	Cloudy	Darkness	Dry	None
134	14210	Davis St	08/27/07	Monday	12:52	Rear End	Property Damage	Clear	Daylight	Dry	None
135	8517	High St	05/30/07	Wednesday	15:45	Angle	Property Damage	Clear	Daylight	Dry	None
136	19848	80 - Main St	12/22/06	Friday	20:49	Fixed Object	Property Damage	Rain	Darkness	Wet	None
137	2642	Union St	02/17/06	Friday	17:23	Angle	Property Damage	Raing	Dusk	Wet	OUI
138	595	River Ct	01/11/07	Thursday	13:55	Rear End	Property Damage	Clear	Daylight	Dry	None
139	14884	River Ct	09/05/07	Wednesday	15:57	Rear End	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To FTUC=Failure To Use Care OUI=Operating Under the Influence ROW=Right Of Way FTC=Following Too Close

TABLE 14
Route 12/197 Roadway Segment Crashes
Town of Dudley

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 197/12 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
1	57	3 - West Main St	03/03/06	Friday	1:48	Fixed Object	Property Damage	Sleet	Darkness	Icy	None
2	206	3 - West Main St	11/17/06	Friday	21:49	Fixed Object	Personal Injury	Rain	Darkness	Wet	None
3	202	7 - West Main St	11/16/06	Thursday	12:34	Rear End	Property Damage	Rain	Daylight	Wet	None
4	184	13 - West Main St	10/22/05	Saturday	14:37	Rear End	Personal Injury	Rain	Daylight	Wet	None
5	181	River Ct	10/16/06	Monday	16:59	Rear End	Property Damage	Clear	Dusk	Dry	FT Yield
6	190	Mill St	10/30/06	Monday	9:38	Sideswipe	Personal Injury	Clear	Daylight	Dry	None
7	210	Mill St	11/25/06	Saturday	12:54	Hit Parked Car	Property Damage	Clear	Daylight	Dry	None
8	81	Central St	04/24/06	Monday	12:38	Angle	Property Damage	Rain	Daylight	Wet	None
9	160	Central St	09/14/06	Thursday	17:42	Rear End	Property Damage	Rain	Dusk	Wet	None
10	184	25 - West Main St	10/01/07	Monday	14:24	Rear End	Property Damage	Clear	Daylight	Dry	None
11	191	33 - West Main St	11/03/05	Thursday	10:00	Rear End	Property Damage	Clear	Daylight	Dry	None
12	215	43 - West Main St	11/28/05	Monday	14:57	Rear End	Property Damage	Rain	Daylight	Wet	None
13	122	44 - West Main St	07/23/06	Sunday	12:02	Rear End	Property Damage	Cloudy	Daylight	Dry	None
14	164	44 - West Main St	08/19/07	Sunday	8:50	Rear End	Personal Injury	Clear	Daylight	Dry	None
15	178	44 - West Main St	09/19/07	Wednesday	16:40	Rear End	Property Damage	Clear	Daylight	Dry	None
16	193	Williams St	11/02/06	Thursday	7:58	Rear End	Property Damage	Rain	Daylight	Wet	None
17	?	Williams St	03/03/07	Saturday	22:16	Sideswipe	Property Damage	Clear	Darkness	Dry	None
18	202	Williams St	11/01/07	Thursday	9:48	Rear End	Property Damage	Clear	Daylight	Dry	None
19	10	52 - West Main St	01/08/05	Saturday	13:18	Angle	Property Damage	Snow	Daylight	Snowy	None
20	170	52 - West Main St	09/22/05	Thursday	15:27	Cross Move	Property Damage	Clear	Daylight	Dry	None
21	143	52 - West Main St	08/18/06	Friday	16:51	Rear End	Property Damage	Clear	Daylight	Dry	None
22	125	52 - West Main St	06/15/07	Friday	16:54	Cross Move	Property Damage	Cloudy	Daylight	Dry	None
23	60	54 - West Main St	03/16/07	Friday	15:45	Sideswipe	Personal Injury	Snow	Daylight	Snowy	None
24	125	55 - West Main St	07/05/05	Tuesday	16:11	Rear End	Personal Injury	Clear	Daylight	Dry	None
25	104	55 - West Main St	05/19/07	Saturday	16:16	Rear End	Personal Injury	Rain	Daylight	Wet	None
26	77	62 - West Main St	03/26/07	Monday	15:07	Rear End	Property Damage	Rain	Daylight	Wet	None
27	86	64 - West Main St	04/28/05	Thursday	22:52	Ran Off Road	Personal Injury	Rain	Darkness	Wet	None
28	190	Elizabeth St	10/11/07	Thursday	16:19	Rear End	Personal Injury	Rain	Daylight	Wet	None
29	135	71 - West Main St	08/10/06	Thursday	9:43	Rear End	Personal Injury	Clear	Daylight	Dry	None
30	?	79 - West Main St	03/22/06	Wednesday	17:30	Rear End	Property Damage	Clear	Dusk	Dry	None

Violation Codes: FT=Failure To FTC=Following Too Close

TABLE 14
Route 12/197 Roadway Segment Crashes
Town of Dudley

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 197/12 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
31	140	Brandon Rd	08/02/05	Tuesday	10:58	Angle	Property Damage	Rain	Daylight	Wet	None
32	?	Brandon Rd	12/04/06	Monday	17:00	Rear End	Property Damage	Clear	Dusk	Dry	None
33	242	Brandon Rd	12/22/07	Saturday	8:00	Angle	Property Damage	Cloudy	Daylight	Dry	None
34	10	85 - West Main St	01/16/07	Tuesday	8:50	Rear End	Personal Injury	Snow	Daylight	Snowy	None
35	237	86 - West Main St	12/18/07	Tuesday	10:52	Sideswipe	Property Damage	Clear	Daylight	Dry	None
36	220	89 - West Main St	12/06/05	Tuesday	15:14	Rear End	Property Damage	Cloudy	Daylight	Dry	None
37	68	Conant Ave	03/21/07	Wednesday	14:38	Cross Move	Property Damage	Clear	Daylight	Dry	None
38	137	96 - West Main St	07/02/07	Monday	9:57	Hit Parked Car	Property Damage	Clear	Daylight	Dry	None
39	85	99 - West Main St	04/28/05	Thursday	17:31	Rear End	Property Damage	Rain	Dusk	Wet	None
40	67	Prospect Ave	03/26/05	Saturday	10:28	Angle	Property Damage	Clear	Daylight	Dry	None
41	161	Prospect Ave	09/10/05	Saturday	11:21	Rear End	Property Damage	Clear	Daylight	Dry	None
42	227	Prospect Ave	12/19/05	Monday	15:18	Rear End	Property Damage	Snow	Daylight	Snowy	None
43	67	Prospect Ave	03/20/07	Tuesday	17:17	Rear End	Property Damage	Snow	Dusk	Snowy	None
44	53	Progress Ave	03/08/05	Tuesday	15:59	Cross Move	Property Damage	Snow	Daylight	Snowy	None
45	114	Progress Ave	06/24/05	Friday	9:06	Rear End	Property Damage	Clear	Daylight	Dry	FTC
46	31	Progress Ave	01/30/06	Monday	15:15	Rear End	Property Damage	Cloudy	Daylight	Dry	None
47	101	Progress Ave	05/14/07	Monday	15:24	Rear End	Property Damage	Clear	Daylight	Dry	None
48	111	119 - West Main St	06/17/05	Friday	16:49	Rear End	Personal Injury	Rain	Daylight	Wet	None
49	107	119 - West Main St	05/22/07	Tuesday	20:01	Rear End	Property Damage	Clear	Darkness	Dry	None
50	137	124 - West Main St	07/29/05	Friday	15:40	Rear End	Property Damage	Cloudy	Daylight	Dry	None
51	222	124 - West Main St	12/10/05	Saturday	12:57	Rear End	Property Damage	Snow	Daylight	Snowy	None
52	207	124 - West Main St	11/18/06	Saturday	23:00	Hit Deer	Property Damage	Clear	Darkness	Dry	None
53	215	124 - West Main St	12/07/06	Thursday	12:49	Rear End	Property Damage	Snow	Daylight	Snowy	None
54	135	124 - West Main St	06/26/07	Tuesday	15:44	Rear End	Property Damage	Clear	Daylight	Dry	None
55	233	124 - West Main St	12/15/07	Saturday	11:41	Angle	Property Damage	Clear	Daylight	Dry	None
56	76	128 - West Main St	04/04/05	Monday	14:55	Rear End	Property Damage	Rain	Daylight	Wet	None
57	75	128 - West Main St	04/12/06	Wednesday	11:02	Rear End	Personal Injury	Clear	Daylight	Dry	None
58	130	128 - West Main St	05/18/07	Friday	13:39	Rear End	Property Damage	Rain	Daylight	Wet	None
59	149	139 - West Main St	09/01/06	Friday	14:28	Rear End	Property Damage	Clear	Daylight	Dry	None
60	153	147 - West Main St	09/12/06	Tuesday	7:59	Rear End	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To FTC=Following Too Close

TABLE 14
Route 12/197 Roadway Segment Crashes
Town of Dudley

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 197/12 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions Weather	Conditions Light	Conditions Road	Violations
61	30	147 - West Main St	02/14/07	Wednesday	10:03	Fixed Object	Property Damage	Snow	Daylight	Snowy	None
62	220	147 - West Main St	11/29/07	Thursday	15:33	Hit Deer	Property Damage	Rain	Daylight	Wet	None
63	5	148 - West Main St	01/06/06	Friday	8:04	Rear End	Personal Injury	Cloudy	Daylight	Dry	None
64	168	148 - West Main St	09/25/06	Monday	8:49	Rear End	Property Damage	Clear	Daylight	Dry	None
65	?	157 - West Main St	03/31/06	Friday	15:30	Rear End	Property Damage	Clear	Daylight	Dry	None
66	118	157 - West Main St	07/12/06	Wednesday	13:15	Angle	Property Damage	Rain	Daylight	Wet	None
67	47	161 - West Main St	03/02/07	Saturday	16:34	Rear End	Property Damage	Clear	Daylight	Dry	None
68	209	161 - West Main St	11/13/07	Tuesday	17:42	Cross Move	Property Damage	Rain	Dusk	Wet	None
69	194	172 - West Main St	11/13/05	Saturday	13:42	Hit Deer	Personal Injury	Clear	Daylight	Dry	None
70	71	179 - West Main St	04/04/06	Tuesday	15:08	Rear End	Property Damage	Snow	Daylight	Snowy	None
71	142	180 - West Main St	08/03/05	Wednesday	15:51	Angle	Property Damage	Clear	Daylight	Dry	None
72	127	180 - West Main St	07/29/06	Saturday	20:31	Cross Move	Property Damage	Rain	Darkness	Wet	None
73	158	180 - West Main St	09/09/08	Friday	16:54	Cross Move	Personal Injury	Clear	Dusk	Dry	None
74	45	185 - West Main St	02/15/06	Wednesday	15:53	Rear End	Property Damage	Clear	Daylight	Dry	None
75	181	185 - West Main St	09/28/07	Friday	7:59	Rear End	Property Damage	Rain	Daylight	Wet	None
76	206	185 - West Main St	11/06/07	Tuesday	9:56	Cross Move	Property Damage	Rain	Daylight	Wet	None
77	29	191 - West Main St	01/26/06	Thursday	18:15	Rear End	Property Damage	Cloudy	Darkness	Dry	None
78	119	203 - West Main St	06/04/07	Monday	18:31	Rear End	Property Damage	Rain	Darkness	Wet	None
79	179	208 - West Main St	10/04/05	Tuesday	11:09	Rear End	Property Damage	Cloudy	Daylight	Dry	FTC
80	40	Aldea Ave	02/25/05	Friday	12:41	Rear End	Property Damage	Clear	Daylight	Wet	None
81	143	212 - West Main St	07/06/07	Friday	14:45	Rear End	Property Damage	Cloudy	Daylight	Dry	None
82	16	214 - West Main St	01/18/05	Tuesday	17:28	Rear End	Property Damage	Clear	Dusk	Dry	None
83	122	214 - West Main St	07/01/05	Friday	15:38	Angle	Property Damage	Rain	Daylight	Wet	None
84	94	215 - West Main St	05/25/05	Wednesday	12:04	Rear End	Personal Injury	Rain	Daylight	Wet	None
85	12	229 - West Main St	01/12/05	Wednesday	3:59	Fixed Object	Property Damage	Snow	Darkness	Snowy	None
86	183	236 - West Main St	09/30/07	Sunday	20:40	Cross Move	Property Damage	Clear	Darkness	Dry	None
87	229	243 - West Main St	12/26/06	Tuesday	5:53	Hit Deer	Property Damage	Rain	Darkness	Wet	None
88	159	245 - West Main St	09/14/06	Thursday	16:58	Rear End	Property Damage	Rain	Daylight	Wet	None
89	4	251 - West Main St	01/05/07	Friday	18:35	Rear End	Property Damage	Rain	Darkness	Wet	None
90	31	251 - West Main St	02/14/07	Wednesday	18:29	Cross Move	Personal Injury	Snow	Darkness	Snowy	None

Violation Codes: FT=Failure To FTC=Following Too Close

TABLE 14
Route 12/197 Roadway Segment Crashes
Town of Dudley

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 197/12 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions: Weather	Conditions: Light	Conditions: Road	Violations
91	183	258 - West Main St	10/13/05	Thursday	23:55	Fixed Object	Personal Injury	Rain	Darkness	Wet	None
92	118	260 - West Main St	06/02/07	Saturday	10:00	Rear End	Property Damage	Clear	Daylight	Dry	None
93	153	265 - West Main St	07/30/07	Monday	11:41	Rear End	Property Damage	Rain	Daylight	Wet	None
94	196	266 - West Main St	11/05/06	Sunday	13:37	Rear End	Personal Injury	Clear	Daylight	Dry	None
95	99	269 - West Main St	05/28/05	Saturday	10:45	Rear End	Personal Injury	Cloudy	Daylight	Dry	None
96	186	271 - West Main St	10/22/05	Saturday	22:38	Head On	Personal Injury	Rain	Darkness	Wet	None
97	192	271 - West Main St	11/02/06	Thursday	7:10	Angle	Property Damage	Rain	Daylight	Wet	None
98	76	279 - West Main St	03/26/07	Monday	2:55	Fixed Object	Personal Injury	Rain	Darkness	Icy	None
99	172	350 - West Main St	09/26/05	Monday	1:34	Fixed Object	Property Damage	Rain	Darkness	Wet	None
100	62	350 - West Main St	03/10/06	Friday	6:10	Hit Deer	Property Damage	Clear	Dawn	Dry	None
101	146	300 - West Main St	08/25/06	Friday	23:10	Ran Off Road	Property Damage	Rain	Darkness	Wet	None
102	211	389 - West Main St	11/20/07	Tuesday	10:15	Ran Off Road	Property Damage	Snow	Daylight	Icy	None
103	9	415 - West Main St	01/11/06	Wednesday	6:12	Rear End	Personal Injury	Rain	Dawn	Wet	None
104	64	415 - West Main St	03/18/07	Sunday	7:51	Angle	Property Damage	Cloudy	Daylight	Dry	None
105	172	415 - West Main St	09/06/07	Thursday	12:26	Rear End	Personal Injury	Clear	Daylight	Dry	None
106	2	420 - West Main St	01/05/05	Wednesday	7:44	Rear End	Property Damage	Snow	Daylight	Snowy	None
107	41	420 - West Main St	02/11/06	Saturday	9:57	Rear End	Property Damage	Clear	Daylight	Dry	None
108	154	438 - West Main St	09/03/05	Saturday	11:52	Tire Fell Off	Property Damage	Clear	Daylight	Dry	None
109	8	?	01/07/05	Friday	7:07	Ran Off Road	Personal Injury	Cloudy	Dawn	Dry	None
110	?	?	02/24/05	Thursday	17:39	Rear End	Property Damage	Clear	Dusk	Dry	None
111	12	?	01/13/06	Friday	9:04	Sideswipe	Property Damage	Cloudy	Daylight	Dry	None
112	?	?	01/21/06	Saturday	9:00	Rear End	Property Damage	Clear	Daylight	Dry	None
113	54	?	02/25/06	Saturday	12:32	Rear End	Personal Injury	Snow	Daylight	Snowy	None
114	58	?	03/03/06	Friday	12:21	Rear End	Property Damage	Clear	Daylight	Wet	None
115	84	?	05/04/06	Thursday	16:38	Rear End	Property Damage	Clear	Daylight	Dry	None
116	96	?	05/19/06	Friday	13:14	Rear End	Personal Injury	Rain	Daylight	Wet	None
117	123	?	07/23/06	Sunday	12:39	Rear End	Property Damage	Cloudy	Daylight	Dry	None
118	133	?	08/08/06	Tuesday	14:32	Fixed Object	Property Damage	Rain	Daylight	Wet	None
119	203	?	11/16/06	Thursday	17:30	Rear End	Property Damage	Rain	Dusk	Wet	None
120	5	?	01/07/07	Sunday	15:45	Ran Off Road	Property Damage	Rain	Daylight	Wet	None

Violation Codes: FT=Failure To FTC=Following Too Close

TABLE 14
Route 12/197 Roadway Segment Crashes
Town of Dudley

(NOTE: Table does not include crashes at major study intersections)

#	DPD ID #	Route 197/12 Location	Date	Day of Week	Time of Day	Type	Severity	Conditions			Violations
								Weather	Light	Road	
121	73	?	03/24/07	Saturday	6:34	Ran Off Road	Property Damage	Snow	Dawn	Icy	None
122	87	?	04/16/07	Monday	12:41	Ran Off Road	Property Damage	Rain	Daylight	Wet	None
123	93	?	04/25/07	Wednesday	14:05	Rear End	Property Damage	Rain	Daylight	Wet	None
124	123	?	06/12/07	Tuesday	14:48	Rear End	Personal Injury	Rain	Daylight	Wet	None
125	122	?	06/12/07	Tuesday	14:19	Rear End	Property Damage	Rain	Daylight	Wet	None
126	134	?	06/24/07	Sunday	11:03	Ran Off Road	Property Damage	Clear	Daylight	Dry	None
127	149	?	07/24/07	Tuesday	15:50	Rear End	Property Damage	Cloudy	Daylight	Dry	None
128	187	?	10/05/07	Friday	11:36	Angle	Property Damage	Clear	Daylight	Dry	None

Violation Codes: FT=Failure To FTC=Following Too Close

5.0 PAVEMENT MANAGEMENT SYSTEM (PMS)

5.1 Pavement Management Concepts

Pavement management is an asset management system designed to assist decision-makers in determining the most cost-effective strategies to address poor or failing roadway conditions. In general, a successful Pavement Management System (PMS) defines a roadway network, identifies the condition of each segment of the network, develops a list of needed improvements, and balances those needs with the available resources of the party responsible for maintaining the defined roadway network. *Cartegraph*, a software package developed and supported by *Cartegraph Systems* Incorporated, has been used by CMRPC in its pavement management program to assess overall pavement condition and to assist in developing a cost effective strategy for addressing any observed pavement distress.

For this Corridor Profile, pavement distress information was collected for Route 12/16/197 from the Uxbridge Town Line to Route 131 in Thompson, CT by conducting "windshield surveys." A team of two CMRPC representatives inspected Route 12/16/197, taking note of the severity and extent of the following pavement distresses:

- potholes
- distortions
- alligator cracking
- transverse and longitudinal cracking
- block cracking
- rutting
- bleeding/polished aggregate
- surface wear and raveling
- corrugations, shoving, and slippage

Based on the observed distresses, an Overall Condition Index (OCI) was calculated for each surveyed roadway segment. The OCI is used to rate each segment on a scale of 0 to 100. Starting at a top index rating of 100, the OCI is calculated by subtracting a series of deduct values, each associated with the severity and extent of the various pavement distresses described above. *Cartegraph's* deduct values are determined through a series of deduct curves, which were developed by pavement engineers using years of research on pavement performance. The resulting OCI is a quantified rating of pavement condition. An OCI of 100 indicates optimal pavement conditions, usually a newly paved roadway segment. Conversely, a score of 0 indicates a roadway that has failed entirely and is likely impassable for an average passenger vehicle.

5.2 Route 12/16/197 Pavement Condition

Figure 51 displays the current pavement conditions for Route 12/16/197 from Douglas Town Line to the Connecticut State Line represented by Overall Condition Index (OCI) Recommended Action. OCI Recommended Action categories are produced by *Cartegraph* and suggest the extent of action necessary to bring a road segment to "Good" condition. **Table 15** shows the OCI and Recommended Action for each roadway segment. The Recommended Action category definitions are as follows:

- Do Nothing – no action required at this time to maintain "Good" rating
- Routine Maintenance – apply crack seal and/or skin patch
- Preventative Maintenance – apply thin overlay or surface treatment
- Structural Improvement – apply thick overlay
- Base Rehabilitation – apply a full-depth reconstruction

As the map depicts, most of the Route 16 portion in the town of Douglas is in either the "Preventative Maintenance" or "Routine Maintenance" category. The remaining portion falls in the "Structural Improvement" and "Do Nothing" categories. Staff observed a rather extensive amount of alligator cracking, rutting, and potholes. Alligator cracking is one of the most common pavement distresses, and is typically caused by aging pavement combined with weather elements. In the early stages, these distresses can be treated with a crack sealant. If left neglected, these cracks will lead to surface wear and pot holes as pavement pieces are pulled out of the cracks from repeated traffic loads and exposure to the freeze-thaw cycle. Potholes occur as a result of the freeze-thaw cycle. Water seeps beneath the pavement through the cracks caused by the wear and tear of traffic and then freezes and expands, causing pavement to rise. As the temperatures once again rise above freezing, a shallow divot occurs under the surface and the pavement breaks from traffic loads, forming a pothole. A pothole is typically fixed by cleaning out the loose debris and filling it with hot and cold asphalt patch.

In the town of Webster, most of the observed pavement along Routes 16 and 12 is in the "Structural Improvement" category, while the remaining portion is split between the "Preventative Maintenance" and the "Routine Maintenance" category. Staff observed a moderate amount of alligator cracking and transverse/longitudinal cracking with low amounts of potholes, corrugations, and shoving. Like alligator cracking described above, transverse/longitudinal cracking is caused by aging pavement combined with weather elements and are treated with the same method.

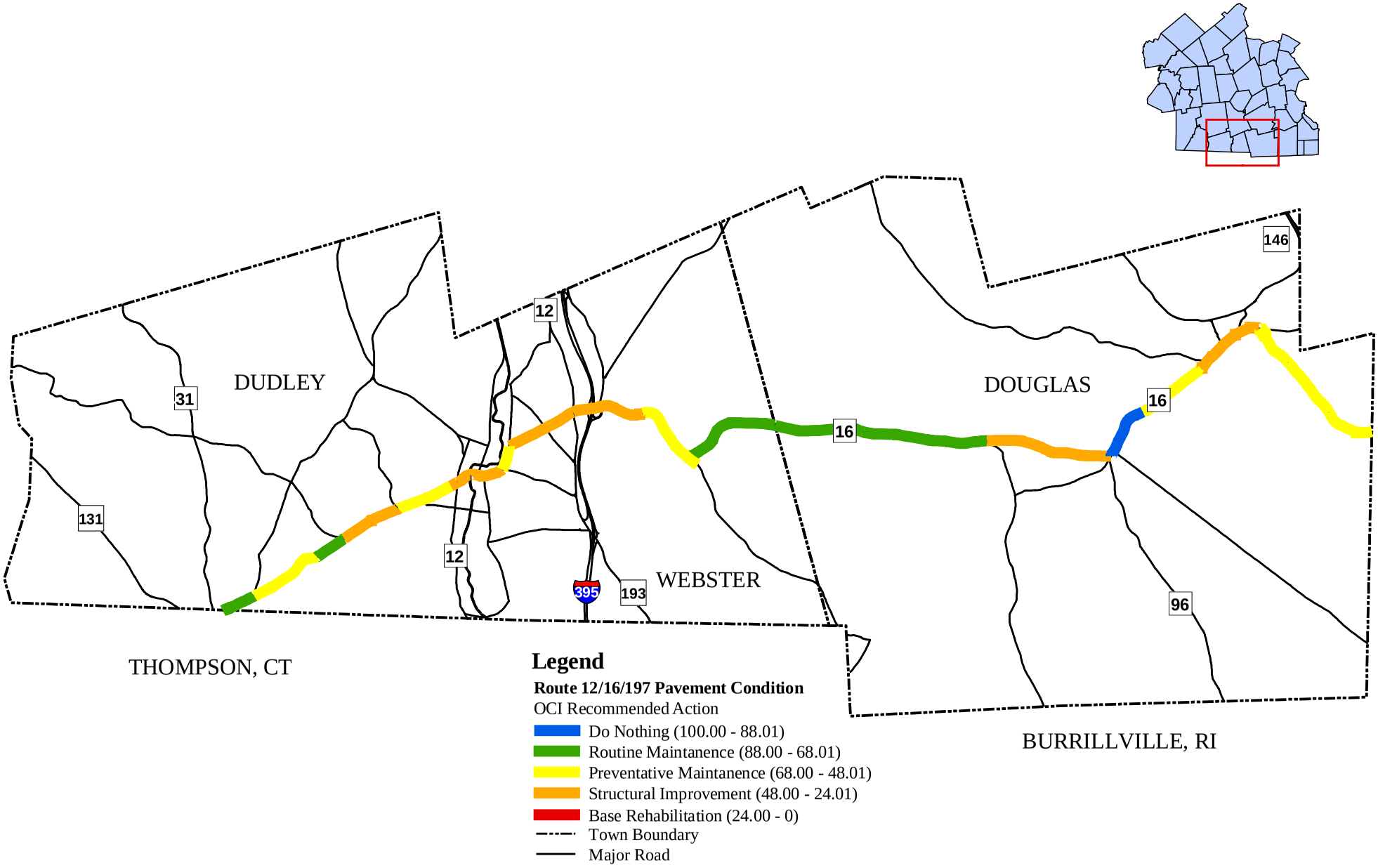
In the town of Dudley, the majority of Routes 12 and 197 fall in either the "Preventative Maintenance" or "Structural Improvement" categories, while the rest fell in the "Routine Maintenance" category. Staff found alligator cracking, transverse/longitudinal cracking, block cracking, rutting, potholes, and bleeding. Bleeding is often the result of poor pavement mixture and can occur when the asphalt binder that fills the aggregate seeps out during hot weather or traffic compaction and expands onto the pavement surface. When ignored, bleeding can progress into a safety hazard as the binder accumulates and decreases road-to-tire traction, especially in wet weather conditions. Rutting is a surface depression in the wheel path, and is

particularly evident after a rain when they are filled with water. Rutting may occur on the surface layer when pavement surface exhibits wheel path depressions as a result of compaction/mix design problems. Sub-grade rutting may also occur when the sub-grade exhibits wheel path depressions due to heavy traffic loads. In this case, the pavement settles into the sub-grade ruts causing surface depressions in the wheel path. Ruts filled with water can cause vehicle hydroplaning, can be hazardous because ruts tend to pull a vehicle towards the rut path as it is steered across the rut. Slight ruts (< 1/3 inch deep) can generally be left untreated. Pavement with deeper ruts should be leveled and overlaid.

Overall, approximately 65% of the roadway studied falls in a category between "Do Nothing" and "Preventative Maintenance," where repair costs are more manageable. About 35% of the roadway falls in the "Preventative Maintenance" action band and are considered in critical condition. Once these roads depreciate into the "Structural Improvement" category, repair costs will increase dramatically. In a time when budgets are increasingly constrained, roads in the "Structural Improvement" or "Base Rehabilitation" category will likely go unrepaired.

As a roadway's OCI drops, the associated Recommended Action becomes more demanding, and the cost of repair increases. Therefore, the cost of "Routine Maintenance," which categorically falls right under "Do Nothing," is only a fraction of the cost of "Base Rehabilitation," the most financially demanding Recommended Action category. For a practical example, the cost of applying crack seal to alligator cracking over a half mile segment of road is significantly less than the cost to fully reconstruct a half mile of impassable roadway.

Because of constrained pavement maintenance budgets and the large cost difference between Recommended Actions, local communities will benefit most from a "best first" approach to pavement management. A "best first" approach reasons that the responsible party, be it a state or local community, should invest pavement management budgets into routine and preventative maintenance actions (refer to **Table 15** for examples of actions that fall into these categories). These actions are taken on roadways with a higher OCI, hence "best first," and require the least funding. This approach allows a town to perform more maintenance in the context of limited funds. Investing in preventative maintenance delays the decay of roads into the more costly repair categories, thus saving money in the long run. Of course, taking this approach, roadways currently requiring structural improvement or base rehabilitation will continue to further deteriorate. For these larger projects, a community should seek alternate funding sources.



1 0.5 0 1 Miles

The information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analysis. Use caution intrepreting positional accuracy.

Produced by the Transportation Staff at
Central Massachusetts Regional Planning Commission.
2 Washington Square, 2nd Floor, Worcester, MA 01604-4016

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ROUTE 12/16/197 CORRIDOR PROFILE
CURRENT PAVEMENT CONDITION
TOWNS of DUDLEY, WEBSTER, & DOUGLAS
FIGURE 51

Source Data:
Pavement Condition Data provided by CMRPC & MassHighway.
Major Roads provided by MassHighway.
Town Bounds provided by MassGIS.

N

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Table 15

Regional Federal-Aid Pavement Management System Analyses Recommendations for Route 12/16/197

Community	From	To	Segment Length (miles)	Overall Condition Index	Current Recommended Action
DOUGLAS	Uxbridge Town Line	Northeast Main Street	1.70	48.60	Preventative Maintanence
	Northeast Main Street	Franklin Street	1.00	46.53	Structural Improvement
	Franklin Street	Riedell Street	1.00	55.71	Preventative Maintanence
	Riedell Street	Route 96	0.60	99.00	Do Nothing
	Route 96	Cedar Street	1.50	48.07	Preventative Maintanence
	Cedar Street	Webster Town Line	2.81	79.49	Routine Maintanence
WEBSTER	Douglas Town Line	Lower Gore Road	1.30	70.69	Routine Maintanence
	Lower Gore Road	Shawn Lane	0.90	61.86	Preventative Maintanence
	Shawn Lane	Route 193	0.80	36.15	Structural Improvement
	Route 193	North Main Street	1.00	37.82	Structural Improvement
	North Main Street	Lake Street	0.30	62.41	Preventative Maintanence
	Lake Street	Dudley Town Line	0.40	36.73	Structural Improvement
DUDLEY	Webster Town Line	Village Street	0.10	37.38	Structural Improvement
	Village Street	Mason Road	0.45	52.76	Preventative Maintanence
	Mason Road	Dudley Hill Road	0.74	39.50	Structural Improvement
	Dudley Hill Road	Hall Road	0.39	75.66	Routine Maintanence
	Hall Road	Fabyan Road	0.90	49.12	Preventative Maintanence
	Fabyan Road	Connecticut State Line	0.41	68.34	Routine Maintanence

6.0 BRIDGE MANAGEMENT SYSTEM (BMS)

6.1 Statewide Bridge Management System

MassDOT collects bridge condition data on an ongoing basis using consistent federal standards in various structural categories including bridge deck, superstructures (the physical condition of the bridge), substructures (condition of the piers, abutments, piles, girders, footings, or other related components), retaining walls, deck geometry, and roadway approach alignment. The resulting inventory is used to calculate a condition rating, which is used to classify the bridges as either structurally deficient or functionally obsolete. Bridges that do not fall into one of those categories are ineligible for the Highway Bridge Replacement and Rehabilitation Program funded by the Federal Highway Administration (FHWA).

A "Structurally Deficient" (SD) bridge is defined as a bridge whose condition has been rated no better than poor in any of these five areas: bridge deck, superstructures, substructures, culverts, and retaining walls. A "Functionally Obsolete" (FO) bridge is defined as a bridge that is considered in serious condition in any of these three categories: deck geometry, underclearances, or approach roadway alignment. Additionally, if the structural condition or waterway adequacy is in serious condition (but better than that for a structurally deficient bridge), the bridge would be identified as being functionally obsolete. Essentially, a functionally obsolete bridge is one that is not built in accordance with currently accepted design standards.

6.2 Route 12/16/197 *Corridor Profile* Bridges: Douglas, Webster, Dudley & Thompson, CT

MassDOT maintains the two bridges listed in **Table 16**. The bridge over the French River is located on the Webster/Dudley Town Line. It was originally built in 1868 and rebuilt in 1967. Its AASHTO rating is 97.1. The bridge over North Pond is located just west of Mine Brook Road in the town of Webster. It was built in 1956 and its AASHTO rating is 93.9. Neither one of these bridges are "Functionally Obsolete" or "Structurally Deficient." Other than the two bridges, there are also numerous culverts along the corridor.

Table 16

Bridge Listing for Route 12/16/197 Corridor Profile

Town	Facility Name (Over)	Facility or Waterbody Name (Under)	Year Built	Year Rebuilt	AASHTO Rating	Deficiency*
Dudley	Route 12	French River	1868	1967	97.1	
Webster	Route 16	North Pond	1956		93.9	

**: FO = Functionally Obsolete*
SD = Structurally Deficient

7.0 TRANSIT

7.1 Existing Service

The only portion of the Route 12/16/197 corridor currently served by fixed-route transit service is the portion of Route 12 in Webster between the intersection of Worcester and Thompson Roads and downtown, which is served by the Worcester Regional Transit Authority (WRTA) fixed-route bus #42. Route #42 is a 22-mile route that operates with 10 weekday roundtrips per day between City Hall in Worcester and Downtown Webster. Route #42 is the longest route in the WRTA system and the majority of its ridership boards and alights in Webster, Auburn and Worcester.

Fixed bus stops are located within the city limits of Worcester and at the Auburn Mall in Auburn. Outside of Worcester, the WRTA has a limited number of fixed bus stops and shelters and primarily operates a “flag system” where riders may flag the bus anywhere along the route in areas that are safe to board and alight. There are no passenger amenities, such as bus shelters or benches, along Route #42 in Webster.

In August 2009, the WRTA implemented increased service frequency on Route #42 with an additional roundtrip run bringing the total number of weekday roundtrips to 12. This additional midday run was added to enhance service and improve connections to those passengers who use Route #42.

7.2 Potential Service Increases and Improved Access to Transit

New fixed-route service along the Route 12/16/197 corridor is not likely to occur in the future, as the demand for fixed-route transit service is low due to low concentrations of population and employment outside of the downtown Webster area. Certain infrastructure improvements, such as fixed bus stops, bus cut outs, benches and shelters, could be installed along Route 12 where Route #42 currently operates. Should this happen, there is the potential to attract new transit riders to Route #42 who would have the ability to access shopping, employment and entertainment venues that may not have been available previously without the use of an automobile.

8.0 FREIGHT MOVEMENT

According to the Highway Capacity Manual (HCM), heavy vehicles are vehicles that have more than four tires touching the pavement. Trucks, buses, and recreational vehicles (RVs) are the three groups of heavy vehicles. Heavy vehicles adversely affect traffic in two ways: 1) they are larger than passenger cars and occupy more roadway space and 2) they have poorer operating capabilities than passenger cars, particularly with respect to acceleration, deceleration, and the ability to maintain speed on upgrades.

Table 17 lists the percentage of heavy vehicles counted at each of the focus intersections. The percentage of heavy vehicles traveling through the intersections during the morning and afternoon peak fluctuates throughout the corridor, but on the average it is 2.9% in the AM and 1.4% for the PM. Observations in the field noted that school buses accounted for some of the heavy vehicle traffic. It should also be noted that the heavy vehicle percentages shown in **Table 17** were observed on one random weekday. The numbers are, by nature, subject to variation due to sample size, temporary or permanent local conditions as well as other factors, such as weather conditions. As such, the figures in the table should be used with caution as a general indicator of trends and conditions only, as opposed to absolute statements of prevailing circumstance.

TABLE 17

Route 12/16/197
Percentage of Heavy Vehicles
Utilizing Focus Intersections

Study Intersection	Date of Count	Morning Peak Hour %	Evening Peak Hour %
Route 16 / NE Main St	May '08	0.7%	0.9%
Route 16 / North St / Bowen Ct	June '08	1.1%	1.0%
Route 16 / Depot St	June '08	2.0%	1.6%
Route 16 / West St	May '08	1.2%	1.3%
Route 16 / Franklin St	May '08	1.1%	1.6%
Route 16 / SE Main St / Common St	July '08	2.1%	1.6%
Route 16 / Route 96 / SW Main St	August '08	2.6%	2.1%
Route 16 / Cedar St	June '08	4.2%	1.3%
Route 16 / Lower Gore Rd / Rawson Rd	August '08	3.9%	2.0%
Route 16 / Sutton Rd / I-395 NB Ramp	August '08	1.4%	0.7%
Route 16 / I-395 SB Ramp	July '08	1.5%	0.9%
Route 12 / Route 16 / Route 193	September '08	1.5%	0.5%
Route 12 / Racicot Ave / Hillside Ave	August '08	3.5%	1.3%
Route 12 / Brodeur Ave / Grandview Ave	August '08	3.4%	1.4%
Route 12 / Park Ave / Slater St	July '08	3.8%	1.9%

TABLE 17 Continued

Route 12/16/197
Percentage of Heavy Vehicles
Utilizing Focus Intersections

Study Intersection	Date of Count	Morning Peak Hour %	Evening Peak Hour %
Route 12 / N Main St	August '08	4.7%	2.4%
Route 12 / Lake St	August '08	1.9%	0.7%
Route 12 / Mechanic St	July '08	1.8%	0.5%
Route 12 / School St	August '08	1.4%	0.5%
Route 12 / Chase Ave / Pleasant St	August '08	4.9%	2.5%
Route 12 / Route 197 / Village St	August '08	5.3%	1.8%
Route 197 / Brandon Rd	June '08	3.8%	1.6%
Route 197 / Mason Rd / Paglione Dr	May '08	3.8%	2.6%
Route 197 / Airport Rd	May '08	7.4%	2.4%
Route 197 / Nelco Ave	June '08	5.6%	1.6%
Route 197 / Dudley Hill Rd / Indian Rd	July '08	3.2%	2.0%
Route 197 / Hall Rd / Lyons Rd	July '08	3.0%	1.5%
Route 197 / Center Rd / Fabyan Rd	July '08	4.2%	2.4%
Route 197 / Route 31 / Walker Rd	September '08	1.3%	0.6%
Route 197 / Route 131	September '08	1.4%	0.3%
	Peak Hour Averages	2.9%	1.4%

9.0 Overall Corridor Profile Findings

9.1 Preface

This Corridor Profile covers a 16-mile section of Routes 12/16/197 through Douglas, Webster, Dudley, and Thompson, CT. A wide variety of data were collected and analyzed for both intersections and roadway segments, such as degree of congestion, safety issues, pavement condition, and heavy vehicle usage levels. Most data used in this Corridor Profile was collected during 2008. The safety data was compiled from crash reports between 2005 and 2007. The level-of-service (LOS) results that are shown in tables were determined using data collected between 7AM to 9AM and from 4PM to 6PM, which are considered the peak travel periods. In **Table 18**, **Table 20**, **Table 22**, and **Table 24**, intersection data results are displayed. **Table 19**, **Table 21**, **Table 23**, and **Table 25** show the roadway segment findings.

9.2 Town of Douglas

Table 18 shows various data results for the study intersections on Route 16 in Douglas. The LOS results show that all study intersections have a ranking of "C" or worse for AM and PM peak periods. There are four intersections that have a LOS of either "E" or "F" for existing conditions as well as for projected conditions in 2018. The remaining intersections mostly have an LOS of "C". As for the safety analysis, there were very few crashes at the study intersections. The intersection that had the most was Route 16 & Cedar Street with a total of 11. Also, there were two intersections that didn't have any crashes at all: Route 16/NE Main Street and Route 16/West Street. There are no fixed route buses that service the town of Douglas, but there is SCM Elderbus which provides service to elders and the disabled. Lastly, heavy vehicle percentages averaged 1.9% in the AM peak period and 1.4% in the PM peak period.

In **Table 19**, various data is displayed for Route 16 roadway segments. The roadway segments LOS range between "A" and "D". The worst segment is between North Street and Depot Street. This section is in the downtown area where there are numerous businesses and houses with many curb cuts to enter and exit from. The roadway is also very narrow due to parking along both sides of the road. With an LOS of either "A" or "B", the segments of road that operate the best are from the Uxbridge Town Line to North Street and between Route 96 and the Webster Town Line. The safety analysis results showed that the areas from Franklin Street to SE Main Street and between North Street and Depot Street had the most crashes with a total of 20. Additionally, Route 96 to Cedar Street had the second highest total with 15, but over half of the crashes caused personal injuries which is significantly higher than what is normally seen. In regards to the pavement condition, overall it is not very good with most of the roadway requiring "structural improvement" to raise it up to excellent condition. Next, the only public transportation service along Route 16 is from SCM Elderbus, which provides service to elders and the disabled. For the freight movement along Route 16, it is over 10% heavy vehicles where data was gathered.

9.3 Town of Webster

Table 20 shows data for 12 study intersections in the town of Webster. The most efficiently working intersection with the least amount of delay was Route 12 & North Main Street, with an LOS of "A" for the AM and PM peak periods. The worst intersections were the ones along Route 16 of the corridor. All three of them had an LOS of "F" for existing and projected conditions. There were not a lot of crashes at the study intersections, but there were two that had over 15. Route 16 & the I-395 SB ramps had the most with a total of 18, and the second highest was Route 16/Sutton Road/I-395 NB ramps with a total of 16. Route 12/Racicot Avenue/Hillside Avenue and Route 12/Brodeur Avenue/Grandview Avenue had ten or fewer crashes, but over half of those crashes resulted in personal injury. Regarding public transit, SCM Elderbus also provides service to elders and the disabled in the town of Webster. Also, WRTA fixed route service is provided along Route 12 from Route 16 to School Street. The bus route starts in Worcester, making about six trips daily into Webster during weekdays. As for the heavy vehicle percentages, the AM average was 2.8% and the PM was 1.3%.

Roadway segment findings are shown in **Table 21**. Twelve out of the thirteen segments had an LOS of either "C" or "D". The segment from the Douglas Town Line to Lower Gore Road was the only one to have a LOS of "B". Safety analysis showed that only three segments had over 20 crashes. The segment from Slater Street to North Main Street had the most with a total of 32. There were also four segments along the corridor that did not have any crashes at all. The overall pavement condition in Webster is poor. Ten out of the thirteen segments are in need of "structural improvement" to raise the pavement condition to excellent. Of the remaining three segments, two are in fair condition and one is in good condition. Next, there is one bridge located on Route 16 over North Pond and it has an AASHTO rating of 93.9. Similar to the intersection summary, SCM Elderbus provides service to elders and the disabled. Also, WRTA fixed route service is available along Route 12 from Route 16 to School Street during weekdays. Lastly, daily freight movement along this corridor ranges from 8.1% to 14.2% (where data is available).

9.4 Town of Dudley

In **Table 22**, there are eight intersections that were the focus for the Corridor Study in the town of Dudley. The LOS for the intersections ranged from "A" all the way to "F". The best working intersection with the least amount of delay for existing and projected conditions was Route 197 & Airport Drive. The worst intersection was Route 197 & Brandon Road. It was the only intersection that had an LOS of "F". The safety results showed that there were only two intersections that had over 20 crashes in a three-year period. The intersection that had the most crashes with a total of 40 was Route 12/Route 197/Village Street. There was also one intersection that had no crashes; that was Route 197/Dudley Hill Road/Indian Road. Similar to the previous towns, SCM Elderbus provides service to elders and the disabled. Furthermore, there is no fixed route service in the town of Dudley. As for the heavy vehicle percentages, the average is about 4.5% in the AM and 2.0% in the PM. The intersection of Route 197 & Airport Drive actually had about 7% in the AM peak period.

Table 23 shows the roadway segment results in the town of Dudley. Existing and projected LOS are very similar to one another. There are three segments that have an LOS of "B" in the AM, fairly good peak period, but four segments that have an LOS of "D" in the PM peak period. The safety analysis showed that three segments had 20 or more crashes. Brandon Road to Mason Road was the highest segment with a total of 22, but only two of the crashes caused personal injuries. Airport Drive to Nelco Avenue had the fewest amount of crashes, with only one. Next, the pavement condition is not that good. Overall it is in fair condition, with most of the segments needing "structural improvement" or "preventative maintenance" to get to excellent condition. After the pavement the bridges were looked at, where they occurred. Near the Webster Town Line there is a bridge over the French River with an AASHTO rating of 91.1, indicating very good condition. Again, SCM Elderbus provides service to elders and the disabled in the town of Dudley. Lastly, where daily percent of heavy vehicles were collected, 6.2% was the lowest between Brandon Road and Mason Road and 14% was the highest from the Webster Town Line to Village Street.

9.5 Town of Thompson, CT

The last town in the Corridor Profile is Thompson, CT. Its intersection findings can be found in **Table 24**. There are only two intersections in Thompson included in the study. The Route 197/Route 31/Walker Road intersection has a LOS of "C" for both the AM and PM. The Route 197/Route 131 intersection has a LOS of "B" in the AM and PM. There were very few crashes at these two intersections, with a total of only nine between them in a three-year period. The last type of data collected was heavy vehicle percentage. Both intersections were very similar with the AM being about 1.4% and the PM being between 0.3% and 0.6%.

Table 25 shows the LOS and safety results for the two roadway segments in Thompson, CT. The LOS between the Connecticut State Line and Route 31 was "B" in the AM and PM. From Route 31 to Route 131 the LOS was "B" in the AM and "C" in the PM. There were only two crashes between Route 31 and Route 131 and there were no crashes in the other segment.

Table 18

Town of Douglas
Route 16 Study Intersections
Overall Corridor Profile Findings

Study Intersection Location	CMP Intersection Level-of-Service(LOS)*	Safety Analysis**	Public Transit	Freight Movement Heavy Vehicle %	Other Considerations
Route 16/NE Main St	AM = C (C) PM = C (C)	No Reported Crashes	SCM Elderbus provides service to elders and disabled in the town of Douglas	AM = 0.7% PM = 0.9%	East Douglas Village
Route 16/North St/ Bowen Ct	AM = F (F) PM = F (F)	Total = 2 PI - 0, PD - 2	SCM Elderbus	AM = 1.1% PM = 1.0%	East Douglas Village
Route 16/Depot St	AM = E (F) PM = F (F)	Total = 3 PI - 1, PD - 2	SCM Elderbus	AM = 2.0% PM = 1.6%	East Douglas Village
Route 16/West St	AM = F (F) PM = E (F)	No Reported Crashes	SCM Elderbus	AM = 1.2% PM = 1.3%	East Douglas Village
Route 16/Franklin St	AM = C (C) PM = C (C)	Total = 6 PI - 2, PD - 4	SCM Elderbus	AM = 1.1% PM = 1.6%	East Douglas Village
Route 16/SE Main St/ Common St	AM = C (D) PM = D (E)	Total = 3 PI - 1, PD - 2	SCM Elderbus	AM = 2.1% PM = 1.6%	Old Town Common
Route 16/Route 96/ SW Main St	AM = F (F) PM = F (F)	Total = 7 PI - 0, PD - 7	SCM Elderbus	AM = 2.6% PM = 2.1%	Rural Land Use
Route 16/Cedar St	AM = C (C) PM = C (C)	Total = 11 PI - 3, PD - 8	SCM Elderbus	AM = 4.2% PM = 1.3%	Rural Land Use

*Intersection Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage

Table 19

Town of Douglas
Route 16 Roadway Segments
Overall Corridor Profile Findings

Route 16 Roadway Segments	CMP Segment Level-of-Service(LOS)*	Safety Analysis**	Pavement Condition***	Bridge Condition	Public Transit	Freight Movement Daily % of Heavy Vehicles	Other Considerations
Uxbridge Town Line to NE Main St	AM = B (B) PM = A (A)	Total = 14 PI - 4, PD - 10	OCI = 48.6 *Preventative Maintenance*	NA	SCM Elderbus provides service to elders and disabled in the town of Douglas	13.4%	Rural Land Use/ Douglas Middle & High Schools
NE Main St to North St	AM = B (B) PM = B (B)	No Reported Crashes	OCI = 46.5 *Structural Improvement*	NA	SCM Elderbus	NA	East Douglas Village
North St to Depot St	AM = D (D) PM = D (D)	Total = 20 PI - 7, PD - 13	OCI = 46.5 *Structural Improvement*	NA	SCM Elderbus	NA	East Douglas Village/Downtown Area
Depot St to West St	AM = C (D) PM = D (D)	Total = 8 PI - 2, PD - 6	OCI = 46.5 *Structural Improvement*	NA	SCM Elderbus	14.0%	East Douglas Village
West St to Franklin St	AM = C (D) PM = C (C)	No Reported Crashes	OCI = 46.5 *Structural Improvement*	NA	SCM Elderbus	NA	East Douglas Village
Franklin St to SE Main St	AM = C (C) PM = C (D)	Total = 20 PI - 7, PD - 13	OCI = 77.4 *Routine Maintenance*	NA	SCM Elderbus	13.7%	
SE Main St to Route 96	AM = C (C) PM = C (C)	No Reported Crashes	OCI = 99.0 *Do Nothing*	NA	SCM Elderbus	NA	Recent Resurfacing
Route 96 to Cedar St	AM = B (B) PM = B (B)	Total = 15 PI - 9, PD - 6	OCI = 48.1 *Preventative Maintenance*	NA	SCM Elderbus	10.7%	Rural Land Use/ Douglas State Forrest
Cedar St to Webster Town Line	AM = B (B) PM = B (B)	Total = 2 PI - 1, PD - 1	OCI = 79.5 *Routine Maintenance*	NA	SCM Elderbus	10.2%	Rural Land Use/ Douglas State Forrest

*Roadway Segment Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage (19 Unknown Crash Locations)
***OCI = Overal Condition Index, Ranging From 0 - 100

Table 20

Town of Webster
Route 12 & 16 Study Intersections
Overall Corridor Profile Findings

Study Intersection Location	CMP Intersection Level-of-Service(LOS)*	Safety Analysis**	Public Transit	Freight Movement Heavy Vehicle %	Other Considerations
Route 16/Lower Gore Rd/ Rawson Rd	AM = F (F) PM = F (F)	Total = 5 PI - 2, PD - 3	SCM Elderbus provides service to elders and disabled in the town of Webster	AM = 3.9% PM = 2.0%	Nearby Recreation/ Performance Venue
Route 16/Sutton Rd/ I-395 NB Ramps	AM = F (F) PM = F (F)	Total = 16 PI - 2, PD - 14	SCM Elderbus	AM = 1.4% PM = 0.7%	Interchange Area/ Commerce Insurance
Route 16/I-395 SB Ramps	AM = E (F) PM = F (F)	Total = 18 PI - 6, PD - 12	SCM Elderbus	AM = 1.5% PM = 0.9%	Interchange Area
Route 12/Route 16/ Route 193	AM = C (C) PM = C (D)	Total = 10 PI - 2, PD - 8	WRTA Fixed Route Service Route 42 & SCM Elderbus	AM = 1.5% PM = 0.5%	Current TIP Project
Route 12/Racicot Ave/ Hillside Ave	AM = D (D) PM = F (F)	Total = 10 PI - 6, PD - 4	WRTA Fixed Route Service Route 42 & Elderbus	AM = 3.5% PM = 1.3%	Dense Land Uses
Route 12/Brodeur Ave/ Grandview Ave	AM = D (D) PM = E (F)	Total = 8 PI - 5, PD - 3	WRTA Fixed Route Service Route 42 & Elderbus	AM = 3.4% PM = 1.4%	Dense Land Uses
Route 12/Park Ave/ Slater St	AM = B (B) PM = B (C)	Total = 14 PI - 0, PD - 14	WRTA Fixed Route Service Route 42 & Elderbus	AM = 3.8% PM = 1.9%	Dense Land Uses

Table 20 (continued)

Town of Webster
Route 12 & 16 Study Intersections
Overall Corridor Profile Findings

Study Intersection Location	CMP Intersection Level-of-Service(LOS)*	Safety Analysis**	Public Transit	Freight Movement Heavy Vehicle %	Other Considerations
Route 12/N Main St	AM = A (A) PM = A (A)	Total = 6 PI - 1, PD - 5	WRTA Fixed Route Service Route 42 & Elderbus	AM = 4.7% PM = 2.4%	Dense Land Uses/ Downtown Area
Route 12/Lake St	AM = B (B) PM = B (B)	Total = 3 PI - 0, PD - 3	WRTA Fixed Route Service Route 42 & Elderbus	AM = 1.9% PM = 0.7%	Dense Land Uses/ Downtown Area
Route 12/Mechanic St	AM = D (D) PM = E (F)	Total = 5 PI - 0, PD - 5	WRTA Fixed Route Service Route 42 & Elderbus	AM = 1.8% PM = 0.5%	Dense Land Uses/ Downtown Area
Route 12/School St	AM = E (F) PM = E (F)	Total = 2 PI - 0, PD - 2	WRTA Fixed Route Service Route 42 & Elderbus	AM = 1.4% PM = 0.5%	Dense Land Uses/ Downtown Area
Route 12/Chase Ave/ Pleasant St	AM = B (B) PM = B (B)	Total = 9 PI - 1, PD - 8	SCM Elderbus	AM = 4.9% PM = 2.5%	Dense Land Uses

*Intersection Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage

Table 21

Town of Webster
Route 12 & 16 Roadway Segments
Overall Corridor Profile Findings

Route 12 & 16 Roadway Segments	CMP Segment Level-of-Service(LOS)*	Safety Analysis**	Pavement Condition***	Bridge Condition	Public Transit	Freight Movement Daily % of Heavy Vehicles	Other Considerations
Douglas Town Line to Lower Gore Rd	AM = B (B) PM = C (C)	Total = 5 PI - 2, PD - 3	OCI = 70.7 *Routine Maintenance*	NA	SCM Elderbus provides service to elders and disabled in the town of Webster	10.2%	Nearby Recreation/ Performance Venue
Lower Gore Rd to Sutton Rd	AM = D (D) PM = D (D)	Total = 13 PI - 5, PD - 8	OCI = 49.0 *Preventative Maintenance*	North Pond AASHTO Rating = 93.9	SCM Elderbus	8.1%	Nearby Recreation/ Performance Venue
Sutton Rd to I-395 SB Ramps	AM = D (D) PM = D (D)	No Reported Crashes	OCI = 36.2 *Structural Improvement*	NA	SCM Elderbus	NA	Interchange Area
I-395 SB Ramps to Route 193	AM = D (D) PM = D (D)	No Reported Crashes	OCI = 36.2 *Structural Improvement*	NA	SCM Elderbus	NA	Interchange Area
Route 193 to Racicot Ave	AM = D (D) PM = D (D)	Total = 26 PI - 5, PD - 21	OCI = 37.8 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	14.2%	Current TIP Project
Racicot Ave to Brodeur Ave	AM = C (D) PM = D (D)	No Reported Crashes	OCI = 37.8 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses
Brodeur Ave to Slater St	AM = C (D) PM = D (D)	Total = 1 PI - 0, PD - 1	OCI = 37.8 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses
Slater St to North Main St	AM = C (C) PM = D (D)	Total = 32 PI - 8, PD - 24	OCI = 37.8 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses

Table 21 (continued)

Town of Webster
Route 12 & 16 Roadway Segments
Overall Corridor Profile Findings

Route 12 & 16 Roadway Segments	CMP Segment Level-of-Service(LOS)*	Safety Analysis**	Pavement Condition***	Bridge Condition	Public Transit	Freight Movement Daily % of Heavy Vehicles	Other Considerations
North Main St to Lake St	AM = C (C) PM = D (D)	Total = 2 PI - 0, PD - 2	OCI = 62.4 *Preventative Maintenance*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses/ Downtown Area
Lake St to Mechanic St	AM = D (D) PM = D (D)	Total = 21 PI - 2, PD - 19	OCI = 36.7 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses/ Downtown Area
Mechanic St to School St	AM = D (D) PM = D (D)	No Reported Crashes	OCI = 36.7 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses/ Downtown Area
School St to Chase Ave	AM = C (C) PM = D (D)	Total = 6 PI - 2, PD - 4	OCI = 36.7 *Structural Improvement*	NA	WRTA Fixed Route Service Route 42 & Elderbus	NA	Dense Land Uses/ Downtown Area/ Railroad Crossing
Chase Ave to Dudley Town Line	AM = C (C) PM = D (D)	Total = 4 PI - 0, PD - 4	OCI = 36.7 *Structural Improvement*	NA	SCM Elderbus	14.0%	Dense Land Uses

*Roadway Segment Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage
***OCI = Overal Condition Index, Ranging From 0 - 100

Table 22

Town of Dudley
Route 12 & 197 Study Intersections
Overall Corridor Profile Findings

Study Intersection Location	CMP Intersection Level-of-Service(LOS)*	Safety Analysis**	Public Transit	Freight Movement Heavy Vehicle %	Other Considerations
Route 12/Route 197/ Village St	AM = A (B) PM = B (B)	Total = 40 PI - 11, PD - 29	SCM Elderbus provides service to elders and disabled in the town of Dudley	AM = 5.3% PM = 1.8%	Adjacent Redevelopment
Route 197/Brandon Rd	AM = D (D) PM = F (F)	Total = 3 PI - 0, PD - 3	SCM Elderbus	AM = 3.8% PM = 1.6%	Residential Area
Route 197/Mason Rd/ Paglione Dr	AM = A (A) PM = A (A)	Total = 21 PI - 8, PD - 13	SCM Elderbus	AM = 3.8% PM = 2.6%	Dudley Fire Station
Route 197/Airport Rd	AM = A (A) PM = A (B)	Total = 12 PI - 2, PD - 10	SCM Elderbus	AM = 7.4% PM = 2.4%	Tri State Toyota Dealership
Route 197/Nelco Ave	AM = B (B) PM = B (B)	Total = 7 PI - 2, PD - 5	SCM Elderbus	AM = 5.6% PM = 1.6%	Residential Area
Route 197/Dudley Hill Rd/ Indian Rd	AM = C (C) PM = C (C)	No Reported Crashes	SCM Elderbus	AM = 3.2% PM = 2.0%	Residential/ Business Area
Route 197/Hall Rd/ Lyons Rd	AM = C (C) PM = C (D)	Total = 7 PI - 3, PD - 4	SCM Elderbus	AM = 3.0% PM = 1.5%	District Court House
Route 197/Center Rd/ Fabyan Rd	AM = C (C) PM = D (E)	Total = 9 PI - 1, PD - 8	SCM Elderbus	AM = 4.2% PM = 2.4%	Wooded Area

*Intersection Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage

Table 23

Town of Dudley
Route 12 & 197 Roadway Segments
Overall Corridor Profile Findings

Route 12 & 197 Roadway Segments	CMP Segment Level-of-Service(LOS)*	Safety Analysis**	Pavement Condition***	Bridge Condition	Public Transit	Freight Movement Daily % of Heavy Vehicles	Other Considerations
Webster Town Line to Village St	AM = C (C) PM = C (D)	Total = 10 PI - 3, PD - 7	OCI = 37.4 *Structural Improvement*	French River AASHTO Rating = 97.1	SCM Elderbus provides service to elders and disabled in the town of Dudley	14.0%	Business Land use
Village St to Brandon Rd	AM = C (C) PM = D (D)	Total = 20 PI - 7, PD - 13	OCI =52.8 *Preventative Maintenance*	NA	SCM Elderbus	NA	Residential & Business Mixed Use
Brandon Rd to Mason Rd	AM = C (D) PM = D (D)	Total = 22 PI - 2, PD - 20	OCI =52.8 *Preventative Maintenance*	NA	SCM Elderbus	6.2%	Residential & Business Mixed Use
Mason Rd to Airport Rd	AM = C (C) PM = D (D)	Total = 21 PI - 4, PD - 17	OCI = 39.5 *Structural Improvement*	NA	SCM Elderbus	NA	Residential & Business Mixed Use
Airport Rd to Nelco Ave	AM = C (C) PM = C (C)	Total = 1 PI - 0, PD - 1	OCI = 39.5 *Structural Improvement*	NA	SCM Elderbus	NA	Residential & Business Mixed Use
Nelco Ave to Dudley Hill Rd	AM = C (C) PM = C (C)	Total = 7 PI - 1, PD - 6	OCI = 39.5 *Structural Improvement*	NA	SCM Elderbus	NA	Residential & Business Mixed Use
Dudley Hill Rd to Hall Rd	AM = B (C) PM = C (C)	Total = 11 PI - 4, PD - 7	OCI = 75.7 *Routine Maintenance*	NA	SCM Elderbus	8.9%	Residential & Business Mixed Use
Hall Rd to Fabyan Rd	AM = B (B) PM =C (C)	Total = 7 PI - 2, PD - 5	OCI = 49.1 *Preventative Maintenance*	NA	SCM Elderbus	NA	Wooded Area/ A Few Residential Houses
Fabyan Rd to Connecticut State Line	AM = B (B) PM = C (C)	Total = 6 PI - 2, PD - 4	OCI = 68.3 *Routine Maintenance*	NA	SCM Elderbus	8.5%	Webco Chemical Corporation

*Roadway Segment Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage (20 Unknown Crash Locations)
***OCI = Overal Condition Index, Ranging From 0 - 100

Table 24

Town of Thompson, CT
Route 197 Study Intersections
Overall Corridor Profile Findings

Study Intersection Location	CMP Intersection Level-of-Service(LOS)*	Safety Analysis**	Public Transit	Freight Movement Heavy Vehicle %	Other Considerations
Route 197/Route 31/ Walker Rd	AM = C (C) PM = C (C)	Total = 7 PI - 1, PD - 6	Dial-A-Ride	AM = 1.3% PM = 0.6%	See NECCOG Wesite for more Info www.neccog.com
Route 197/Route 131	AM = B (C) PM = B (B)	Total = 2 PI - 0, PD - 2	Dial-A-Ride	AM = 1.4% PM = 0.3%	See NECCOG Wesite for more Info www.neccog.com

*Intersection Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage

Table 25

Town of Thompson, CT
Route 197 Roadway Segments
Overall Corridor Profile Findings

Route 197 Roadway Segments	CMP Segment Level-of-Service(LOS)*	Safety Analysis**	Pavement Condition***	Bridge Condition	Public Transit	Freight Movement Daily % of Heavy Vehicles	Other Considerations
Connecticut State Line to Route 31	AM = B (C) PM = B (B)	No Reported Crashes	NA	NA	Dial-A-Ride	7.8%	Residential Land Use
Route 31 to Route 131	AM = B (C) PM = C (C)	Total = 2 PI - 0, PD - 2	NA	NA	Dial-A-Ride	7.8%	Residential & Business Land Use

*Roadway Segment Level-of-Service Existing (Projected 2018)
**PI = Personal Injury, PD = Property Damage
***OCI = Overal Condition Index, Ranging From 0 - 100

10.0 Suggested Improvement Options

Based on the field observations and analysis conducted for this corridor profile effort, the following suggested improvement options are provided for further prioritization and investigation by the host communities.

10.1 Corridor-Wide

Along the 16-mile section of Route 12/16/197 through Douglas, Webster, Dudley, and Thompson-CT there are a variety of possible improvements that deserve consideration. There are general improvements that can be implemented within the entire corridor, not just at a specific location. The following is a list of suggested improvements that can be implemented throughout the entire corridor:

- Cut back overgrown vegetation within roadway right-of-way.
- Continue to maintain all drainage structures and swales.
- Continue ongoing pavement maintenance and strongly consider resurfacing projects where needed.
- Maintain all pavement markings.
- Maintain all traffic control devices including signals, flashing beacons, and signage. Also, periodically check signal timing/phasing at signalized intersections for optimized conditions.
- Utilize a “complete streets” approach, seeking to accommodate all roadway users: motor vehicles, bicycles and pedestrians.
- Where appropriate, consider traffic calming measures.

Most of these suggested improvements can be done on a yearly basis or when needed. Maintaining pavement markings and checking signal timing/phasing are relatively simple measures which can help make sure the roadway is clearly marked and operating efficiently.

10.2 Town of Douglas

Many of the improvement options suggested for the town of Douglas are directed towards the East Douglas Village area. The following are options for consideration:

- Increase crosswalk visibility with modern warning signage.
- Improve sidewalks to meet ADA requirements.
- Improve delineation of existing on-street parking.
- Encourage use of off-street parking opportunities.
- Improve roadway guide signs.
- Consider streetscaping, perhaps including historic-style street lamps.

The final suggestion is for an intersection outside of the East Douglas Village area.

- Consider improving intersection delineation at Route 16/Route 96/SW Main Street.
- Investigate potential for signalized control at Route 16/Route 96/SW Main Street.

10.3 Town of Webster

The Route 12/16 corridor through the town of Webster passes through two distinctly different areas. From the Douglas town line to Route 193, the town has a rural character, but from Route 193 to the Dudley town line, it is very densely populated with numerous businesses, housing units, and curb cuts. The following are suggested improvement options:

- Maintain all traffic control devices including signals and signage.
- Monitor the recently reconstructed Route 12/Route 16/Route 193 intersection to assess the effectiveness of recent CMAQ funded improvements.
- Working with MassDOT, investigate signalized control at the I-395 interchange.
- Consider access management techniques; seek opportunities for curb cut consolidation.
- Strongly consider a Route 12 resurfacing effort.
- Continue to maintain crosswalks.
- Improve sidewalks where necessary to meet ADA requirements.
- Continue to maintain on-street parking supply in the downtown.
- Encourage the use of off-street parking opportunities.
- Utilize a “complete streets” approach, seeking to accommodate all roadway users: motor vehicles, bicycles and pedestrians.

At the intersection of Route 12/Park Avenue/Slater Street, the projected 2018 PM level of service (LOS) was a “C”. Timing improvements suggested by software indicate that improved timing could reduce delay by 10 seconds and result in LOS of “B”. The intersection of Route 12/Route 16/Route 193 was recently reconstructed and it is anticipated that the new LOS will be “B” in the AM and “C” in the PM. (If the intersection had not been reconstructed, the projected 2018 LOS would have been “C” in the AM and “D” in the PM.) Operating results after improvement are shown in **Table 26**.

Table 27 shows the projected 2018 LOS results along with post-improvement results, if any, for the unsignalized intersections. The two Route 16/I-395 intersections are projected to have an LOS of “F” if no improvements are made. These two intersections were analyzed with the addition of signalized control and the results showed improvement with the LOS becoming a “D” or “E”. Although the intersection would still have a poor LOS, the delays would be a great deal less than without signalized control.

10.4 Town of Dudley

Most of the suggested improvements for the town of Dudley are pertinent to the entire roadway segment and not just certain areas. However, there is the possibility for new

development at the Route 12/Route 197/Village Street intersection, giving reason for us to focus on suggestions for that particular area. The suggested improvements are:

- Continue community efforts to improve the Route 12/Route 197/Village Street intersection in order to reduce crash occurrence.
- Consider a Route 197 resurfacing effort.
- Consider access management techniques; seek opportunity for curb cut consolidation.
- Consider MassDOT "Share the Road" program to aid bike and pedestrian accommodations.
- Utilize a "complete streets" approach, seeking to accommodate all roadway users: motor vehicles, bicycles and pedestrians.

10.5 Town of Thompson, CT

Lastly, a small section of Route 197 in Thompson is included in the Corridor Profile. The section is about a quarter mile in length. The following are suggested improvement options for Route 197 in Thompson, CT:

- Monitor operations of the Route 197/Route 131 intersection maintained by ConnDOT in order to maintain optimal operations.
- Continue to maintain signal equipment and traffic control signs.

TABLE 26

Signalized Intersection
Level-Of-Service (LOS) Analyses Results:
Projected 2018 "Do-Nothing" & Projected 2018 With Improvements

		NETWORK												
		2018 Projected						W/Improvements						
	ROUTE 12/16/197	AM			PM			AM			PM			
COMMUNITY	INTERSECTION	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	Comments
	SIGNALIZED													
Douglas	None													
Webster	Route 12/Route 193	0.99	26	C	1.01	37	D	0.80	18	B	0.82	30	C	Anticipated operations w/improvements
	Park Ave/Slater St	0.76	17	B	0.91	24	C	-	-	-	0.89	12	B	Optimized timing for PM period
	North Main St	0.44	6	A	0.70	8	A	-	-	-	-	-	-	No change expected
	Lake St	0.90	15	B	0.90	17	B	-	-	-	-	-	-	No change expected
	Chase Ave/Pleasant St	0.78	16	B	0.74	16	B	-	-	-	-	-	-	No change expected
Dudley	Route 12/Village St	0.67	11	B	0.66	15	B	-	-	-	-	-	-	No change expected
	Mason Rd/Paglione Dr	0.60	7	A	0.66	9	A	-	-	-	-	-	-	No change expected
	Airport Rd	0.68	10	A	0.78	11	B	-	-	-	-	-	-	No change expected
Thompson-CT	Route 131	0.84	20	C	0.46	17	B	-	-	-	-	-	-	ConnDOT location

1) V(volume)/C(capacity) is for worst lane group; C is maximum flow under prevailing conditions
2) Delay in seconds
3) Delay and LOS are for minor street approach

TABLE 27

Unsignalized Intersection
Level-Of-Service (LOS) Analyses Results:
Projected 2018 "Do-Nothing" & Projected 2018 With Improvements

		NETWORK												
		2018 Projected						W/Improvements						
	ROUTE 12/16/197	AM			PM			AM			PM			
COMMUNITY	INTERSECTION	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	V/C[1]	Delay[2]	LOS	Comments
	UNSIGNALIZED[3]													
Douglas	North Main St	0.63	25	C	0.47	18	C	-	-	-	-	-	-	No change expected
	North St/Bowen Ct	0.36	77	F	1.24	148	F	-	-	-	-	-	-	No change expected
	Depot St	0.78	54	F	0.88	103	F	-	-	-	-	-	-	No change expected
	West St	0.86	91	F	0.64	63	F	-	-	-	-	-	-	No change expected
	Franklin St	0.32	24	C	0.18	22	C	-	-	-	-	-	-	No change expected
	SE Main St/Common St	0.45	27	D	0.48	45	E	-	-	-	-	-	-	No change expected
	Route 96/SW Main St	1.34	207	F	1.46	266	F	-	-	-	-	-	-	Monitor operations of this non-standard intersection
	Cedar St	0.18	20	C	0.06	17	C	-	-	-	-	-	-	No change expected
Webster	Lower Gore Rd	1.67	300	F	1.50	300	F	-	-	-	-	-	-	No change expected
	I-395 NB Ramps/Sutton Rd	>2.00	300	F	>2.00	300	F	0.97	46	D	0.97	48	D	Investigate potential for signalized control working w/MassDOT
	I-395 SB Ramps	1.13	71	F	>2.00	300	F	1.02	40	D	1.11	66	E	Investigate potential for signalized control working w/MassDOT
	Hillside Ave/Racicot Ave	0.21	33	D	0.30	74	F	-	-	-	-	-	-	No change expected
	Grandview Ave/Brodeur Ave	0.08	31	D	0.22	63	F	-	-	-	-	-	-	No change expected
	Mechanic St	0.20	31	D	0.47	57	F	-	-	-	-	-	-	No change expected
	School St	0.76	60	F	0.76	71	F	-	-	-	-	-	-	No change expected
Dudley	Brandon Rd	0.36	34	D	0.78	115	F	-	-	-	-	-	-	No change expected
	Nelco Ave	0.03	13	B	0.07	15	B	-	-	-	-	-	-	No change expected
	Dudley Hill Rd/Indian Rd	0.12	21	C	0.09	23	C	-	-	-	-	-	-	No change expected
	Hall Rd/Lyons Rd	0.31	25	C	0.34	29	D	-	-	-	-	-	-	No change expected
	Center Rd/Fabyan Rd	0.18	17	C	0.51	45	E	-	-	-	-	-	-	No change expected
Thompson-CT	Route 31/Walker Rd	0.20	22	C	0.18	18	C	-	-	-	-	-	-	ConnDOT location

1) V(volume)/C(capacity) is for worst lane group; C is maximum flow under prevailing conditions

2) Delay in seconds

3) Delay and LOS are for minor street approach

Comments

Peak hour delays for side streets at unsignalized locations are significant at many locations.
Following suggestions for host communities:
- Continue to maintain stop signs and stop line pavement markings
- Selectively cut back overgrown vegetation within roadway right-of-way to maintain lines of sight

In the more suburban environment of Webster and parts of Dudley, maintain lines of sight through well placed items such as mail boxes and benches, and other "street furniture" by keeping nearby plantings low and minimizing obstructions.

Central Massachusetts Regional Planning Commission
2 Washington Square, 2nd Floor
Worcester, MA 01604-4016
Voice: (508) 756-7717
Fax: (508) 792-6818
Email: rrydant@cmprc.org