GROTON PLAN OF CONSERVATION AND DEVELOPMENT/ MUNICIPAL COASTAL PROGRAM UPDATE

TRANSPORTATION AND CIRCULATION

April 2013

Prepared for:
Town of Groton
Planning Commission

Prepared by:
MILONE & MACBROOM®

TABLE OF CONTENTS

Transportation and circulation 3

Existing Conditions 3

Change in Travel Patterns 17

Traffic Accidents and Congestion 18

Transit 23

Non-Motorized Transportation Networks 24

Groton-New London Airport 28

Rail 29

Town Projects 29

Southeastern Connecticut Council of Governments Transportation Initiatives 30

Sources 33

TRANSPORTATION AND CIRCULATION

A safe, efficient and economically viable transportation system is a critical component to the economic and social well-being of Groton. The system, comprised of a surface transportation network of highways, streets, an airport, walkways, greenways, bikeways and mass transit must provide for both inter-town and intra-town travel movements.

The objective of this memo is to help Town officials and the public focus on the transportation needs of the community and propose improvements where needed. To this end, existing conditions have been evaluated, critical roadway needs identified and opportunities for future improvements to the transportation system proposed.

EXISTING CONDITIONS

Route 1, Interstate 95, the location of historic coastal villages such as Noank and Mystic, and the Town's two bordering rivers: the Mystic and the Thames, have all influenced Groton's roadway system. The roadway network in Groton is comprised of a series of interconnected corridors with varying levels of functional classification. According to the Connecticut Department of Transportation (CT DOT), as of December 31, 2010, Groton was served by 169.72 miles of public roads, 76% of which were Town roads (128.77 miles) and 40.95 miles were state roads. Since 1989, the Town has added 10.55 miles of Town-maintained roadway to its inventory. The *Roads Base Map* illustrates Town-maintained and State-maintained roads throughout the Town of Groton.

FUNCTIONAL CLASSIFICATION OF ROADWAYS

Transportation officials classify roadways based on traffic volumes, accessibility and function. CT DOT has identified six different levels of roadway classifications in Groton: Principal Arterial - Interstate, Principal Arterial - Expressway, Principal Arterial - Other, Minor Arterial, Collector and Local Road. In some cases, the actual classification of a road may change along its length or may operate differently than its assigned functional classification. Federal, state and regional transportation planning organizations use regional road classifications to identify and prioritize road projects for funding under the Transportation Improvement Program.

The *State and Local Functional Road Classification Map* illustrates the distinctions in roadway types as described below.

The highest functional roadway classification in Groton is Principal Arterial - Interstate. Roads in this class provide limited-access, multi-lane, high volume, high capacity facilities intended to provide for and accommodate high speed travel, over long distances with relatively few points of access to the local street system. Within Groton, Interstate 95 is classified as Principal Arterial - Interstate.

Groton's second highest functional roadway classification is Principal Arterial - Expressway. This classification of roadway is similar in many ways to Interstate Arterials, without the interstate designation. The Clarence B. Sharp Highway (Route 349) from its junction with Interstate 95 to Meridian Street is classified as an Expressway in Groton.

The next order of roadway classification is Principal Arterial - Other. This roadway type connects major development and activity centers within Groton to each other as well as to activity centers in other towns and to accessible expressways. The design of this type of road typically accommodates higher speeds and greater traffic

carrying capacity, with enhanced horizontal and vertical geometry. To maintain the road's thru-traffic carrying capacity and higher design speeds, this road type would ideally provide a more restrictive level of access control to adjacent land uses than do other roads. The only Principal Arterial - Other roadways within Groton are a portion of Route 1, from its intersection with the Clarence B. Sharp Highway to Route 184, and Route 12.

Minor Arterials are ranked next within the hierarchy of roadway classifications. This type of roadway connects principal arterials and augments the traffic carrying capabilities of the entire roadway system. Minor Arterials provide for a greater degree of access to abutting land uses and typically do not provide the same level of through mobility of the higher classifications. Groton's minor arterial streets include the following roads or portions thereof:

- Allyn St.
- Benham Rd.
- Bridge St.
- Chester St.
- Clarence B. Sharp Highway
- Eastern Point Rd.
- Fort Hill Rd.
- Gold Star highway
- High Rock Rd.
- John St.
- Kings Highway
- Long Hill Rd.
- Mitchell St.
- Mystic St.
- New London Rd.
- Newtown Rd.
- North Rd.
- North St.
- Poquonnock Rd.
- Rainville Ave.
- Route 27
- South Rd.
- Tower Ave.
- West Main St.

The next classification of roadways, Collector Streets, provides a higher degree of access to abutting land uses and a somewhat diminished level of through mobility than the higher classifications. Groton's collector streets, or portions thereof, include the following:

- Brandegee Ave.
- Bridge St.
- Buddington Rd.
- Colonel Ledyard Highway
- Cow Hill Rd.
- Crystal Lake Rd.
- Drozdyk Dr.
- Elm St.
- Fairview Ave.
- Flanders Rd.
- Groton Long Point Rd.
- Gungywamp Rd.
- Meridian St.
- Meridian St. Ext.
- Military Highway
- Mystic St,
- Noank Rd.
- Poquonoock Rd.
- Shennecossett Rd.
- Shewvill Rd.
- Thames St.
- Thomas Rd.
- Water St.

Local Roadways, the final classification of roadways, includes all remaining streets. This classification contains a high percentage of street mileage, with roads that provide the highest level of access to abutting land uses and the lowest level of through mobility.

A review of the State Functional Classification from the 2002 POCD revealed the following changes:

- Route 349 from Meridian St to Rainville Ave – Principal Arterial-Other to Minor Arterial
- Meridian St. and Meridian St. Ext. – Local to Collector
- Route 117 North of Route 184 – Collector to Minor Arterial
- Route 215 – Minor Arterial to Collector
- Poquonnock Rd. – Minor Arterial to Collector
- Shennecosett Rd. – Local to Collector
- Eastern Point Rd. – Collector to Minor Arterial
- Drozdyk Dr. – Local to Collector
- Bridge St. (City) West of interchange – Minor Arterial to Collector

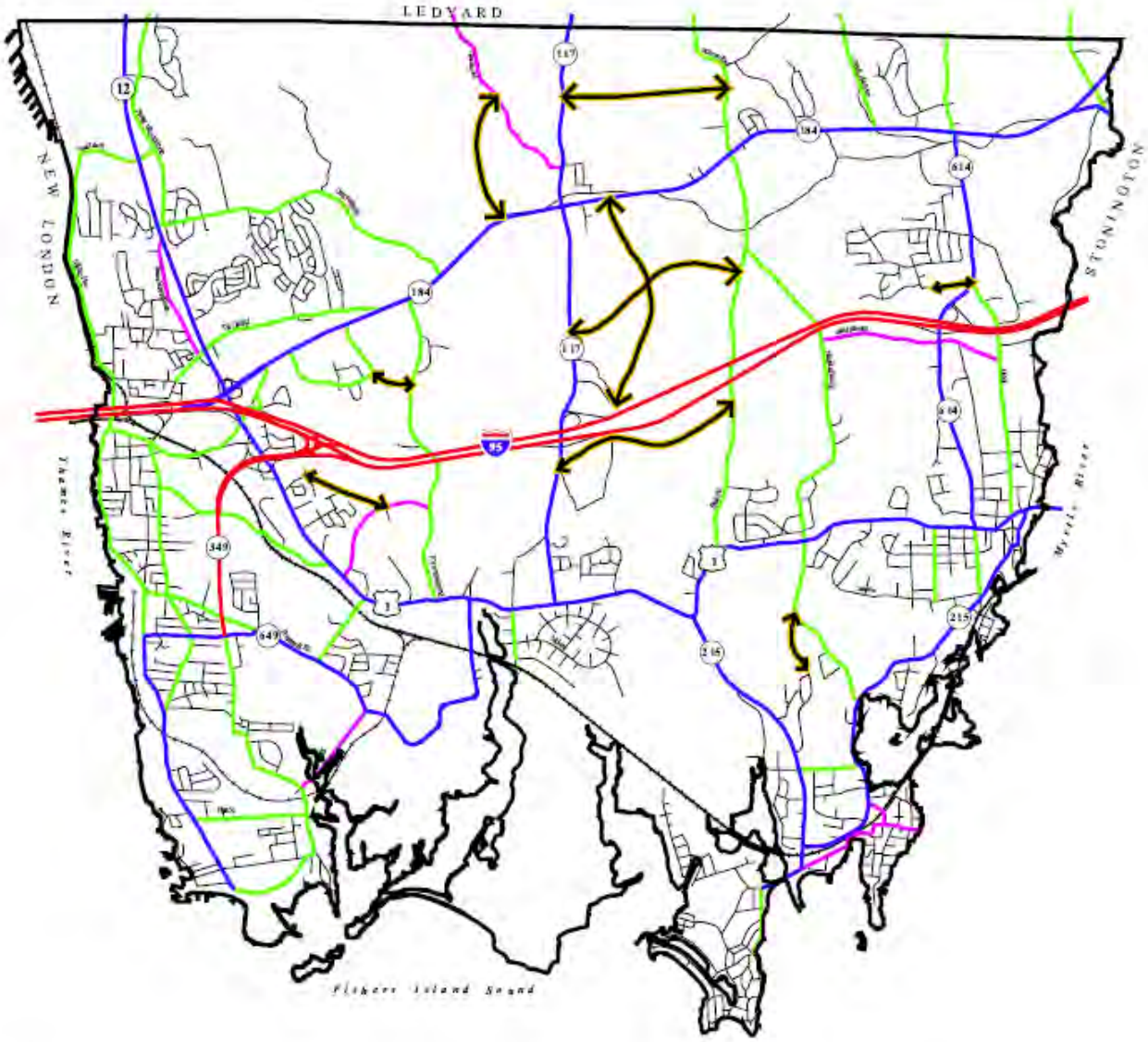
In addition to the State's Functional Classification, the Town has established a local roadway classification. Groton's roadway classification is shown in the table below.

Town of Groton Local Collectors		
Antonino Road	Grove Avenue (Mystic)	Ocean View Avenue
Bridge Street	Gungywamp Road	Ohio Avenue
Brook Street (portion)	High Street (portion)	Pearl Street (Mystic) (portion)
Buddington Road	Irving Street (portion)	Poquonnock Road (portion)
Central Avenue (portion)	Judson Avenue	Pumpkin Hill Road
Colonel Ledyard Highway	Kings Highway	River Road
Cow Hill Road (portion)	Lambtown Road	Sandy Hollow Road
Crystal Lake Road	Main Street (portion)	Shewville Road
Depot Road (portion)	Marsh Road	South Pleasant Valley Road
Drozdyk Drive	Meridian Street	Terrace Avenue (portion)
Fishtown Road	Midway Oval	Thomas Road
Fitch Avenue	Military Highway	Toll Gate Road
Flanders Road	Mosher Avenue	Walker Hill Road (portion)
Gales Ferry Road	Nooank-Ledyard Road	West Mystic Avenue (portion)
Groton Long Point Road (portion)	North Pleasant Valley Road	Winding Hollow Road
Source: Town of Groton Department of Public Works (2013).		

As shown on the Roads Base Map, Groton has a well-established hierarchy of roads to meet the needs of residents and businesses. Historical development patterns have resulted in a greater number of north-south roads versus east-west roads. As shown on the figure below, with east-west traffic restricted to Routes 1, 184 and Interstate 95, the 2002 POCD Transportation Plan identified several major east-west connections between Route 117 and Flanders Rd. At this time, the validity of these east-west connections should be reviewed for their inclusion into the plan update. Although not major east-west connectors, Great Brook Rd and Ledge land Dr are newly constructed local roads that create connections identified in the 2002 POCD.

Transportation Plan

Town of Groton, CT

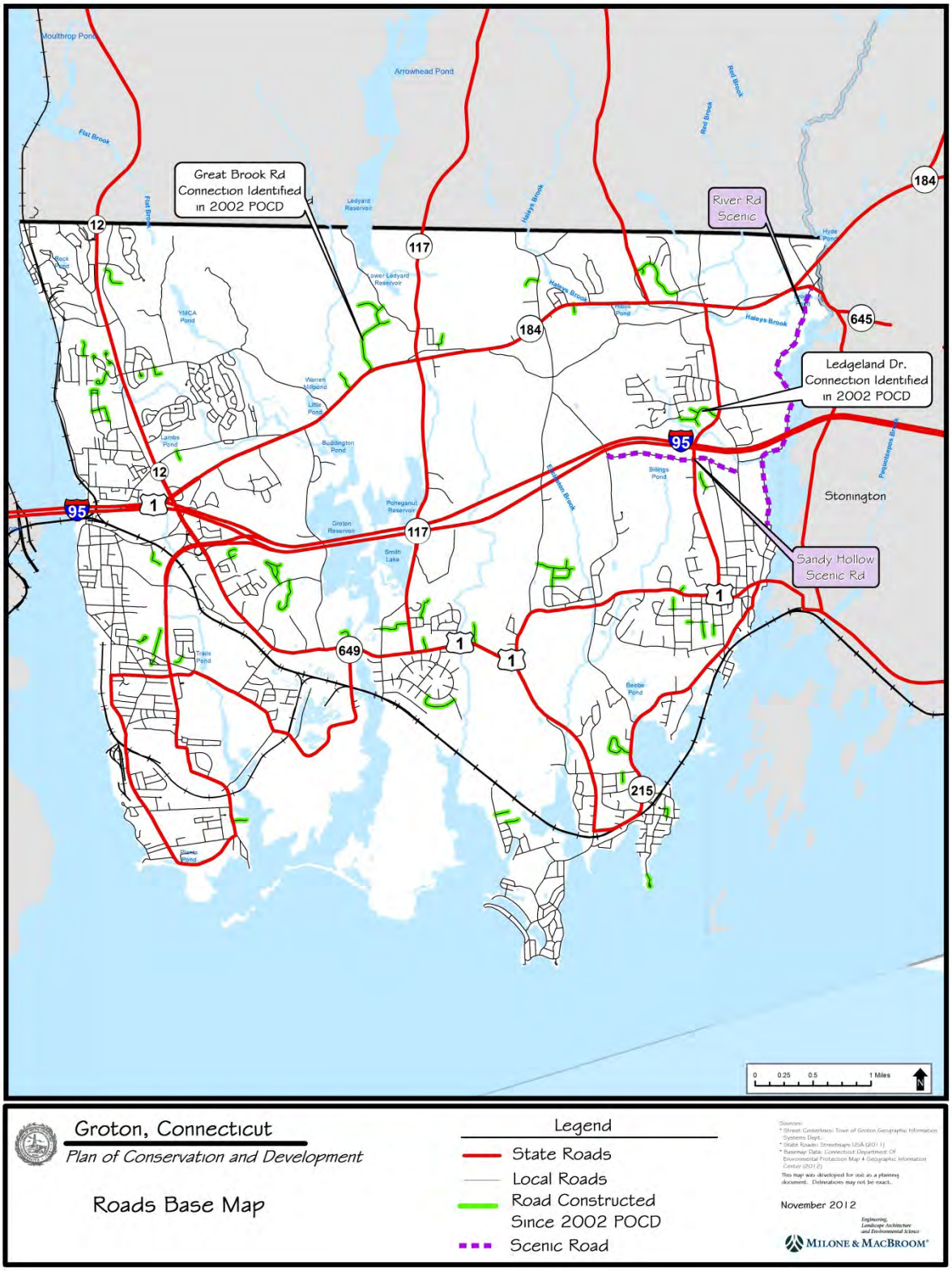


Note:
Potential connections are only shown conceptually; detailed engineering and environmental analysis will be required to determine specific locations. These roads are intended to be built as development occurs. Potential connections could be either public roads or appropriate private connections.

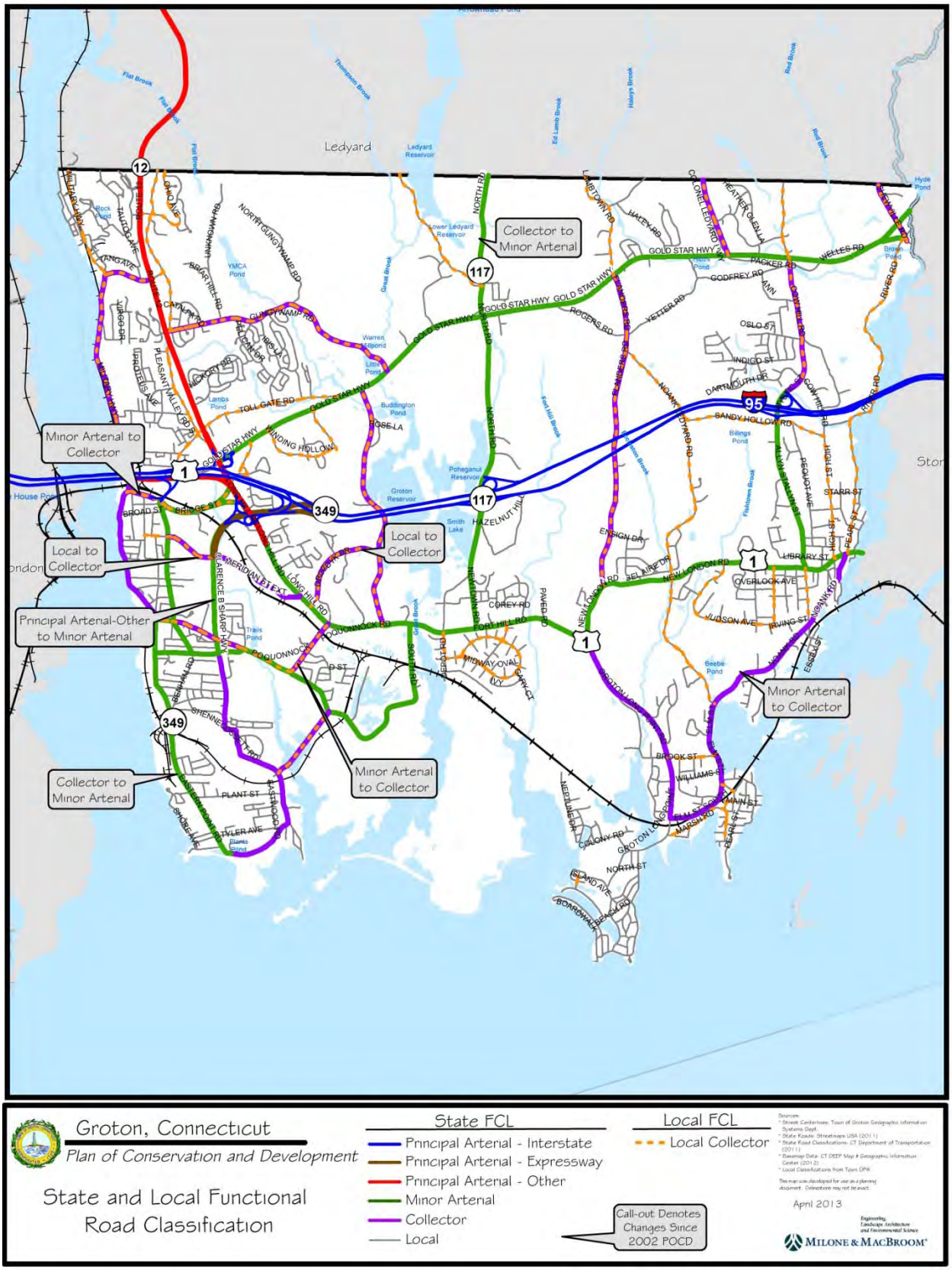
LEGEND
- Limited Access Highway
- Arterial Road
- Major Collector Road
- Minor Collector Road
- Local Road
- Potential Connections

Other
- Rail

Map 1


Great Brook Rd
Connection Identified
in 2002 POCD
River Rd
Scenic
Ledgeland Dr.
Connection Identified
in 2002 POCD
Sandy Hollow
Scenic Rd
Stonington
Groton, Connecticut
Plan of Conservation and Development
Roads Base Map
Legend
State Roads
Local Roads
Road Constructed
Since 2002 POCD
Scenic Road
November 2012
MILONE & MACBROOM

Map 2

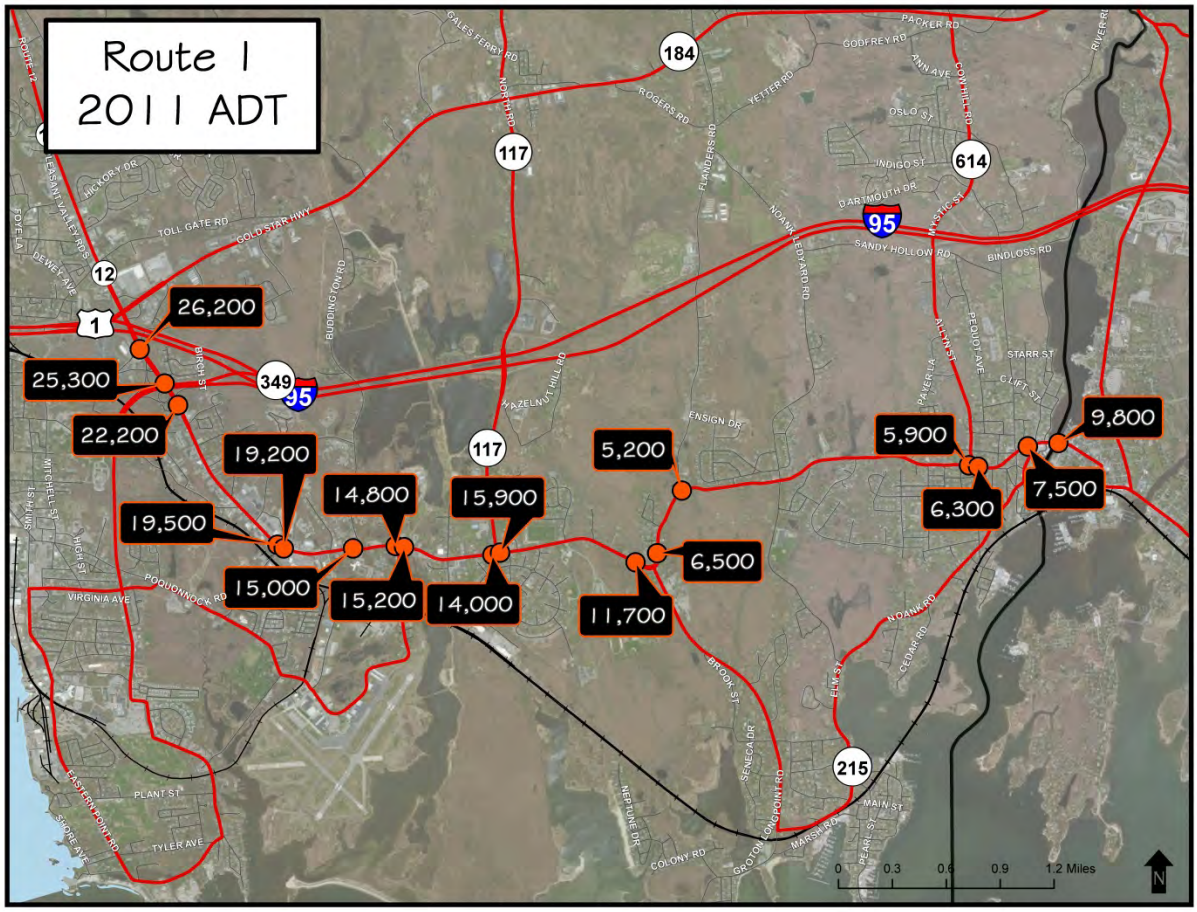

Ledyard
Collector to Minor Arterial
Minor Arterial to Collector
Local to Collector
Local to Collector
Principal Arterial-Other to Minor Arterial
Minor Arterial to Collector
Minor Arterial to Collector
Collector to Minor Arterial
Groton, Connecticut
Plan of Conservation and Development
State and Local Functional Road Classification
State FCL
Principal Arterial - Interstate
Principal Arterial - Expressway
Principal Arterial - Other
Minor Arterial
Collector
Local
Local FCL
Local Collector
Call-out Denotes Changes Since 2002 POCD
April 2013
MILONE & MACBROOM

State Roadways - Average Daily Traffic Volumes

The following describes existing traffic conditions on State roadways within Groton, using available traffic count data from CT DOT.

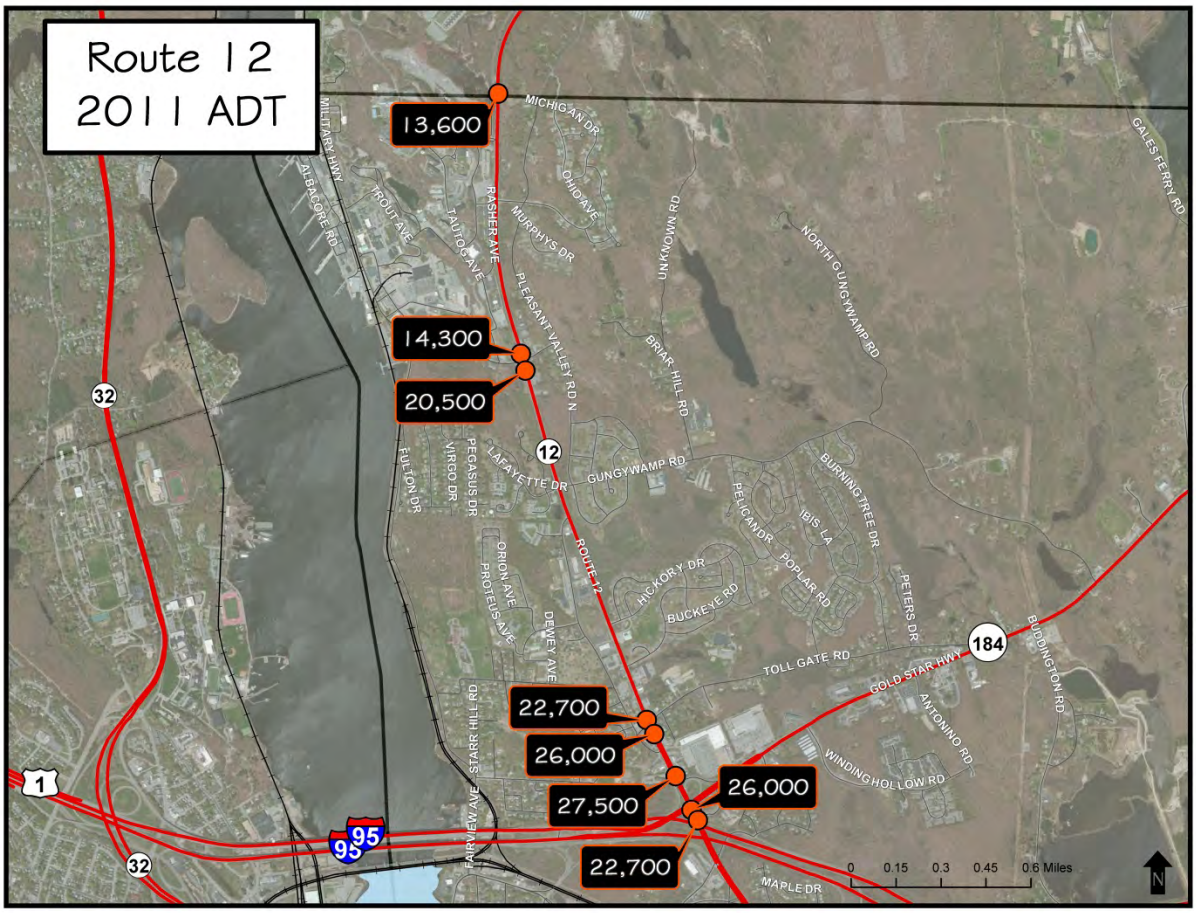
U.S. Route 1 extends east to west through Groton from its western border with New London to its eastern border with Stonington. At a regional level, U.S. Route 1 runs north-south along the Atlantic Coast from Maine to Florida. In Groton, Route 1 provides access to a variety of uses, though most establishments are commercial or residential in character. In its eastern location, it is a two-lane road with parallel parking in the high-pedestrian activity center of Mystic Village. The central portion of Route 1 through Groton is a two-lane road servicing primarily residential and community service areas. The western third of Route 1 through Groton is a two to four-lane road servicing significant commercial developments. Average daily traffic volumes (ADTs) along Route 1 in Groton are shown in the following figure.

Figure 1



State Route 12 is a principal arterial extending from the junction of Interstate 95/ U.S. Route 1 north to the Ledyard town line. Regionally, Route 12 runs north-south from Danielson to Groton in eastern Connecticut. The southern portion of Route 12 in Groton, south of Crystal Lake Road, is a four-lane road through a busy commercial area. High traffic volumes in this section also result from route 12 serving as a main access to the Naval Base, located off of Crystal Lake Rd. North of Crystal Lake Rd., Route 12 is a two-lane road that provides access to less congested, more residential areas. As is evident in the figure below, traffic volumes decrease significantly on Route 12 north of Crystal Lake Rd.

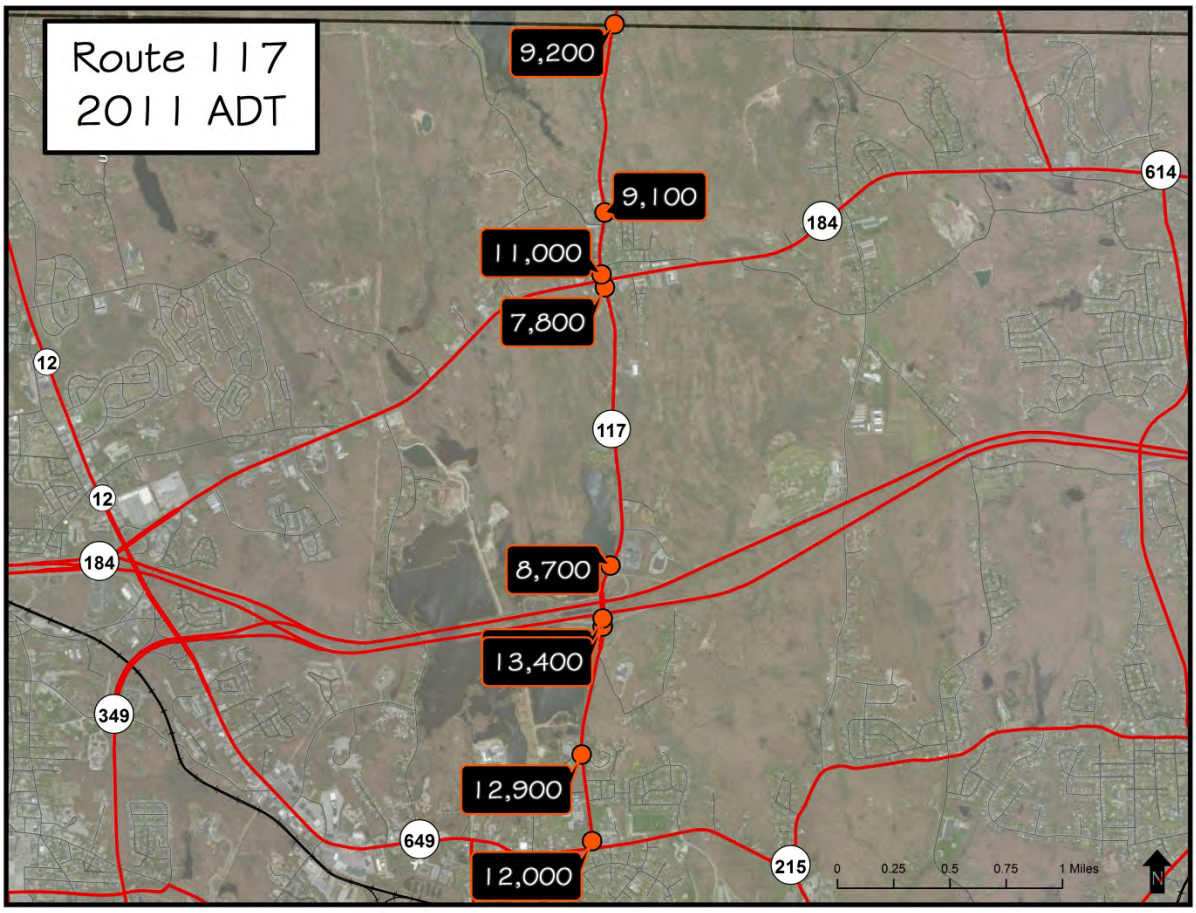
Figure 2



A short section of State Route 27 traverses the northeast portion of Groton, from its junction with Route 184 to the Stonington Town Line in Old Mystic. Route 27 is a north-south route from Old Mystic to Mystic on the Stonington side of the Mystic River. ADTs on Route 27 in Groton are: 4,600 near the Town Line, and 3,100 near Route 184.

State Route 117 is a regional road connecting Route 2 in Preston to Route 1 in Groton. Route 117 is a two-lane road throughout its sections located in Groton. In the southern portion, south of I-95, Route 117 provides access to civic and residential uses. In the central section of Route 117 in Groton, Route 117 provides access to I-95 and the mystic Marriott Hotel and Conference Center. In the northern portion, Route 117 provides access to mainly residential areas and a small neighborhood commercial area in Center Groton. More traffic travels the southern portion of Route 117 in Groton than other sections, as shown in the figure below.

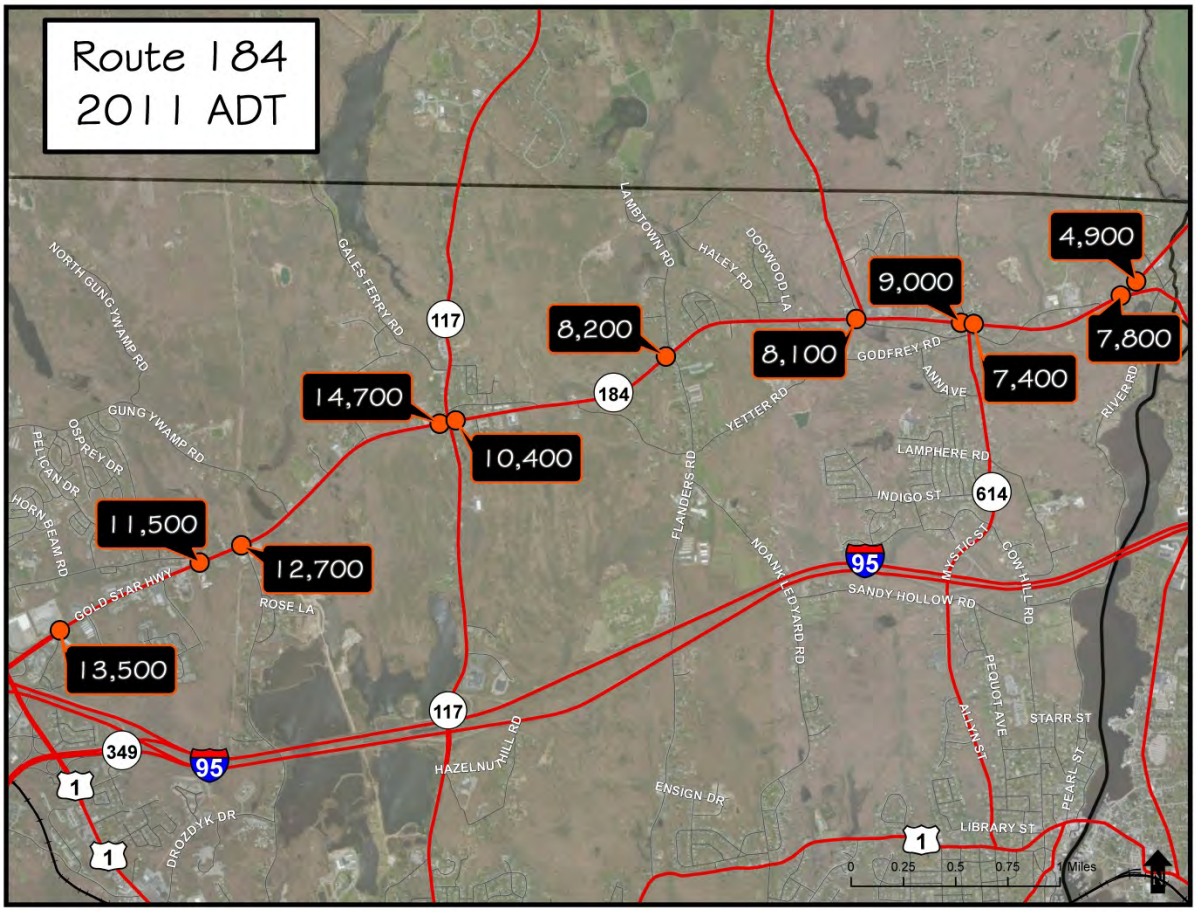
Figure 3



State Route 184 is a regional east-west road that parallels Interstate 95 through Groton, Stonington and North Stonington. In Groton, route 184 begins at the juncture of Interstate 95, U.S. Route 1 and State Route 12. Route 184 is a two-lane road that serves commercial areas in its western reach through Groton. East of Buddington Rd., Route 184 serves less dense commercial and residential uses, until reaching Center Groton which has more densely developed, neighborhood-scale commercial uses. East of the Center Groton node, Route 184 serves more sparsely

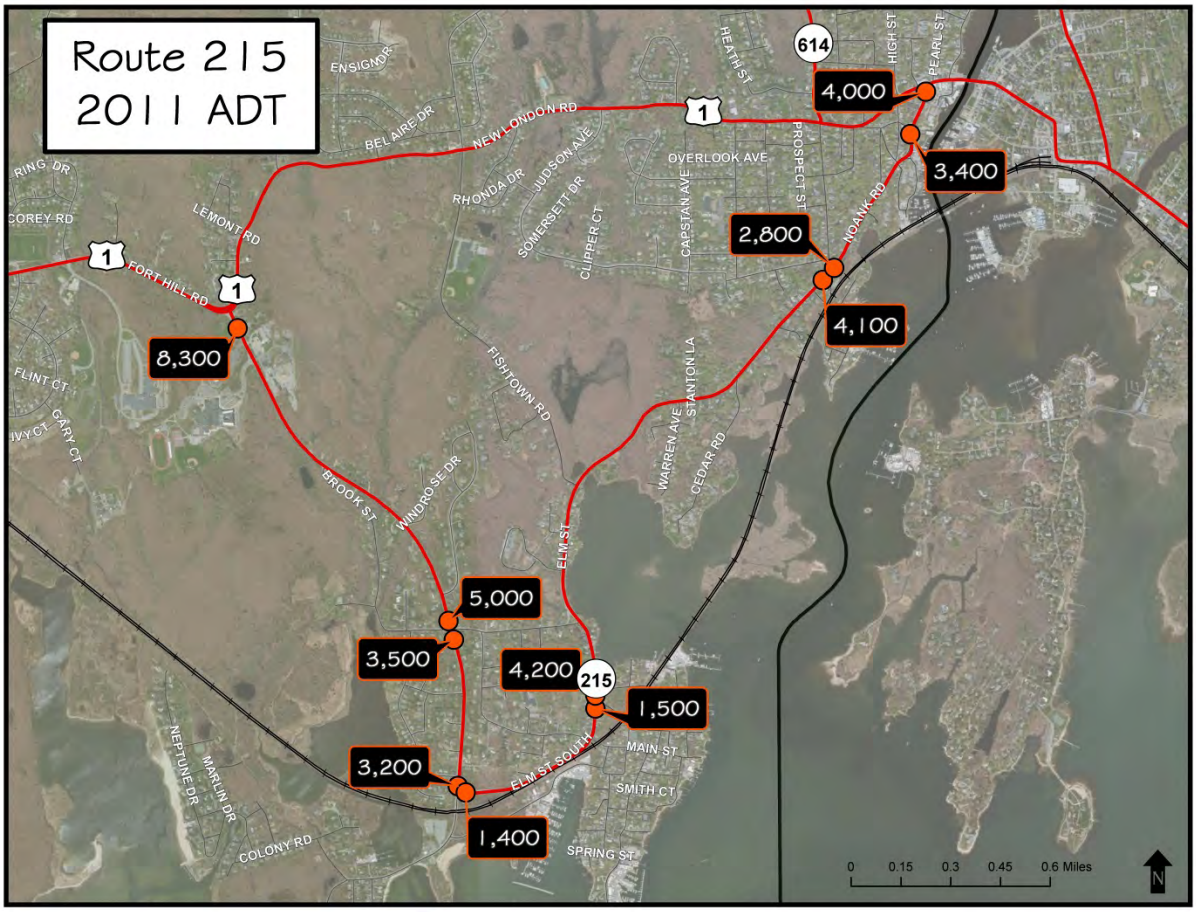
settled residential and neighborhood commercial uses. The following figure shows average daily traffic counts along Route 184 in Groton.

Figure 4



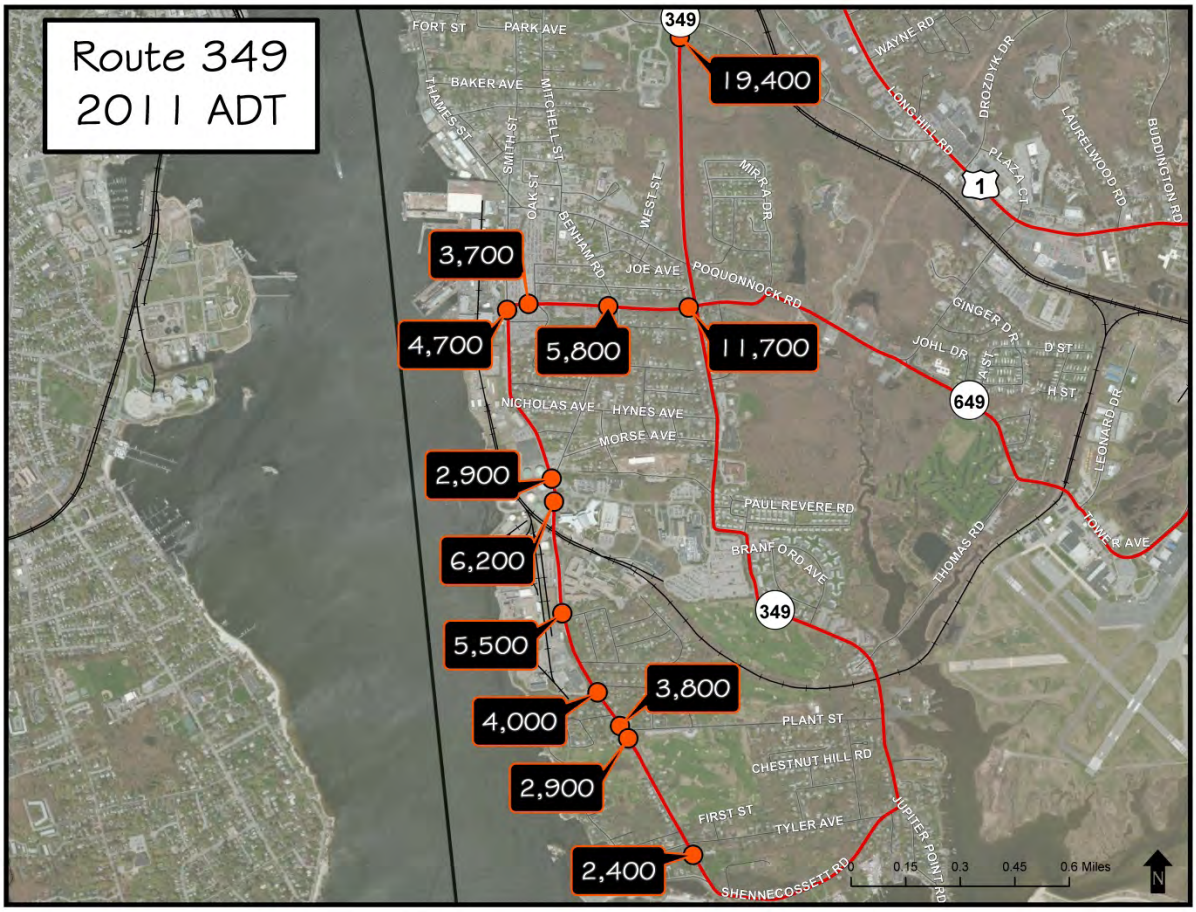
State Route 215 is a loop road off of U.S. Route 1 providing access to coastal villages and areas in Southeastern Groton and connects Mystic and Noank. Route 215 is a two-lane road that starts as Groton Long Point Rd. running south from Route 1 (where Route 1 changes from Fort Hill Rd. to New London Rd.). Route 215 runs southeast through an area of civic uses (Police, Public Works, the High School) and residential uses before turning east off Groton Long Point Rd., becoming South Elm Street. As South Elm Street, Route 215 runs parallel to the Amtrak rail line for about 2,000 feet before turning north, passing residential land uses and the main access route into Noank Village. At the point where Fishtown Rd. intersects Route 215, it becomes Noank Rd. and runs northeast to through West Mystic into Mystic Village, where it intersects Route 1 again. Average Daily Traffic counts vary widely along Route 215, as shown in the figure below.

Figure 5


Route 215
2011 ADT
4,000
3,400
2,800
4,100
8,300
5,000
3,500
4,200
1,500
3,200
1,400
614
1
215
ENSIGNOR
BELAIRE DR
NEW LONDON RD
HEATH ST
HIGH ST
PEARL ST
OVERLOOK AVE
PROSPECT ST
NOANK RD
RHONDA DR
JUDSON AVE
SOMERSETT DR
CLIPPER CT
CAPSTAN AVE
LEMONT RD
FORT HILL RD
FISHTOWN RD
STANTON LA
WARREN AVE
CEDAR RD
BROOK ST
WINDROSE DR
ELM ST
ELM ST SOUTH
MAIN ST
SMITH CT
SPRING ST
COLONY RD
NEPTUNE DR
MARLIN DR
FLINT CT
GARY CT
COREY RD
0 0.15 0.3 0.45 0.6 Miles
N

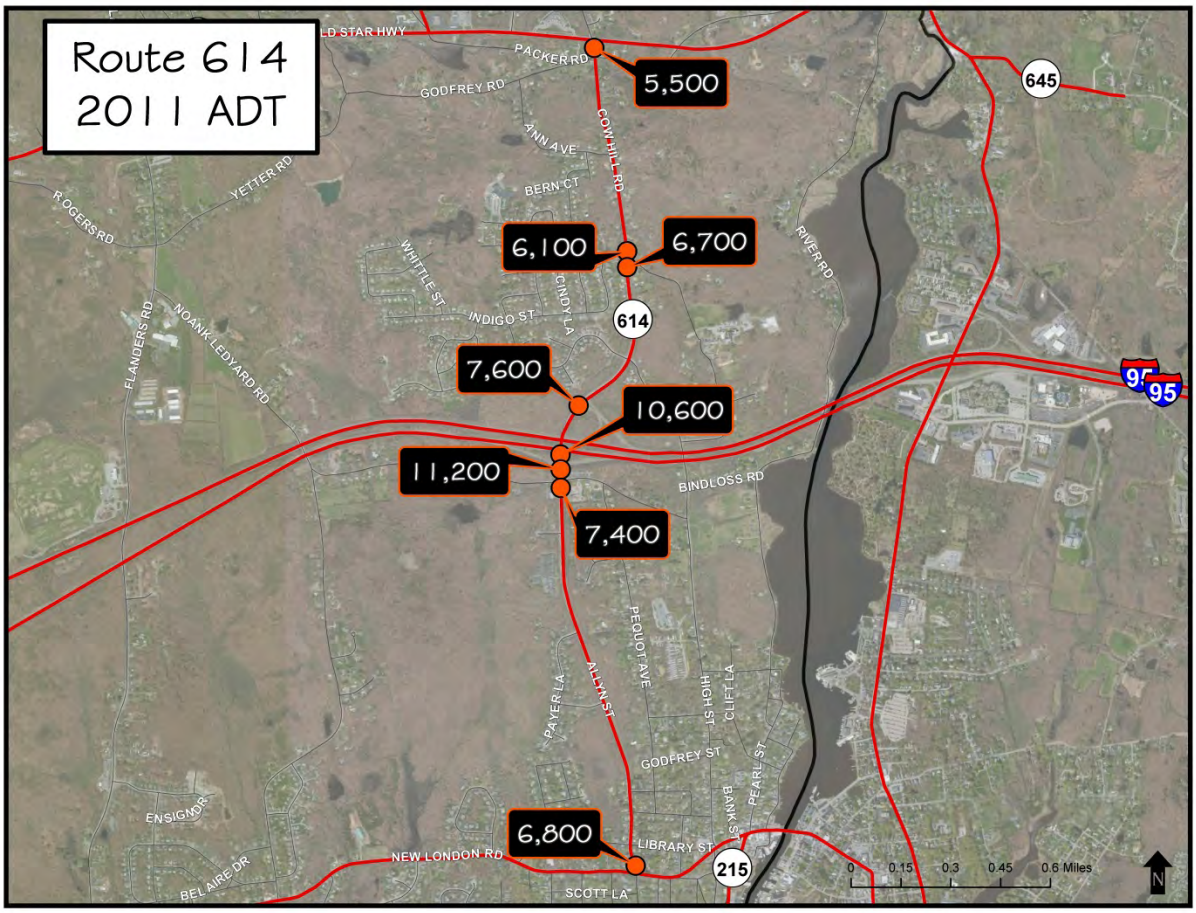
State Route 349 is a route that connects major industrial and employment land uses in the City of Groton and Eastern Point to Interstate 95. It begins as the Clarence B. Sharp Highway heading south off of Interstate 95, near the intersections of Routes 1 and 12. In this northern portion, Route 349 is a limited access highway. Route 349 turns west along Rainville Ave., continuing as a four-lane road. Route 349 then heads south along Eastern Point Road, with two lanes heading southbound, and one-lane in the northbound direction, until its intersection with Benham Road. From there, Route 349 continues south as Eastern Point Road, as a two-lane road until its southern terminus, where Shennecossett Road begins. In this southern portion, Route 349 provides access to residential areas. The Average Daily Traffic counts for Route 349 are shown in the following figure.

Figure 6



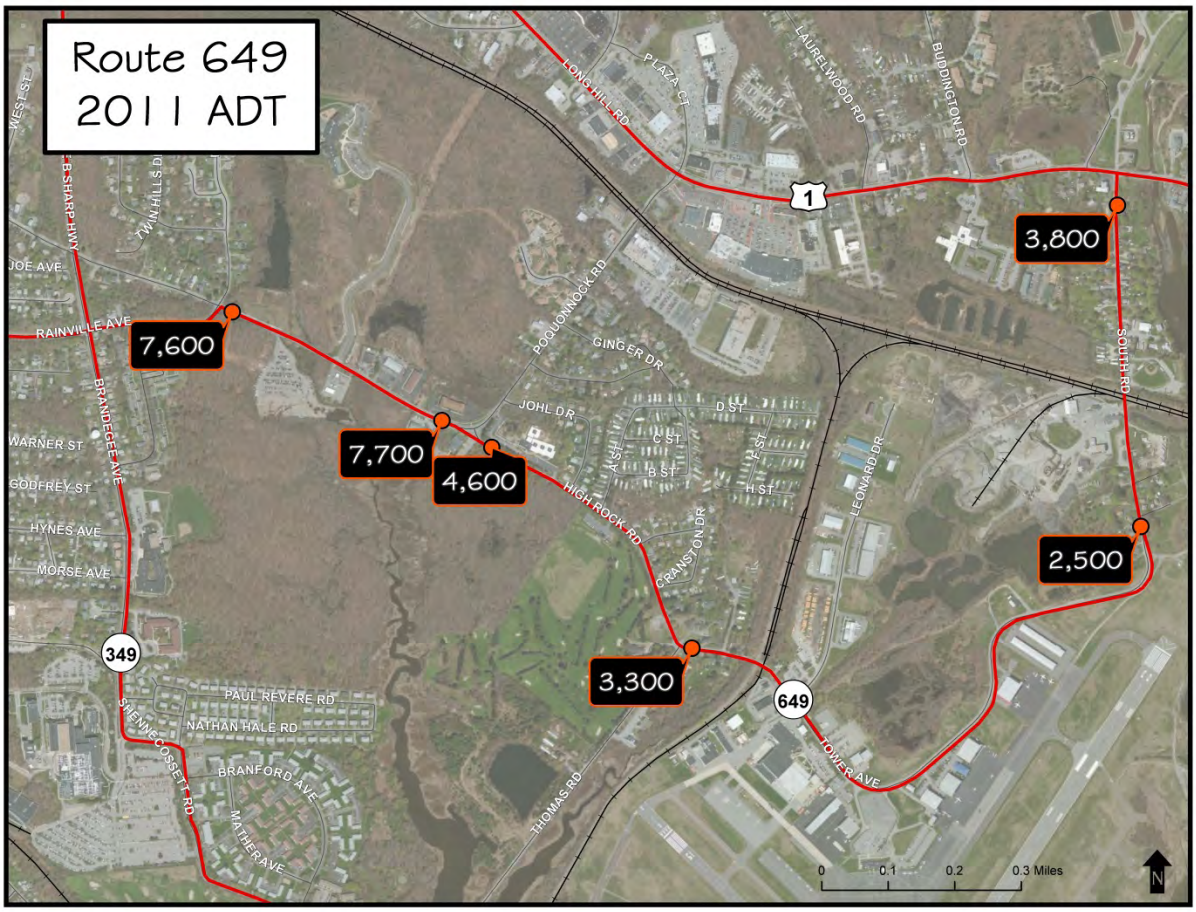
State Route 614 is a two-lane road that runs north-south through eastern Groton, connecting Route 184 and Route 1. The northern portion of Route 614 is called Cow Hill Road and services primarily residential areas, and the Mystic Education Center. From its interchange with Interstate 95 south, Route 614 is called Allyn Street and serves as a route into West Mystic, servicing increasingly dense residential uses as it approaches Route 1, where it ends. Average Daily Traffic counts are shown in the following figure.

Figure 7



State Route 649 is a two-lane road that runs east-west through western Groton, connecting Route 349 and US Route 1. The western portion of Route 649 is called High Rock Road and services a mix of commercial, industrial and residential uses. From its juncture with Tower Road, Route 649 is called Tower Ave, servicing the airport and surrounding industrial uses. Northeast of the airport Route 649 turns northward and becomes South Road, servicing a primarily residential area as well as the Tilcon facility before ending at US Route 1. Average Daily Traffic counts are shown in the following figure.

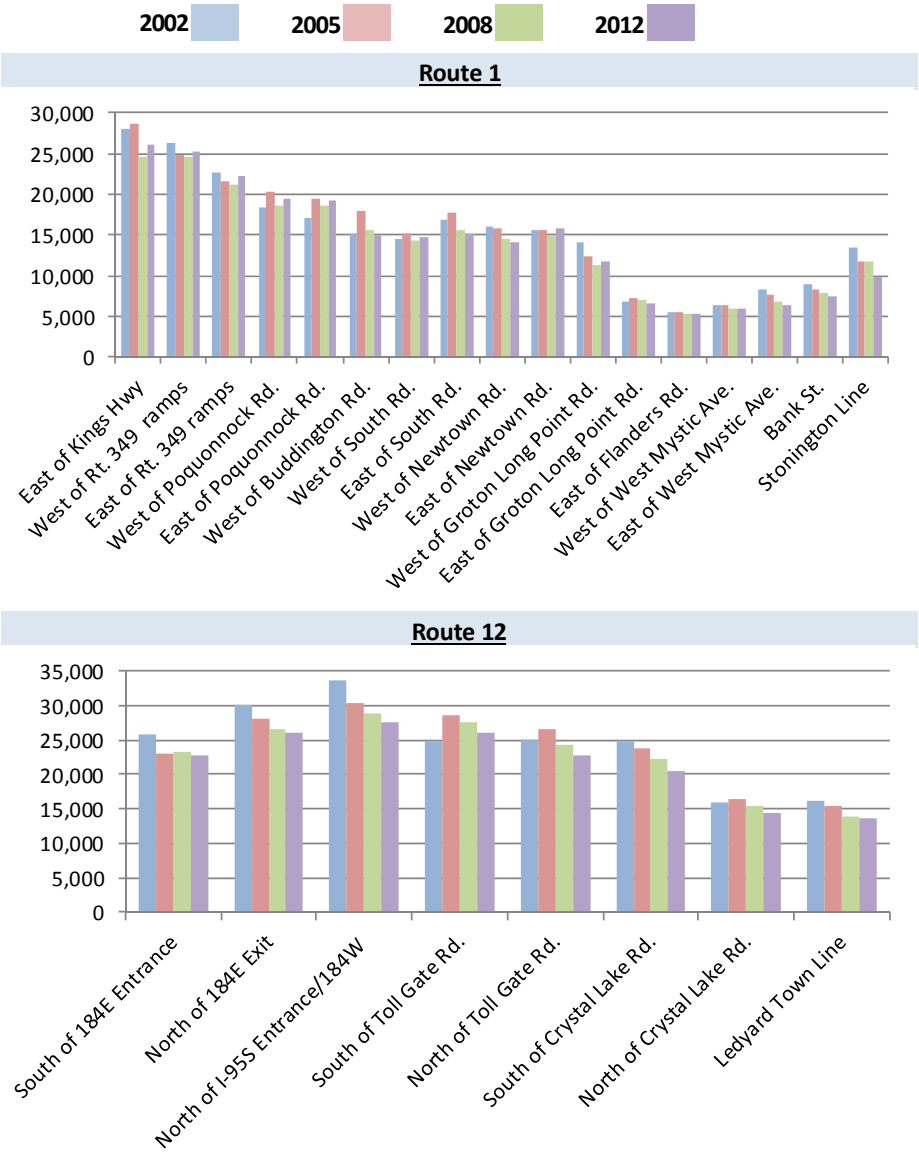
Figure 8


Route 649
2011 ADT
7,600
7,700
4,600
3,300
2,500
3,800
LONG HILL RD
PLAZA CT
LAURELWOOD RD
BUDDINGTON RD
1
B SHARP HWY
TWIN HILLS DR
JOE AVE
RAINVILLE AVE
BRANDEGEE AVE
WARNER ST
GODFREY ST
HYNES AVE
MORSE AVE
POQUONNOCK RD
GINGER DR
JOHL DR
D ST
C ST
B ST
A ST
F ST
H ST
HIGH ROCK RD
CRANSTON DR
LEONARD DR
SOUTH RD
349
PAUL REVERE RD
NATHAN HALE RD
SHENNECOSSETT RD
BRANFORD AVE
MATHER AVE
THOMAS RD
649
TOWER AVE
0
0.1
0.2
0.3 Miles
N

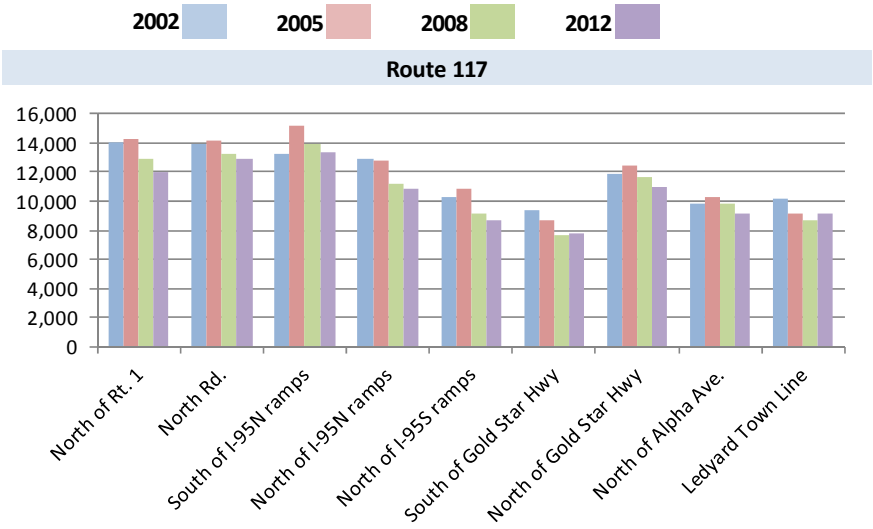
CHANGE IN TRAVEL PATTERNS

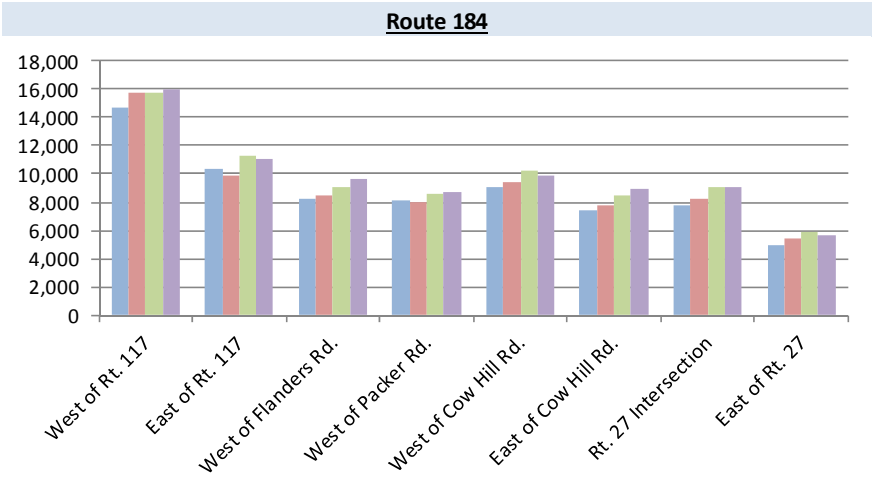
In assessing changes in travel patterns for entire roadways, all routes experienced a decline in average daily traffic volumes from 2002 to 2011. There has been a steady decrease in traffic volumes around the state since the mid-2000s, largely attributed to economic conditions. The same phenomenon is apparent in Groton in the following *Traffic Change* tables. Route 215 has experienced the largest decrease in traffic volumes since 2002, while Route 1 has experienced the least decrease. Indeed, points along Route 1, especially around Poquonnock Rd., have in fact experienced increased traffic volumes.

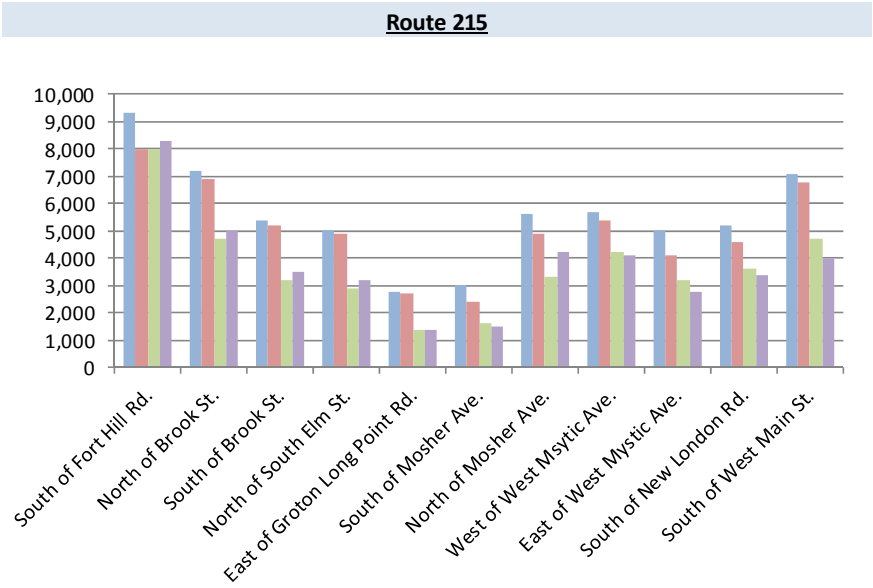
Figure 8 **Changes in Traffic Patterns 2002-2011**



Changes in Traffic Patterns 2002-2011



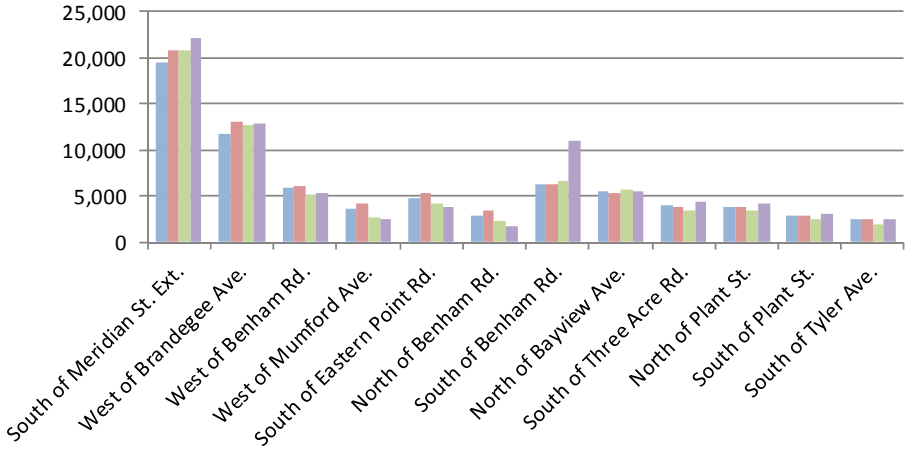




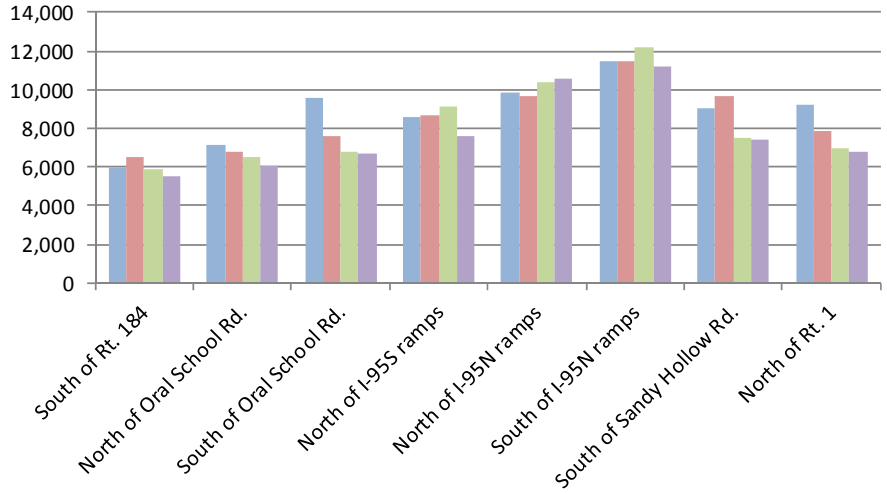
Changes in Traffic Patterns 2002-2011

2002 2005 2008 2012

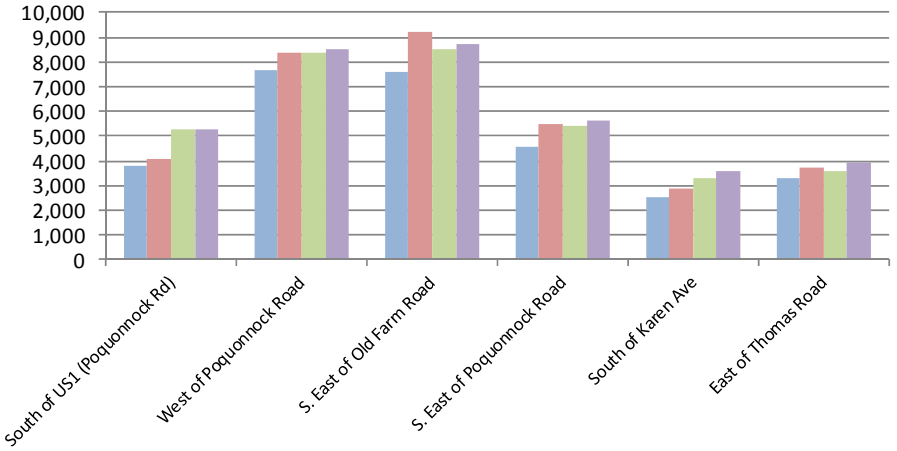
Route 349



Route 614



Route 649



TRAFFIC ACCIDENTS AND CONGESTION

Frequent accidents in specific locations may indicate problems with the road network, such as congestion or inadequate roadway geometry. The CT DOT maintains a database of accident data on state and federal roadways. While accidents can be expected to occur anywhere, when a location experiences more accidents than the average similar roadway, it is included on the Suggested List of Surveillance Study Sites (SLOSSS) for further investigation. Since the 2002 POCD, there has been a reduction in the number of SLOSSS spot locations from eight to five, but an increase in roadway segments from nine to twelve. Overall, the SLOSSS locations identified in the 2007-09 SLOSSS update impact the same State Routes 1, 184, 12 and 349, however, some of the locations have changed. The sites within Groton included on the SLOSSS list are shown in the *Traffic Congestion and Accident Map*. These sites include those locations listed in the following table:

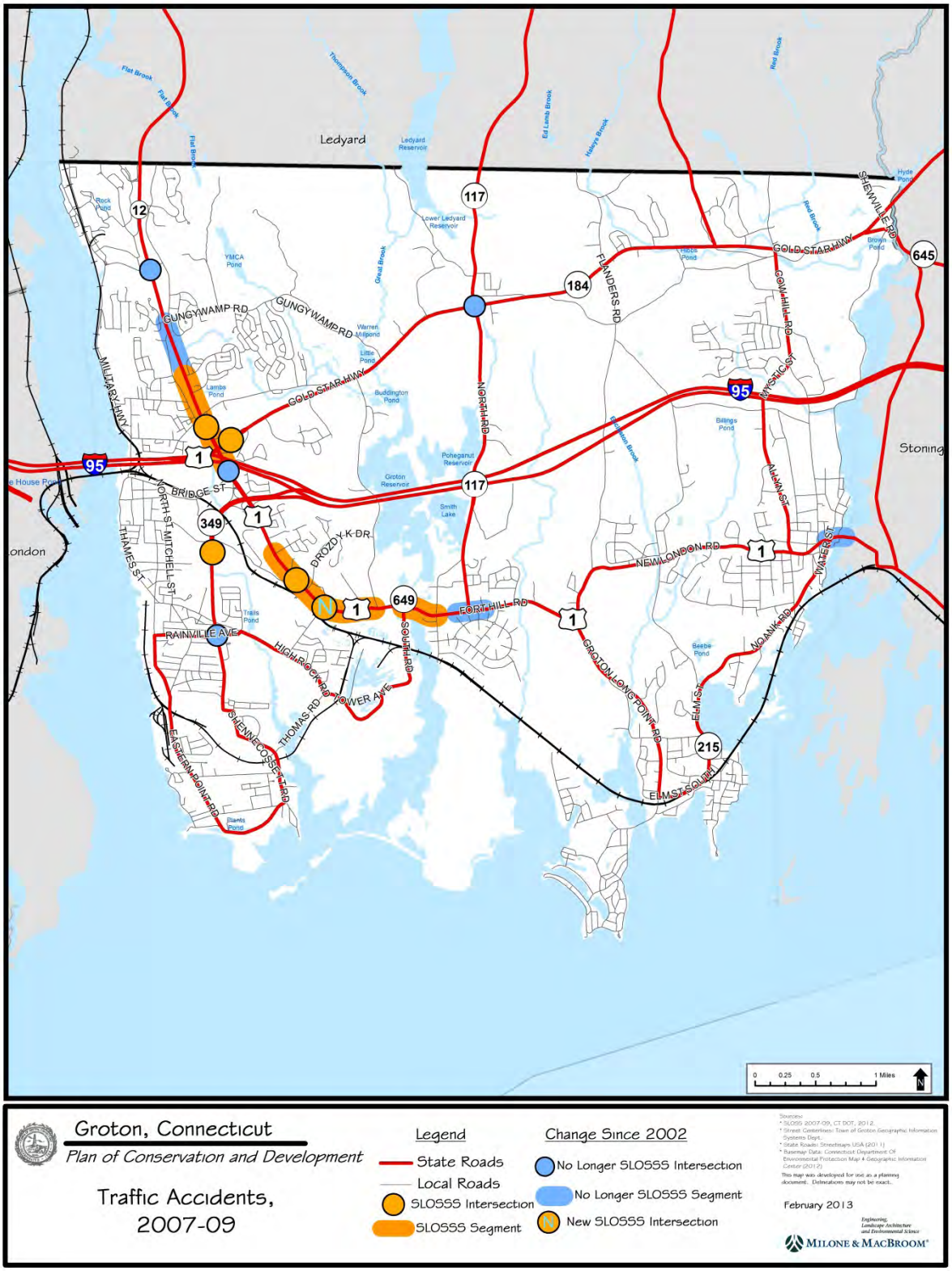
Table 1

SLOSSS Locations (2007- 09)
Route 1
At Rt. 1 off-ramp
Between Wayne Rd. and Meridian St.
At Meridian St. Ext.
Between Meridian St. Ext. and Drozdyk Dr.
Between Drozdyk Dr. and Poquonnock Rd.
Between Poquonnock Rd. and Plaza Ct.
Between shopping center drive and Laurelwood Rd.
Between Laurelwood and Buddington Rd.
Between Depot Rd. and North Rd.
Route 12
At Rt. 1/ King's Hwy
Between King's Hwy and Route 184 ramps
Between 184 ramp and Pleasant Valley Rd. S
At Pleasant Valley Rd. S
Between Tollgate Rd. and Hickory Dr.
Route 184
At Rt. 12 N ramps
At Pumpkin Hill Rd.
Route 349
At Meridian St. Ext.

Traffic congestion can be measured by the ratio of traffic volumes to roadway capacity. Intersections or roadway segments with ratios of volume to capacity of greater than one routinely suffer from delays and the breakdown of traffic operations; the SCCOG *Long Range Transportation Plan, 2011-40* identified 37 such sites in the region. These included nine locations in Groton, including along Route 117, Route 184, Route 349 and Route 12. An

additional 13 sites within Groton have traffic to volume ratios between .8 and .99, which indicates congestion. These additional sites are along Interstate 95, Routes 1, 12, 117 and 184.

Map 4


Ledyard
Stoning
London
GUNGYWAMP RD
GOLD STAR HWY
MILITARY HWY
BRIDGE ST
NORTH ST
MITCHELL ST
THAMES ST
DROZDYK DR
RAINVILLE AVE
HIGH ROCK RD
TOWER AVE
THOMAS RD
SHENNECOSSETT RD
EASTERN POINT RD
SOUTH RD
NORTH RD
FORT HILL RD
FLANDERS RD
COW HILL RD
MYSTIC ST
ALLYN ST
NEW LONDON RD
GROTON LONG POINT RD
ELM ST
ELM ST SOUTH
NO ANK RD
WATER ST
SHEWVILLE RD
Groton, Connecticut
Plan of Conservation and Development
Traffic Accidents, 2007-09
Legend
State Roads
Local Roads
SLOSSS Intersection
SLOSSS Segment
Change Since 2002
No Longer SLOSSS Intersection
No Longer SLOSSS Segment
New SLOSSS Intersection
February 2013
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SCENIC ROADS

Groton has a scenic road ordinance for Town roads that was adopted in 1989, recognizing Sandy Hollow and River Roads as such. For a local road to be designated as a scenic road, it must not have intensive commercial development or high volumes of traffic and meet one or more of the following criteria:

- It is unpaved;
- It is bordered by mature trees or stone walls;
- The traveled portion is no more than 20 feet in width;
- It offers scenic views;
- It blends naturally into the surrounding terrain;
- It parallels or crosses over brooks, streams, lakes or ponds.

TRANSIT

The Southeast Area Transit district (SEAT) serves Groton, and eight other towns in region with fixed route bus service. Since the development of casinos in the region, the role of transit in the region has expanded to accommodate new commuting patterns, with the support of the federal Jobs Access and Reverse Commute programs.

SEAT runs five major fixed route buses that connect towns and cities within the region. Of those five, two routes traverse Groton. One, Run # 2, connects Groton with New London, Gales Ferry, Norwich and Ledyard. The other, Run # 3, connects the Routes 1, 12 and Interstate 95 interchange area in Groton with New London and Niantic. In addition to these inter-city routes, SEAT also operates local bus service in Groton. The Groton local route (Route #11) connects Route 12 to employment centers in the City of Groton along Rainville Ave., The Branford Manor Housing complex, Route 1, Drozdyk Dr., the Fort Hill neighborhood and the Pequot Health Center off of Route 117. All SEAT bus routes are shown on the following *Transit Map*.

SEAT Bus

SEAT has long had plans to augment its bus fleet, and improve service levels throughout the region, but has struggled to implement its plans. The SCCOG has been a leader in pushing transit issues for the region. Its Intermodal Connections Study Southeast developed a business plan for a regional bus-based system linking rail, ferry and bus routes to regional tourist attractions. However, a lack of funding has prevented implementation.

Most recently, the Connecticut Department of Transportation is assuming operational control of the SEAT System due to financial issues. Impacts upon levels of service are unknown at this time.

NON-MOTORIZED TRANSPORTATION NETWORKS

Non-motorized modes of transportation provide alternatives for those who cannot, or choose not, to drive for some or all trips. Walking and biking are the most common and practical modes of non-motorized transportation. Sidewalks, multi-use trails, bike routes and greenways form the foundation of the non-motorized transportation network and can attract and maintain users. The Town of Groton has long supported improvements to pedestrian and bicycling facilities: the *Groton Bikeway Proposal* was completed in the 1970s, and several other pedestrian and bike plans have been completed in recent years.

Mystic Community Bikes is a nonprofit, bicycle-sharing program for residents and visitors to the Mystic area, in both Groton and Stonington. The program runs from May to Novembers on donated, reconditioned bikes available at 10 distribution centers on a refundable deposit basis. Its programs not only provide the bikes, but seek to promote expanded biking in the area, including expanded bikeways and bike paths.

Mystic Community Bikes Distribution Centers

- Bank Square Books
- Denison Pequotsepos Nature Center
- Howard Johnson Inn
- Mystic Depot Welcome Center & Greater Mystic Chamber of Commerce
- Mystic Shipyard
- Mystic & Noank Library
- Mystic & Shoreline Visitor Information Center
- Noank Shipyard
- Pizzetta
- Seaport Marine

The *Existing Trails and Bike Routes Map* shows an established bike route through southeastern Groton along Route 215, through Haley farm State Park to the G & S Trolley Trail into Poquonnock Bridge and along South Road and Tower Ave to Shennecossett Road. The trails depicted on the map are recreational trails located primarily in Town or State Parks, and privately owned open space parcels.

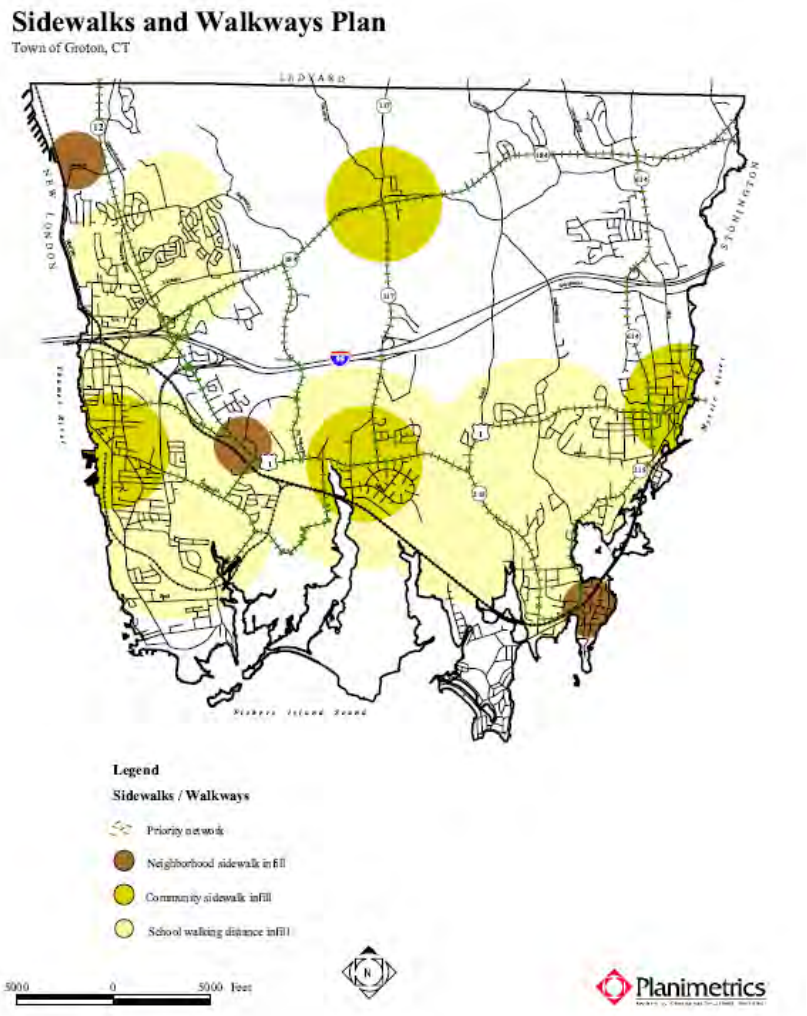
The *Groton Bicycle, Pedestrian & Trails Master Plan*, completed in 2005, established the following goals for all forms of non-motorized transportation in Groton: 1) to interconnect neighborhoods, 2) develop commuter routes, 3) develop recreational trails that provide access to open space, and 4) to build facilities that are safe and attractive. In addition, the 2002 Plan of Conservation and Development recommended creating an overall pedestrian network, including improving and extending the sidewalk network, developing and improving the trail network and establishing a bikeway network. In addition to the recommended routes outlined in the 2002 Plan of Conservation and Development, the Southeast Connecticut Council of Governments (SCCOG) Long Range Transportation Plan, 2011-2040 recommends two additional pedestrian/bike routes through Groton, as follows:

> 15. Pleasant Valley Road to Lestertown Road to Military Highway to Fairview Avenue #2 to Bridge Street #1 to Mitchell Street to Benham to Eastern Point Road to Shennecossett Road around Avery Point to Plant Street to Shennecossett Road to Thomas Road to Tower to South Road to Route 1 to either Route 215 to Mystic Village, or West Mystic Avenue to Allyn Street to Mystic Street to Cow Hill Road to Route 184 (east) to Route 27 to River Road to Mystic Village.

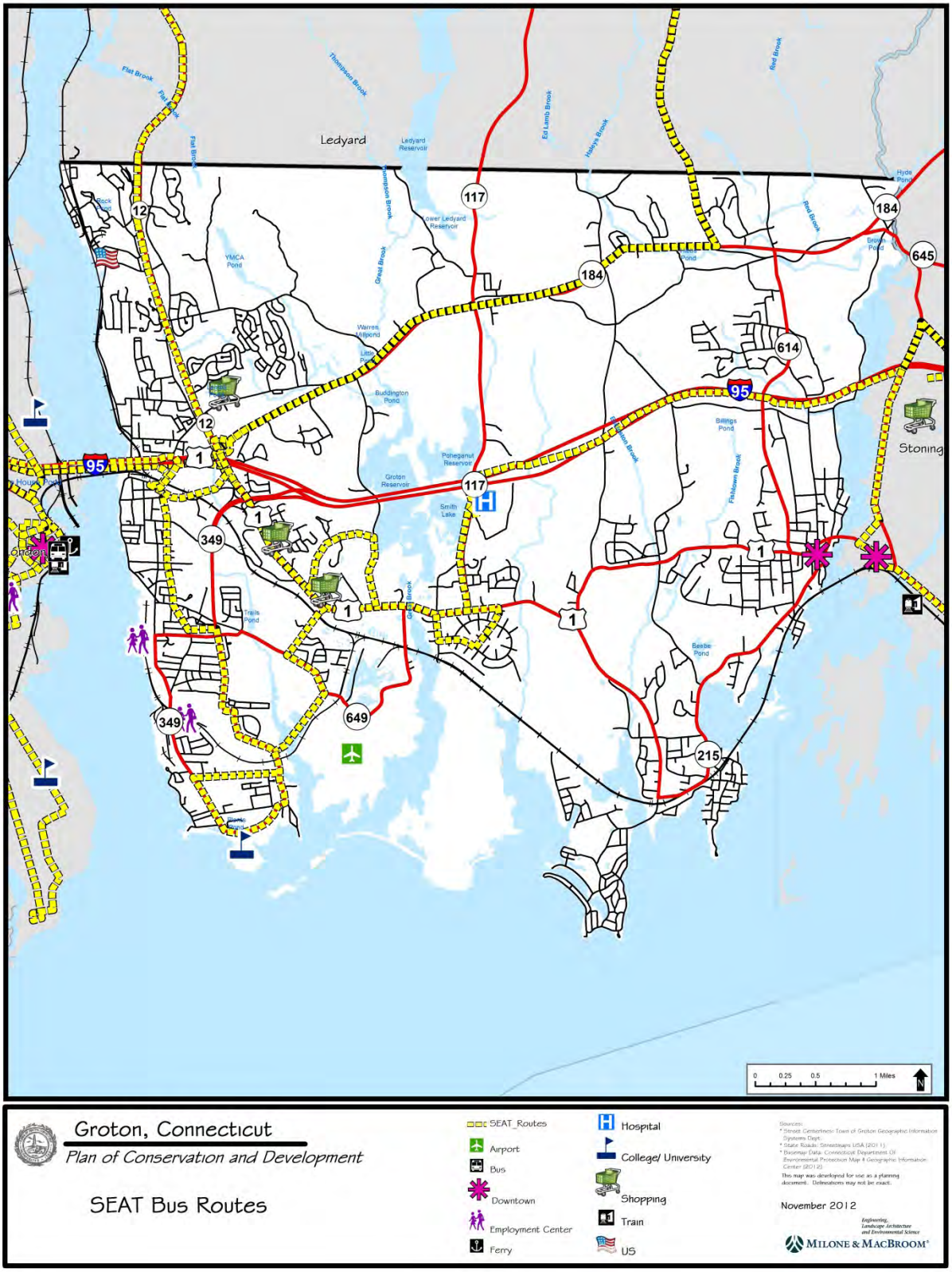
16. Gungywamp Road to Route 184 to Stonington. (SCCOG Long Range Transportation Plan, 2011)

Sidewalks

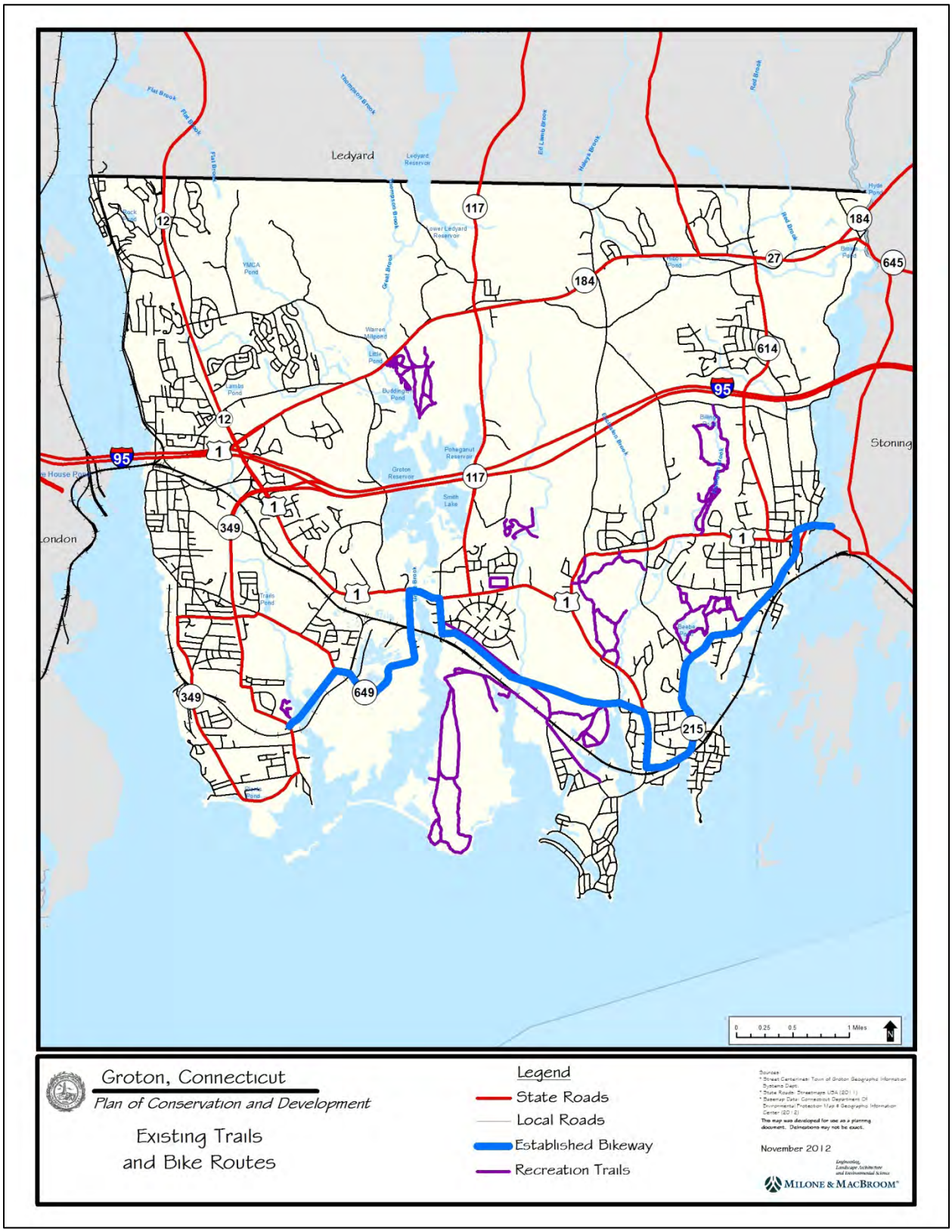
The Town has a well-established network of sidewalks connecting neighborhoods, community facilities and commercial establishments. However, gaps do exist in segments of the town's network, greatly reducing pedestrian safety and accessibility in certain areas of the town. The 2002 POCD devised a Sidewalk and Walkways Plan to identify and close significant gaps in the sidewalk system. Such tasks can be completed in a series of phases, with the most important connections being established immediately, while other minor gaps are remedied over the long-term. The priority areas depicted on the Sidewalk and Walkways plan shown below still hold true today.



Map 4


Groton, Connecticut
Plan of Conservation and Development
SEAT Bus Routes
SEAT_Routes
Airport
Bus
Downtown
Employment Center
Ferry
Hospital
College/ University
Shopping
Train
US
November 2012
MILONE & MACBROOM
Ledyard
Stoning
Groton
0 0.25 0.5 1 Miles
N

Map 3


Ledyard
Stoning
London
95
12
1
117
184
27
645
614
349
649
215
Groton, Connecticut
Plan of Conservation and Development
Existing Trails
and Bike Routes
Legend
State Roads
Local Roads
Established Bikeway
Recreation Trails
November 2012
MILONE & MACBROOM

The Town has worked to implement the recommendations of these plans, as funding become available. The ongoing Mystic Streetscape project has improved the sidewalk network in Mystic. The Town successfully obtained a CT Recreation Trails grant to develop a connector route between Haley Farm and Bluff Point State Park trails and links to the Poquonnock River Boardwalk. The 2013-2018 Capital Improvement Plan (CIP) includes funding for asphalt sidewalk reconstruction in various areas of Town; new sidewalk construction along Route 1 to complete the network that runs from Judson Ave. to downtown Mystic, and further design work for a new multi-purpose path along Thomas Road.

Finally, the Tri-Town Trail Committee completed a plan in 2009 that recommended implementation of the region's first multi-use recreational trail extending from Bluff Point in Groton north through Center Groton and Ledyard to Preston Community Park. The preferred route for the 14-mile trail traverses land owned by the City of Groton for the Groton Utilities Reservoir system. However, the City of Groton has thus far refused to allow public access to these lands. Nevertheless, the Tri-Town Trail Committee and local officials have continued to work on implementing the plan. The Town of Groton has budgeted design and construction funds for Phase I and II of the trail in Groton, connecting Bluff Point to the Copp property, with the majority of funds expected to come from a grant. The Town has also budgeted funds for planning an East/West Bikeway, beginning at Depot Road running to South Road, Tower Avenue and Thomas Road.

GROTON-NEW LONDON AIRPORT

The Groton-New London Airport located in southwestern Groton was established in 1929. The State of Connecticut owns the general aviation airport and it is managed by the CT Airport Authority (CAA). The Groton-New London Airport was once classified as a commercial airport, but in 2003, U.S. Airways ceased operations, and the Federal Aviation Administration (FAA) reclassified the airport as "general aviation."

A general aviation airport supports unscheduled, non-military, private and commercial flights, and a certain amount of activity (usually 10 locally based aircraft). However, the general aviation classification does not preclude other uses, and the Groton-New London airport handles a number of military flights. According to the SCCOG Long Range Transportation Plan, the airport handled 38,582 flight operations in 2009, when 54 aircarft were based there. Approximately 580 full- and part-time personnel worked at the airport in 2009.

Groton-New London Airport

The Groton-New London Airport has two paved runways, one that is 5,000 feet long, and a second that is 4,000 feet long. The airport recently installed Engineered Material Arresting Systems (EMAs), the first in the State, to achieve runway end safety standards. The airport has a terminal building and control tower, built in 1963. According to the most recent Airport Master Plan, the terminal building is underutilized since scheduled commercial air service ceased. Two fixed-base operators (FBOs) also maintain several hangars at the airport: Columbia Aviation and Lanmar Aviation. Several additional hangars are located at the airport, most under private ownership. Current and

forecasted demands do not indicate a need for additional hangars; however, hangar development is a large source of revenue for general aviation airports.

The *Groton-New London Airport Master Plan Update Alternatives Analysis*, prepared in 2011, identified several landside and airside opportunities for upgrades and further development, from upgrading airfield lighting to upgrading landside facilities. The Alternatives Analysis compares three scenarios: no changes, minimal development and maximum development. Assuming market demand for additional hangar and related services warrants additional development, the minimal development alternative includes an additional 23,000 square feet of hangar space. The full build out alternative includes replacing the existing terminal and control tower, two large hangars (10,000 sq ft), two medium hangars (5,000 sq ft), three small hangars (2,000 sq ft), and two medium T-hangars with room for 8-12 aircraft units. The preferred alternative identified is full build out in order to maximize revenue opportunities through additional hangar space. However, the Analysis acknowledges that full build out will take years of planning to implement. Therefore, in the short-term, the alternatives analysis recommends maintaining the facilities current high standards, which would include upgrading lighting, snow removal and firefighting equipment.

The new CAA, established in 2011 to develop, improve and operate Bradley International Airport and the state's five general aviation airports, including Groton-New London, appointed an Executive Director in the summer of 2012. The role of the CAA and its new administration will be critical to the future of Groton-New London Airport.

RAIL

While the Amtrak rail corridor traverses Groton, there are no local stations in Town. However, Union Station in New London connects to Shoreline East commuter service to New Haven, and a train station in Mystic on the Stonington side is part of Amtrak's northeast line to Boston. As opportunities for augmented commuter and passenger rail service arise, it is important to Groton residents and businesses that intermodal opportunities also increase in order to facilitate commuting and travel into and out of Groton.

Amtrak has had a maintenance yard on Industrial Drive in Groton since about 2000, and recently purchased adjacent properties to expand this yard. Amtrak's long-range plans for the Northeast Corridor include reconfiguration of tracks to include two high-speed center tracks and two outside regional/local route tracks. Given the coastal route of the tracks in Groton, and coastal management concerns, Amtrak's evolving plans will require watching.

TOWN PROJECTS

The voters of Groton recently approved an $11.2 million bond referendum for road maintenance and rehabilitation from 2013-2017. The project summary, while subject to modification, includes the following projects:

Year 1 (2013)
City of Groton - Church St., Paul Revere Rd., Nathan Hale Rd., Constitution Pl., Madison Pl., Mohawk Dr., Pilgrim Dr., Liberty Dr., Blueberry Hill Rd., Twin Hills Dr., Old Farm Rd., Morse Ave., Kamaha St., Morgan Ct., Thomas Rd.
Groton Long Point - Atlantic Ave.
Town of Groton - Toll Gate Rd., Carter Rd., Knoll Dr., Mohegan Rd., Osage Ln., Seneca Dr., Erie Ln., Sachem Rd., Meridian St.

Year 2 (2014)
City of Groton - Blueberry Hill Rd., Twin Hills Dr., Old Farm Rd., Morse Ave., Kamaha St., Morgan Ct., Thomas Rd., Meridian St., Shennecossett Rd., Poquonnock Rd.
Groton Long Point - Bridge St. and Atlantic Ave.
Town of Groton - Brook St., Smith Ln., Westview Ave., Harbor Ct., MacDonald Ct., Prospect Hill Rd., Williams St., Ridgewood Dr., Bel Aire Dr., Drozdyk Dr.

Year 3 (2015)
City of Groton - Meridian St., Shennecossett Rd., Poquonnock Rd., Litton Ave., Meech Ave., Cottage St., N. Prospect St., Circle Ave., Tyler Ave.
Groton Long Point - West Shore Ave.
Town of Groton - Algonquin Dr., Clift St., Godfrey St., High St., New London Rd., Rathbun Pl., Starr St., Forrest Ave., Larchmont Ter., Kiser St., Buddington Rd.

Year 4 (2016)
City of Groton - Litton Ave., Meech Ave., N. Prospect St., Tyler Ave., Nicholas Ave., Greenview Rd., John St., Virginia Ave., Cutler St., Sacred Heart Dr., Tom Ave., Triton Pl., White St., School St., Chicago Ave.
Groton Long Point - West Shore Ave. and East Shore Ave.
Town of Groton - Avon Pl., Hyde Pond Ct., N. Stonington Rd., Packer Rd., Pumpkin Hill Rd., Quakertown Rd., Shewville Rd., Mystic Meadows Ln., Noank-Ledyard Rd.

Year 5 (2017)
City of Groton - Nicholas Ave., Greenview Rd., John St., Virginia Ave., Cutler St., Sacred Heart Dr., Tom Ave., Triton Pl., White St., School St., Chicago Ave.
Groton Long Point - East Shore Ave. and South Shore Ave.
Town of Groton - Capstan Ave., Irving St., Island View Ave., Windwood Way

Other projects included in the Capital Improvement Plan, and not described earlier, include reconfiguring Vergennes Court into a dead end road, but still allowing pedestrian and emergency access off of Route 1; creating a turning lane into Claude Chester School on Route 1; bridge reconstruction, redesigning transportation and pedestrian infrastructure at the main gates to the Sub Base, to include a multi-purpose path along Crystal Lake Road; and, drainage improvements in various locations.

SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS TRANSPORTATION INITIATIVES

Congestion along Interstate 95 and other regional routes is a concern identified by the SCCOG in its *Long Range Transportation Plan, 2011-2040*. The SCCOG in conjunction with CT DOT, has studied congestion on Interstate 95, in addition to the completion of Route 11, and improvements to the Routes 2/2A/32 corridors to accommodate increased development, seasonal shoreline traffic and casino traffic. In addition, the SCCOG has long been a proponent of transit and intermodal connections between rail, bus, ferry and other means of transportation. These regional concerns have an effect on the transportation network in Groton. Expanding and encouraging public transit and intermodal opportunities can enhance travel and within Groton not only for tourists, but also commuters.

Several transportation improvement projects specific to the Town and City of Groton are included in the SCCOG Long Range Transportation Plan. These include projects for which funding has been obtained, or is identified, and projects for which funding sources have not been identified. The projects are shown in the following table. Although these projects are of regional importance they are collaborative efforts with the Town of Groton.

Table 1

SCCOG FY 2011-2040 Transportation Project Plan

Project	Description	Period in Years	Funding Source	Estimated Cost ($000)		
				1 to 3	4 to 10	11 to 29
Route 1	Reconstruct from vicinity of intersection with Poquonnock Road North to Ring Drive	11 to 29	Unfunded			$10,200
	Geometric improvement at intersection of Fishtown Road	4 to 10	SAFETEA-LU		$250	
	Intersection improvements at Kings Highway to eliminate left turns	4 to 10	SAFETEA-LU		$100	
Route 1 & 215	Downtown Mystic and Route 215 Streetscape Project (High Priority Funding)	In Prog	SAFETEA-LU	$3,125		
	Downtown Mystic & Route 215 Utility Underground Project (Phase II TCSP Funding)	In Prog	SAFETEA-LU	$1,000		
Route 12	Intersection modification at Crystal Lake, Gungywamp and Tollgate Rds.	4 to 10	STP-U		$600	
Route 614	Reconstruct from Cow Hill Road to Route 184	29-Nov	Unfunded			$5,500
Route 649	Reconstruct roadway from Tower Avenue north to Route 1	11 to 29	Unfunded			$1,900
	Reconstruct from Rainville Ave. to Tower Ave., including Bike Route signage improvemt	11 to 29	Unfunded			$3,300
	Improve South Road underpass	11 to 29	Unfunded			$2,000
Railroad Underpasses	Eliminate height limitation at Poquonnock Road	11 to 29	Unfunded			$3,000
	Eliminate height limitation at Depot Road	11 to 29	Unfunded			$750
Military Highway	Construct walkway/bikeway along west side of road, south of Nautilus Memorial	11 to 29	Unfunded			
Thomas Road	Construct bikeway/walkway from Shennecossett to High Rock Rd.	1 to 3	SAFETEA-LU	$875		
Crystal Lake Road	Submarine Base Gateway and multi-purpose path project	4 to 10	STP-U		$4,250	
Poquonnock Road	Reconstruct from Route 1 to Route 649, & include Bike Route signage from Rainville Avenue intersection to Benham Road	11 to 29	Unfunded			$2,400
GROTON (CITY)						
Bridge Street	Reconstruct from 100' east of Monument Street to Thames Street	11 to 29	Unfunded			$1,600
Shennecossett Road	Reconstruct from Eastern Point Road to Thomas Road	11 to 29	Unfunded			$300

JOURNEY TO WORK

The United States Census Bureau provides data for analyzing commuting patterns within and between local communities. This data is helpful in understanding general traffic flows into and out of a community generated by daily trips to and from the workplace. At this time Journey to Work data from the 2010 Census has yet to be published. When it becomes available, this section will be updated.

FINDINGS

- Since the last POCD, the Town has experienced a decline in traffic volumes across all state roads with Routes 1, 12, 117 and 184 declining by 5.5%, 11.9%, 10.2% and 10.4%, respectively. In response to changes in traffic volumes and access, the state functional classifications for nine roadways have changed.

- The 2012 public works bond issue of $11.2 million will resolve many of the most critical deferred maintenance issues facing the Town roadways.

- Over the next ten years, $10.2 million in surface transportation is federally funded through SCCOG for regionally and locally important surface transportation improvements.

- The 2002 POCD Transportation Plan identified several major east-west connections between Route 117 and Flanders Rd (See below). As the Final POCD evolves, the east-west connections identified in the 2002 POCD Transportation Plan will be reviewed to determine future viability.
- Although not major east-west connectors, Great Brook Rd and Ledge land Dr are newly constructed local roads that create connections identified in the 2002 POCD.

- SEAT operates local and regional for Groton and the region. Most recently, the Connecticut Department of Transportation is assuming operational control of the SEAT System due to financial issues. Impacts upon levels of service are unknown at this time.

SOURCES

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