



# SOUTH WESTERN REGION METROPOLITAN PLANNING ORGANIZATION

## 2019-2045 Long-Range Transportation Plan



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CHAPTER

1

INTRODUCTION

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# Introduction

## Purpose

The Long-Range Transportation Plan (the Plan) is the metropolitan transportation plan for the South Western Region Metropolitan Planning Organization (SWRMPO) for the 2019 – 2045 timeframe.

This document is the “blueprint” for transportation in the eight municipalities that comprise SWRMPO: Darien, Greenwich, New Canaan, Norwalk, Stamford, Weston, Westport, and Wilton. SWRMPO is hosted by the Western Connecticut Council of Governments (WestCOG); the Housatonic Valley Metropolitan Planning Organization (HVMPO) is also hosted by WestCOG.

The Plan serves as a guide for developing a transportation system that is not only accessible, safe, and reliable, but also contributes to the economy and to a high quality of life for residents. The Plan reflects the region’s current conditions, identifies future transportation needs, and recommends projects to meet those needs.

This Plan supersedes all previous Long-Range Transportation Plans for SWRMPO ([South Western Region Long Range Transportation Plan, 2015: Going Forward – The Plan to Maintain & Improve Mobility](#)).

Many of the issues and recommendations identified in the previous plans continue to be top priorities for the region. The Plan also incorporates many of the priorities that the region identified in its Comprehensive Economic Development Strategy, and that the region’s member municipalities identified in their respective Plans of Conservation and Development, along with many of the projects

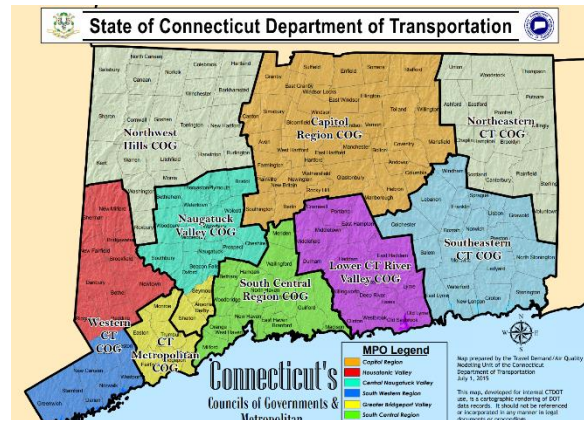


Figure 1. Connecticut Metropolitan Planning Organizations

and strategies identified in the plans of the Connecticut Department of Transportation (CTDOT).

The planning process was designed to increase the public’s awareness of transportation matters and incorporate their feedback into the plan. The Plan provides stakeholders with an introduction to transportation investment decision-making.

Although many types of planning are best left at the local level, transportation by its nature has an intermunicipal focus. This Plan balances the prioritization of projects based on regional impact.

WestCOG strongly believes in inter-regional and MPO coordination, particularly with HVMPO. To that end, information on the transportation systems and projects in HVMPO are also included in this Plan for reference purposes. This allows for a comprehensive analysis of both MPO’s transportation systems within western Connecticut. Hereafter, references to both SWRMPO and HVMPO combined will be referred to as the “Region”. WestCOG closely coordinates with the neighboring MPOs in Connecticut and New York.



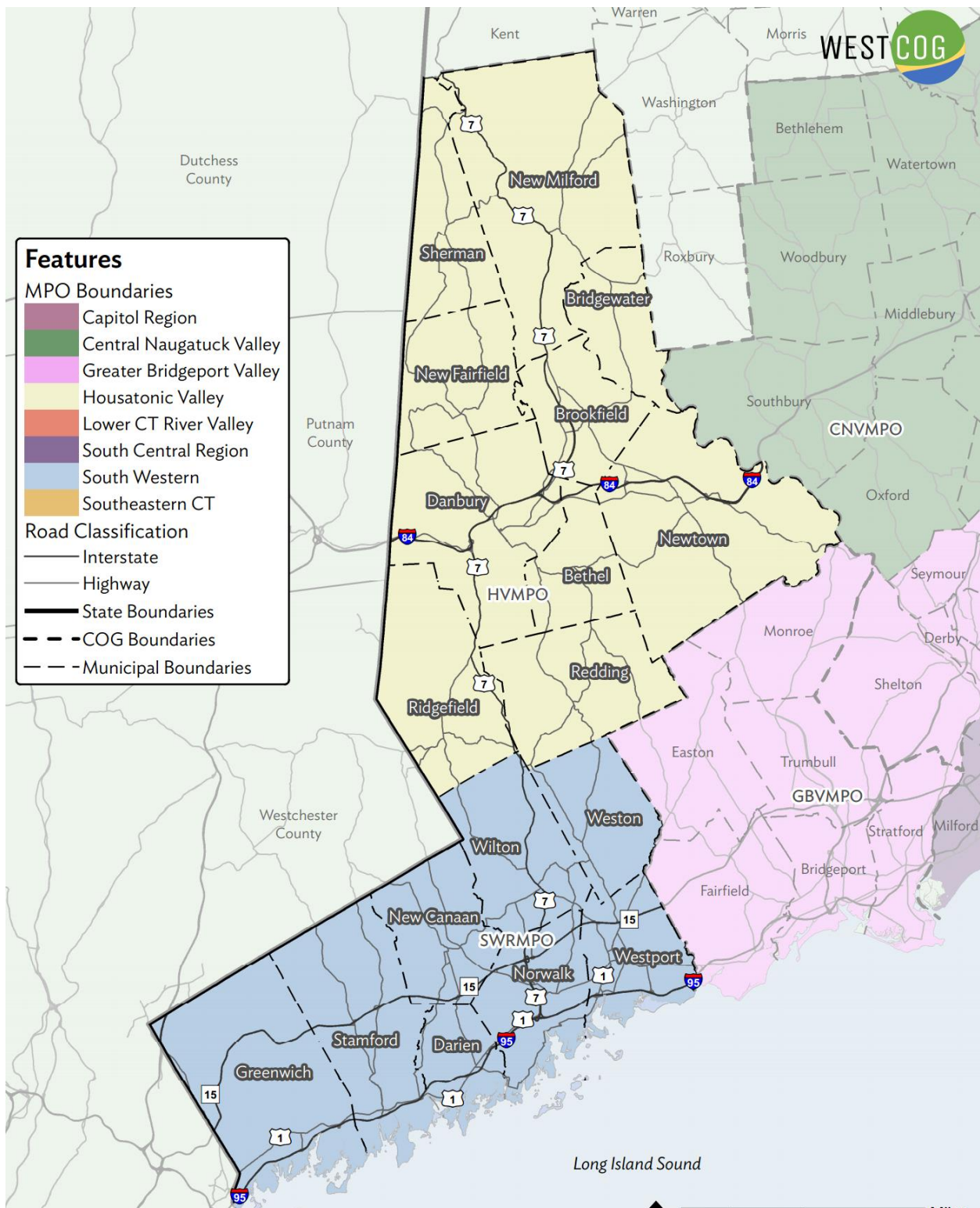


Figure 2. MPO Boundaries

## Importance to the Region

### Metropolitan Planning Organizations

The purpose of an MPO is to guide the regional planning process and to incorporate regional thinking and priorities into Connecticut's statewide transportation investment strategy.

The primary goals of each MPO is to ensure that federal and state investments in traffic and transit systems in the metropolitan area are prioritized, cost effective, environmentally sound, conceived with a maximum of local governmental and citizen input, and fully coordinated with other transportation modes and community development policies.

As a part of this effort, federal law requires MPOs to update and maintain an LRTP (23 C.F.R. §450.324), making the adoption of an LRTP a condition of eligibility for federal aid in transportation projects.

The 2019 update is based on the requirements of the 2015 Fixing America's Surface Transportation Act (FAST Act) the authorizing legislation for the federal transportation program. The Plan is a living document and may be amended as needed. MPOs may revise the LRTP at any time using the procedures in 23 C.F.R. §450.324 without a requirement to extend the horizon year. The transportation plan shall be approved by the MPO and submitted for information purposes to the Governor. Copies of any updated or revised transportation plans must be provided to the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), as well as the Connecticut Department of Transportation (CTDOT) and the Connecticut Office of Policy and Management (CT OPM).

The transportation plan shall include both long-range and short-range strategies/actions that provide for the development of an integrated multimodal transportation system (including accessible pedestrian walkways and bicycle transportation facilities) to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.

23 C.F.R. §450.324(b)

## LRTP Process

### Fast ACT

The Fixing America's Surface Transportation Act (FAST Act) funds surface transportation programs for fiscal years 2016 through 2020 and provides long-term funding certainty for surface transportation. By establishing and funding new programs to support critical transportation projects, the FAST Act provides the statutory framework for easing congestion and facilitating the movement of freight on the Interstate System and other major roads in support of national goals. The FAST Act also authorizes Federal funding for road, bridge, bicycling, and walking improvements. It aims to improve innovation and efficiency in the development of projects, through the planning and environmental review process, and project delivery.

## FHWA National Goals:

**Safety** – To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

**Infrastructure Condition** – To maintain the highway infrastructure asset system in a state of good repair

**Congestion Reduction** – To achieve a significant reduction in congestion on the National Highway System

**System Reliability** – To improve the efficiency of the surface transportation system

**Freight Movement and Economic Vitality** – To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

**Environmental Sustainability** – To enhance the performance of the transportation system while protecting and enhancing the natural environment.

**Reduced Project Delivery Delays** – To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

## Performance-Based Planning and Programming

The FAST Act mandates that MPOs take a performance-driven, outcome-based approach to planning and programming in support of the FHWA national goals, referenced above, and as described in 23 U.S.C. 150(b). This requires that MPOs establish targets in key national performance areas to document expectations for future performance, and that State Departments of Transportation, MPOs, and operators of public transportation must coordinate the targets that they set for key areas. It further requires that MPOs must reflect those targets in their LRTPs, and describe the anticipated effect of their transportation improvement programs toward achieving their targets.

The following are the transportation performance management areas:

- Highway Safety
- Pavement & Bridge Conditions
- System Performance
- Freight Movement
- On-Road Mobile Source Emissions
- Transit Asset Management

Chapter 4 of this plan provides greater detail on the various performance management areas and the targets the SWRMPO and HVMPO have supported.



Figure 3. Transportation Performance Management (Source: FHWA)

## Stakeholder and Public Outreach

Public involvement is a required component of the planning process for the Plan.

For this iteration of the plan, a broad-based multi-media strategy was developed to engage the public earlier in the planning process. This included:

- Hosting nineteen public listening sessions
- Creating an LRTP webpage
- Setting up a mailing list the public can join for updates
- Sharing information via social media
- Distributing meeting notices to Town Clerks
- Placing public notice ads in major newspapers (also translated in Spanish and Portuguese)
- Press releases to local news sources
- Holding additional meetings with key stakeholders, including MPO Policy Board

members, TAG members, and municipal employees

- Delivering presentations at MPO meetings

One of the highlights of the public engagement process was a ‘listening tour’ of the Housatonic Valley and South Western Regions. During the fall of 2018, nineteen public listening sessions were held to meet with the people who live, work, and travel in western Connecticut. The purpose of these sessions was to provide members of public opportunities to share their experiences and perspectives on the transportation systems. The feedback provided during these sessions was instrumental in developing the goals of the plan.

Additional details on the public engagement process for the LRTP may be found in Chapter 5.

### LISTENING TOUR

Throughout of the fall of 2018, WestCOG held 19 meetings in the SWRMPO and HVMPO municipalities. Interested citizens shared their experiences with the region’s transportation system, the challenges they face and opportunities for improvement.

The feedback provided during these conversations focused on several themes:

- Passenger Rail Service
- Highway Congestion
- Bicycle and Pedestrian Planning
- Bus Service





## A Plan to Build on

In addition to following a performance-based planning process, the FAST Act also requires MPOs to consider specific factors in developing transportation plans and programs.

Each of these factors is addressed within the plan and is reflected within the goals and objectives that shape the plan. These factors are:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
- Increase the safety of the transportation system for motorized and nonmotorized users
- Increase the security of the transportation system for motorized and nonmotorized users
- Increase the accessibility and mobility of people and for freight
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
- Enhance travel and tourism

## Regional Goals

The overarching goals of the Plan are to provide safe, efficient, cost effective, reliable,

and balanced multimodal transportation systems that promote mobility, access and choice. In addition, the Plan aims to optimize investment in the transportation system to meet the mobility needs of users and goods, while minimizing adverse impact and promoting responsible land use development that is supported by the transportation network.

### Vibrant Economy:

Transportation plays a substantial role in supporting the Region's economy.

Transportation systems are necessary for the movement of goods and services and connecting local commerce to national and global markets. Well-connected, efficient transportation systems support productivity, and enable the Region's economy to remain competitive.

### Enhanced Transportation System:

Filling in existing gaps in the Region's transportation systems is vital to meeting the needs of transportation users in the Region. Promoting alternate modes of transportation (such as cycling, walking, using public transit) is only possible when adequate transit facilities and services exist. To that end, the Plan supports projects that fill in gaps in the bicycle and pedestrian network, and projects enhance multi-modal connections to transit.

### Access:

Accessibility and demand management are now and will continue to be priorities to address in the Region. Congestion continues to be a major complaint for transportation users in the Region, and the Plan prioritizes endeavors that support modal choice, manage demand, and increase access. In many communities within the Region, access to transportation is an on-going issue, especially for those in less densely populated areas without vehicle access or without the ability to drive. The Plan is developed with strong

consideration for increased accessibility in anticipation of potential future issues.

### Quality of Life:

Supporting and maintaining high quality of life for both residents and travelers in the Region is vital not only the health and well-being of residents, but also to the Region's economy. Areas that foster high quality of life attract residents, which attracts commerce, boosting the local economy. Transportation plays several key roles in maintaining quality of life for the Region's residents. Efficient and well-connected transportation systems enable potential commuters a broader range of employment options and likewise offers potential residents a broader range of residency options. Encouraging sustainable travel options, such as alternative fuels, or energy efficient transportation modes such as bicycling, can improve air quality, encourage exercise, and increase mobility, improving the health of transportation system users. Accessible public transit service allows for improved mobility for greater numbers of people, improving access to necessities such as healthcare, employment, housing, and centers of commerce.

Planning Factor	Plan Components
Support Economic Vitality, Travel, and Tourism	<ul style="list-style-type: none"> <li>• Provides the framework to guide investments in transportation to attain economic goals</li> <li>• Integrates land use planning with transportation, infrastructure, and critical facilities, and energy planning to ensure that our communities remain vibrant and sustainable for the future</li> <li>• Enables global competitiveness, productivity, and efficiency</li> <li>• Analyzes major growth corridors and related transportation improvements, including the correlation with economic development</li> <li>• Identifies major tourism destinations relative to their access to the transportation network</li> </ul>
Safety and Security	<ul style="list-style-type: none"> <li>• Recognizes many facets of transportation safety, bicycle and pedestrian safety</li> <li>• Identifies safety analyses and references plans that include safety components</li> <li>• Identifies initiatives to create safer and more secure environments for transit users</li> <li>• Identifies critical facilities and reviews emergency plans to ensure that critical facilities and transportation systems are identified</li> <li>• Uses digital infrastructure capabilities to identify vulnerable assets</li> <li>• Increases the safety and security of the transportation system for motorized and non-motorized users</li> </ul>
Accessibility and mobility (of people and freight)/Enhance Integration and connectivity	<ul style="list-style-type: none"> <li>• Promotes choice, alternative modes and demand management,</li> <li>• Identify transportation needs and strategies, and supports the use of new technology</li> <li>• Supports Intelligent Transportation Systems (ITS) for efficient and reliable operations and management, and increase the information available to users to help them make smart travel choices</li> <li>• Identifies transportation investments that encourage development of a multimodal transportation system where modes operate in a complementary way to save energy, reduce congestion, strengthen urban centers, and meet the needs of all residents</li> <li>• Supports livability principles such as mobility, accessibility, connectivity, Ladders of Opportunity, and congestion management</li> </ul>
Protect/Enhance the Environment, Quality of Life	<ul style="list-style-type: none"> <li>• Identifies measures to improve air quality, including promotion of alternative fuels and energy efficient transportation modes, increased public transit service, transportation demand/systems management, and new bicycle/pedestrian facilities</li> <li>• Promotes transit-oriented development</li> </ul>
Promote Efficient System management and operation	<ul style="list-style-type: none"> <li>• Identifies projects and studies aimed at prolonging the effective life of facilities, using new technology to enhance transportation system productivity, and refining operations, management, financing and governance to improve system efficiency</li> </ul>

Preserve the Existing System	<ul style="list-style-type: none"> <li>• Supports a state of good repair for transportation equipment and facilities, including highways, bridges, and transit systems</li> <li>• Identifies the maintenance needs and resources to maintain the region's transportation systems</li> <li>• Identifies capital and operational improvements needed to preserve mobility and safety within existing transit and highway networks</li> </ul>
Improve resiliency and reliability of the system	<ul style="list-style-type: none"> <li>• Provides access to affordable and green transportation</li> <li>• Expands the definition of mobility to account for bicycling and pedestrian facilities, while supporting sustainable communities</li> <li>• Maintains a resilient transportation network</li> </ul>



CHAPTER

2

THE REGION

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# The South Western Region

## Context and Trends

### Population

Populations in the Housatonic Valley and South Western Regions are currently experiencing growth at slower rates than in previous decades. Between 2010 and 2016, growth in municipalities in the Region averages around 3%, with higher net volumes of individuals in cities such as Stamford, but higher percentages of growth in less populated municipalities such as Bridgewater. That growth is projected to level off in the coming decades, with the Housatonic Valley Region populations beginning to reach equilibrium or decline between 2025 and 2030.

Population projections are provided by the Connecticut State Data Center. These

estimates are developed based on administrative and survey datasets. Projections may vary from actual population changes. The Region may wish to complete an interim update to the Plan when new, or more detailed, population data or projections become available.

Figure 4 displays a snapshot of the total population of the Region in each decade in blue, with the yellow demonstrating the growth by the following decade. The Region has experienced a rapid rate of population growth nearly every decade until 1980. Most notably, from 1950 to 1960 and from 1960 to 1970 the Region grew by over 100,000 people (40 percent and 28.4 percent growth, respectively). After 1980, regional growth slowed; between 4 and 10 percent per decade, or 21,887 to 48,002 people. This may reflect a change in the regional economy, and/or a scarcity of space and infrastructure resulting in increased costs.

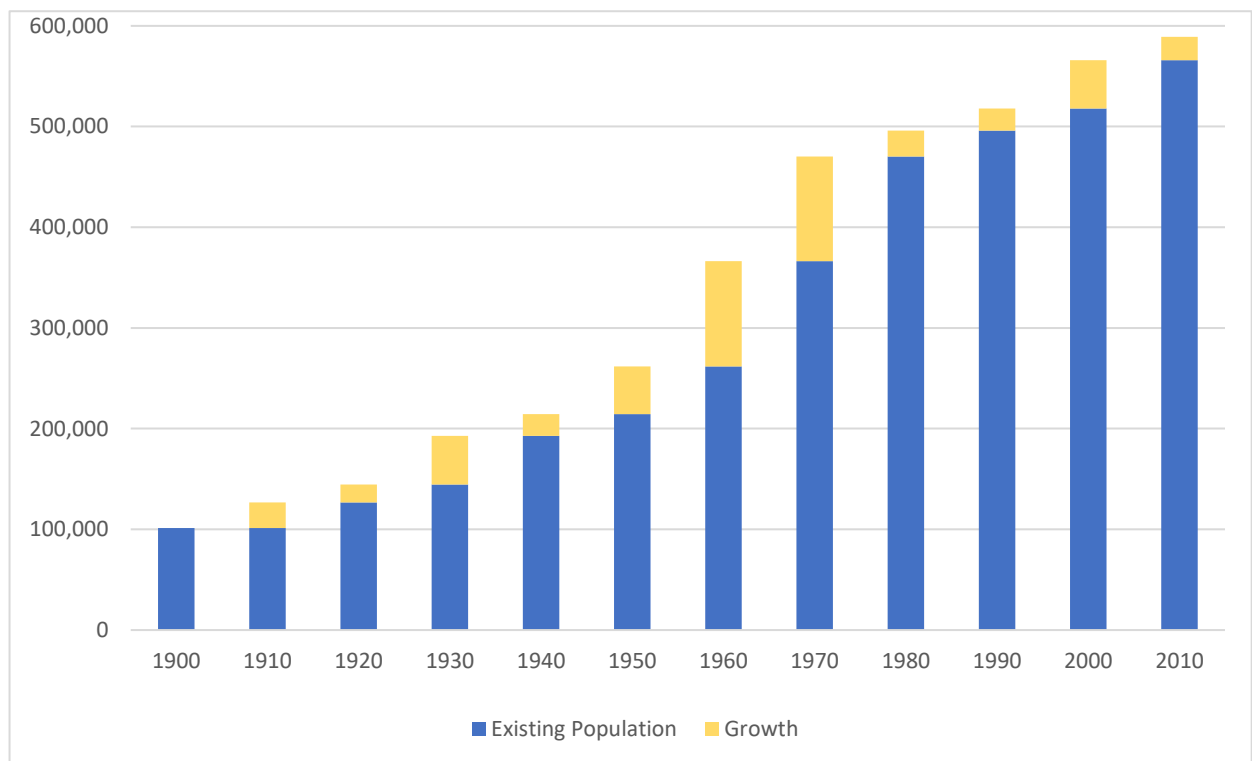


Figure 4. Population and Population Growth of HVMPO and SWRMPO (1900-2010)

Table 1 shows that in 2016, the population of the Region was estimated as 605,520, with Stamford accounting for the largest portion of the population, approximately 20 percent. Many municipalities grew between 2010 and 2016, most notably in Bridgewater, which experienced an almost 10 percent increase in population over six years. The only municipality to experience a loss in population was New Milford, which shrank by just over 2 percent. The Region grew by 2.8 percent, a faster rate than Connecticut as a whole, which only saw 0.5 percent population growth.

Figure 5 shows population density within the Region. As expected, the major population concentrations are in urban areas and downtowns, as well as clustered around transportation infrastructure.

Table 1. Population and Population Growth

Municipalities	2010	2016	Absolute Change	Percent Change
New Milford	28,142	27,501	-641	-2.3%
Bridgewater	1,727	1,888	161	9.3%
Sherman	3,581	3,657	76	2.1%
Redding	9,158	9,267	109	1.2%
Weston	10,179	10,347	168	1.7%
New Fairfield	13,881	14,075	194	1.4%
Brookfield	16,452	16,970	518	3.2%
New Canaan	19,738	20,248	510	2.6%
Ridgefield	24,638	25,125	487	2.0%
Newtown	27,560	27,990	430	1.6%
Wilton	18,062	18,616	554	3.1%
Darien	20,732	21,519	787	3.8%
Bethel	18,584	19,369	785	4.2%
Westport	26,391	27,511	1,120	4.2%
Greenwich	61,171	62,418	1,247	2.0%
Norwalk	85,603	87,930	2,327	2.7%
Danbury	80,893	83,890	2,997	3.7%
Stamford	122,643	127,410	4,767	3.9%
HVMPO	224,616	229,521	4,905	2.2%
SWRMPO	364,519	375,999	11,480	3.2%
Region	589,135	605,520	16,385	2.8%
Connecticut	3,574,097	3,592,053	17,956	0.5%

Source: U.S. Census Bureau, Census 2010 and 2012–2016 American Community Survey 5-Year Estimates



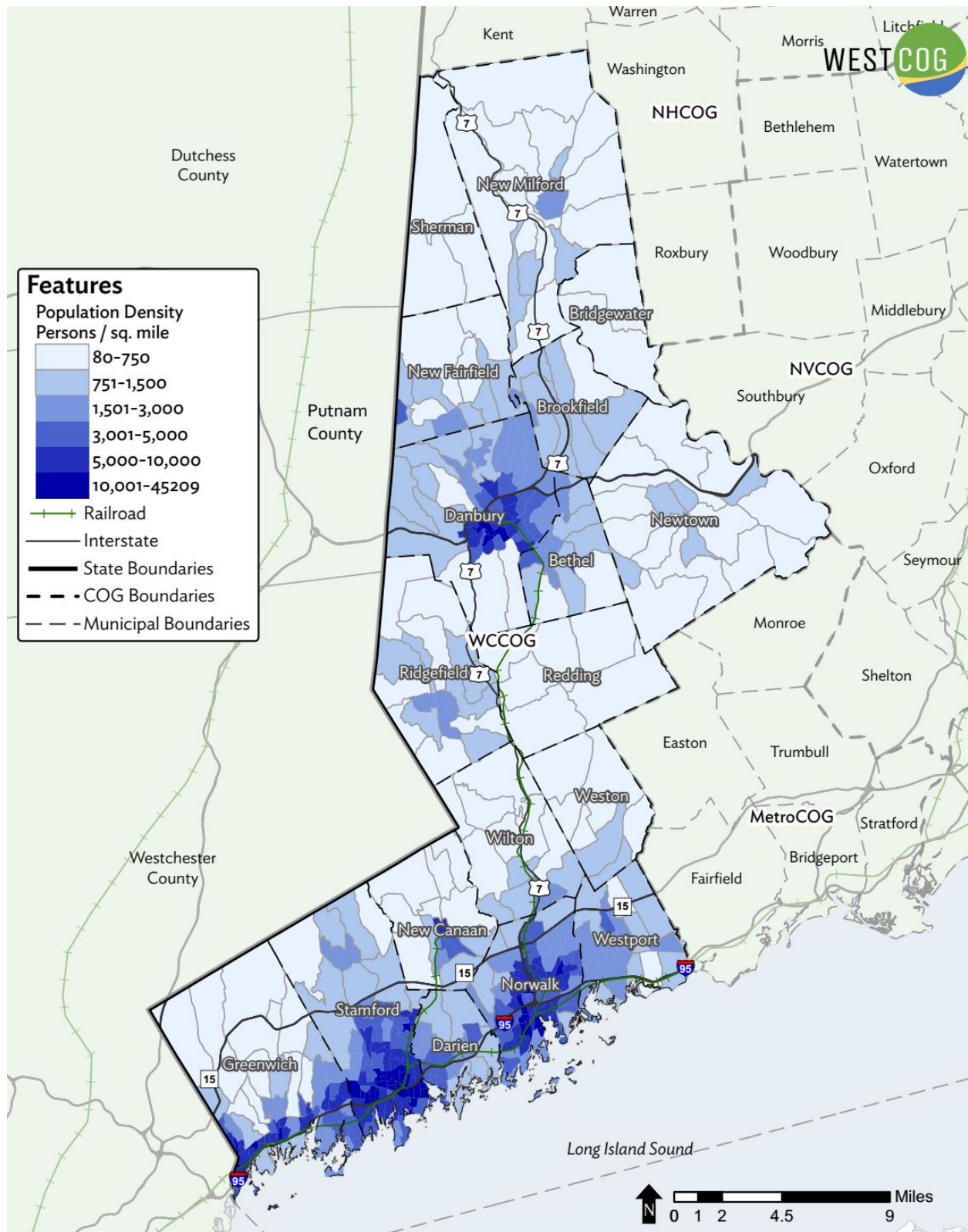


Figure 5. Population Density

Table 2 shows population projections for HVMPO and SWRMPO through 2040. According to the Connecticut State Data Center, most towns in the Region are projected to lose significant portions of their populations by 2040. Of all the towns in Connecticut, Sherman, New Fairfield, Bridgewater, and Weston are projected to experience some of the largest declines in overall population, at 45.0%, 43.9%, 43.6%, and 27.5%, respectively. This shift may be due to an aging population, a

near net zero overall migration rate, and a relatively low, but stable, birth rate. The Region's cities of Danbury, Norwalk, and Stamford, and the town of Darien are expected to gain in population however. With the gains expected in these municipalities, the Region's total population may only shrink by 3.71% by 2040.

Table 2. Population Projections

Year	2015	2020	2025	2030	2035	2040	Percent Change
Danbury	82,757	84,890	87,307	89,801	92,231	94,602	14.3%
Darien	21,026	20,158	19,374	19,286	20,351	22,250	5.8%
Norwalk	85,927	86,304	87,129	88,249	89,241	90,247	5.0%
Stamford	123,941	126,099	128,061	129,813	129,667	128,825	3.9%
Newtown	28,075	27,787	27,122	26,825	27,243	28,220	0.5%
Redding	9,263	9,134	9,073	9,065	9,011	9,007	-2.8%
New Canaan	19,744	18,564	17,687	17,189	17,649	18,563	-6.0%
Ridgefield	24,541	23,167	22,046	21,304	21,437	22,187	-9.6%
Brookfield	16,225	15,781	15,298	14,942	14,634	14,513	-10.6%
Westport	26,194	24,514	22,822	21,598	21,297	21,688	-17.2%
Wilton	17,723	16,417	15,342	14,390	14,223	14,642	-17.4%
Bethel	18,176	17,622	17,010	16,376	15,680	15,007	-17.4%
New Milford	27,594	26,721	25,813	24,760	23,725	22,723	-17.7%
Greenwich	59,681	57,011	54,529	52,160	49,518	47,132	-21.0%
Weston	9,659	8,601	8,121	7,697	7,311	7,007	-27.5%
Bridgewater	1,661	1,507	1,349	1,211	1,065	937	-43.6%
New Fairfield	13,060	11,822	10,460	9,191	8,208	7,324	-43.9%
Sherman	3,279	2,984	2,670	2,349	2,077	1,803	-45.0%
SWRMPO	363,895	357,668	353,065	350,382	349,257	350,354	-3.7%
HVMPO	224,631	221,415	218,148	215,824	215,311	216,323	-3.7%
Region	588,526	579,083	571,213	566,206	564,568	566,677	-3.7%

Source: Connecticut State Data Center, 2015-2040 Population Projections

## An Aging Population

### Median Age

Most municipalities in the Region have a population older than that of Connecticut (40.6). The exceptions are the city of Stamford, the city of Danbury, the city of Norwalk, and the town of Darien (Table 3).

It is important to note that Connecticut has an older population relative to other states. According to the Connecticut Commission on Aging, Connecticut is the seventh oldest state in the Nation by median age. The suburban and rural municipalities in the Region tend to have a higher median age than the Region's cities.

Table 3. Comparative Median Age

Geography	Median Age (Years)
Stamford	36.4
Danbury	37.6
Darien	38.9
Connecticut	40.6
Norwalk	39.3
New Milford	43.6
Greenwich	42.6
Wilton	42.8
Bethel	42.7
New Canaan	43.1
Weston	44.6
Ridgefield	44.7
Newtown	44.5
New Fairfield	44.6
Brookfield	44.8
Westport	44.7
Sherman	47.4
Redding	47.9
Bridgewater	54.8

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

### Age Distributions

According to Figure 6 the Region has notably larger shares of persons in the 45 to 54 age demographic in comparison to the rest of Connecticut, and to the United States at large. These age group categories typically consist of individuals who are working and, additionally, have many years of work experience.

A likely reason as to why the Region has a higher percentage of older individuals, especially in the 45 to 54 age cohort, is the combination of the national trend of the aging 'baby boomer' population and that most who live in the Region live in the suburbs, which is typical of older, more settled individuals and families.

In contrast, the Region has smaller shares of persons in the 20 to 29 age cohort in comparison to the United States and Connecticut. For age categories under 19 years, the Region has similar age distributions to that of the United States and Connecticut. Furthermore, when analyzing Figure 6, it is clear that there are smaller percentages of younger age cohorts to fill in for the gap potentially left by the baby boomer population when they retire.

When analyzing population distribution by age over time, in Figure 6, it is clear that the Region's population has experienced a demographic shift. In comparison to 2000, while there was a minor increase in populations between ages 10 and 24 by 2016, the population of each cohort under age 50 was largely not maintained as they aged. However, populations in the cohorts over 50 years old increased.

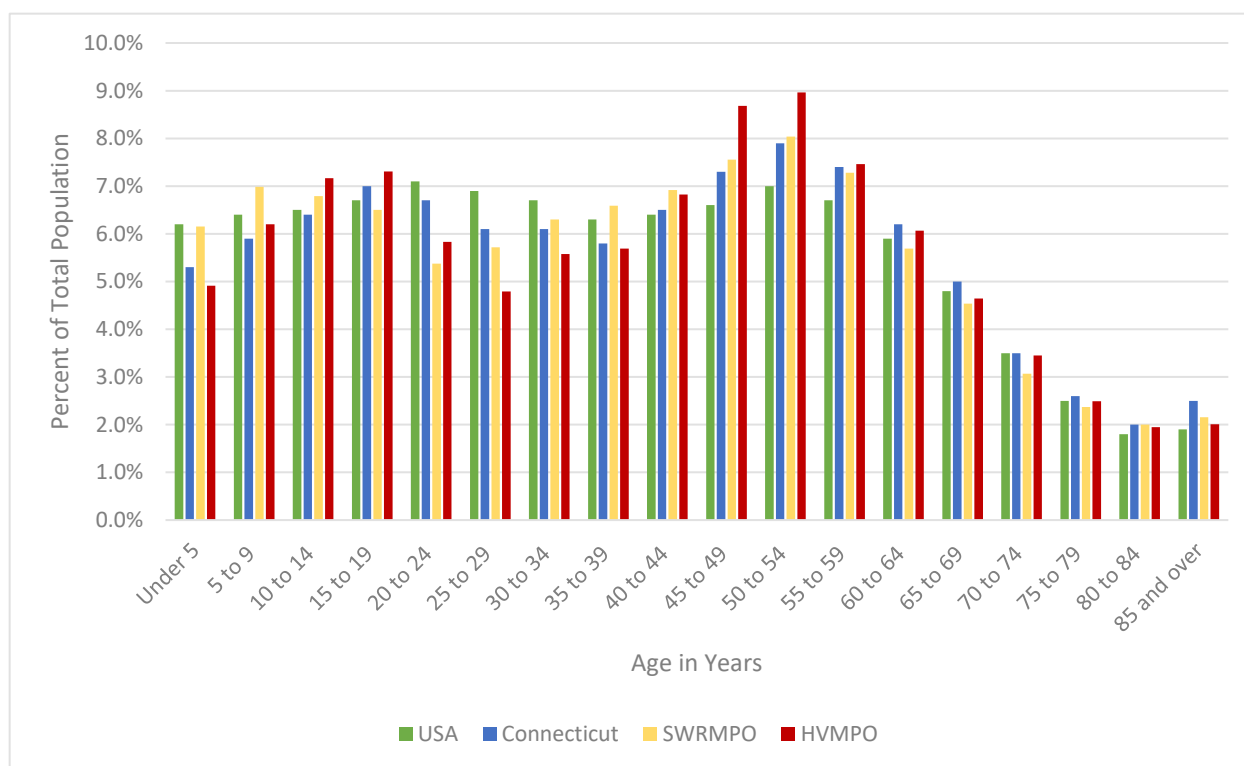


Figure 6. Age Distributions

## Age and Geography

When examining how age is represented throughout the Region more closely, compelling details emerge. Many populations of people 85 and older reside in areas disconnected from public transportation. Some of these populations are within cities but most are in suburban areas. This age group is less likely than others to maintain their driver's license, and more likely to have restricted licenses. Many of these tracts lack public transit services, which can limit the freedom and mobility of this older population. A similar pattern is visible for people 65 and older: while they may still be driving, they can face similar limitations on their mobility.

Restricted from driving by age and graduated permitting, most people under 18 are also without driver's licenses. Like the older cohorts they are concentrated most heavily in suburban tracts away from transit services. However, unlike the older cohorts, they make

up larger portions of census tracts in SWRMPO than in HVMPO. The cohort bucking the suburban trend is 25-54, in the prime working years, they live in higher concentrations in cities and around transit stations.

## Projections on Aging

Connecticut and the Region are aging at a rapid rate compared to the overall populations, as the projections below indicate. This maturation is presenting and will continue to create unique challenges in terms of transit. These trends highlight the importance of developing a transportation system to meet the needs of aging populations.

## Population Under 18

While the Region's cities have lower median ages than the surrounding towns, they have a lower percentage of populations under 18. Without access to drivers' licenses most of this population is dependent on public transport or requesting rides. However, many of the areas



with a high population under 18 are not served by public transit.

University and college presence likely accounts for the lower median age in cities in the Region. Danbury is home to Western Connecticut State University (WCSU), which has approximately 6,200 students; and Naugatuck Valley Community College (Danbury branch), which has approximately 1,000 students. Stamford hosts a University of Connecticut branch with approximately 1,300 students. Norwalk is also home to Norwalk Community College, with approximately 6,700 students.

Another likely contributing factor is that these cities have more diverse and affordable housing options, which are ideal for professionals beginning their careers and for immigrants.

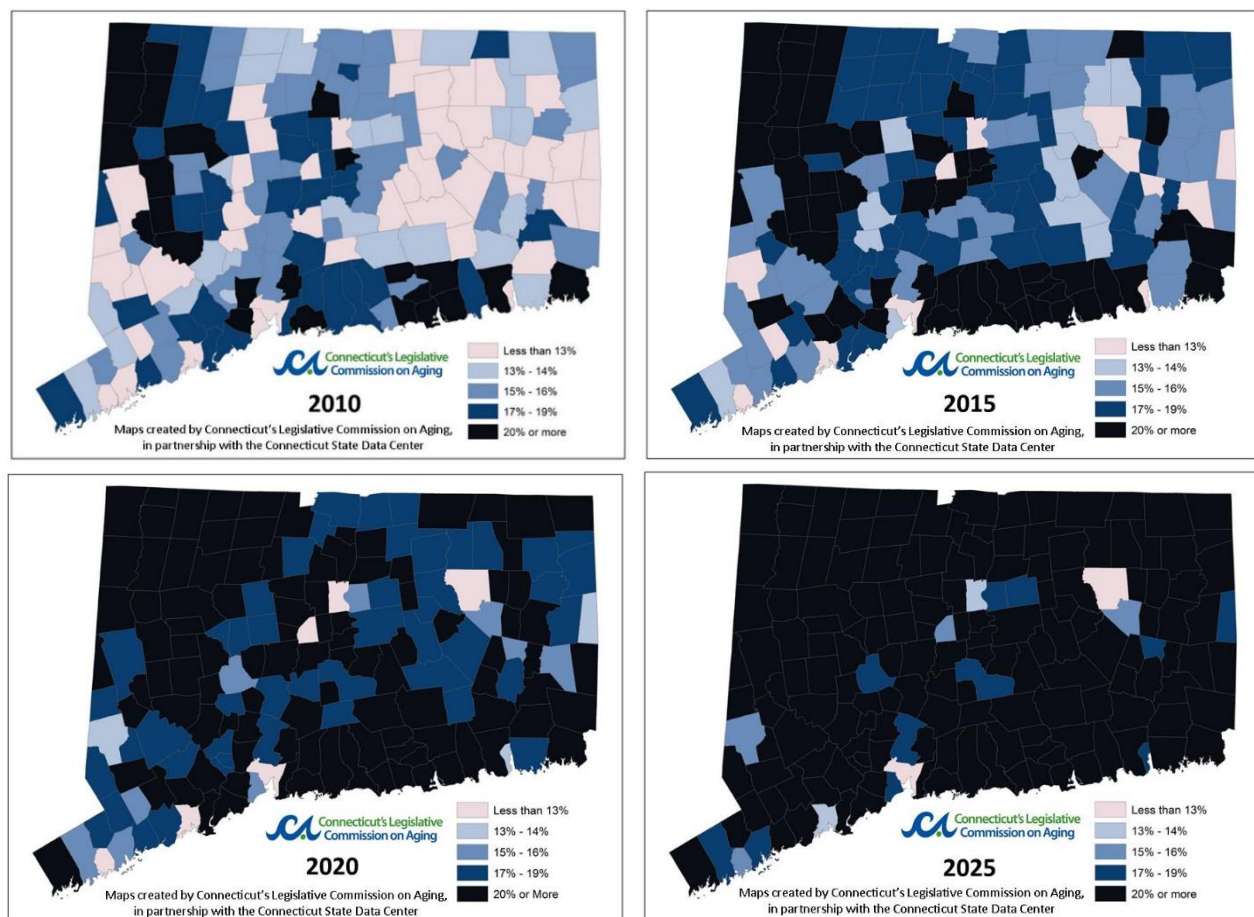


Figure 7. Percentage of People Age 65 and Older as Proportion of Total Population (Source: CT's Legislative Commission on Aging)

## Race and Ethnicity

### Population by Race

Figure 8 displays the US Census data on the self-reported racial and ethnic diversity of the populations of SWRMPO, HVMPO, the State of Connecticut, and the United States on the whole. This comparison reveals that the Region's population is less racially diverse both compared to that of United States, and to the State of Connecticut. Black or African American populations comprise more than 13% of the total population of the United States, and over 11% of the population of the State of Connecticut. Black or African American populations make up the largest share of non-

white demographics both in the US and in Connecticut.

By comparison, Black or African Americans comprise approximately 10% of the population within the South Western Region and 3% within the Housatonic Valley Region.

The many communities that fall within the Region typically have a white majority. Generally speaking, minority populations in both MPOs comprise less than a quarter of the total population (24% of the total population in the SWRMPO, 18.5% of the total population in HVMPO). Minority populations are concentrated in the urban city centers of

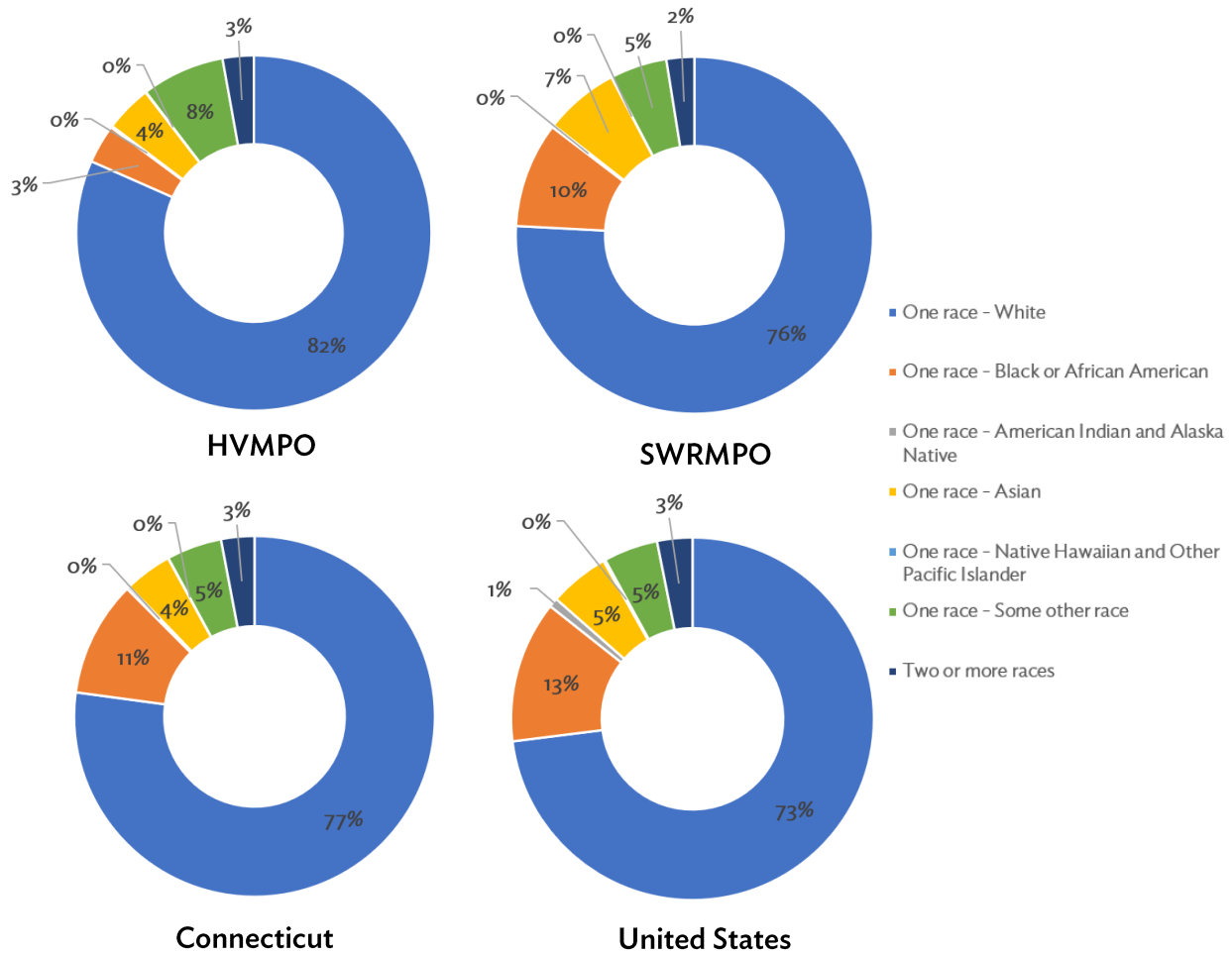


Figure 8. Population by Race

Danbury, Norwalk, and Stamford where there are block groups with majority minority populations. As noted above, these populations could be impacted by either transit or fixed capital investments. Historically transportation investments have impacted population groups differently. It's important that investments are equitable and do not have disproportionate impacts on any ethnic group.

## Transportation System

The Region is well-connected to New York City and other urban and rural areas in Connecticut through its transportation network which includes Interstate 95, Interstate 84, State Route 15, U.S. Route 7, Metro-North commuter rail service, and local bus service. Integrating transportation modes is essential for the efficiency of the area's transportation system and for economic vitality.

The function of the transportation system is critical not only for the Region, but for the entire East Coast. Out of four limited-access highways that provide access to New England, three are located within the Western Connecticut region. These corridors, Interstate 95, Interstate 84, and Route 15 are the gateways to New England and provide a vital connection to the rest of the country.

Much of the Region's transportation activity is concentrated on the highway network, which is primarily oriented towards the major metropolitan areas in Norwalk, Stamford and New York City. Due to these travel patterns, southwestern Connecticut experiences some of the worst congestion in the state, particularly in the morning and afternoon peak periods.

In 2017, INRIX, an analytics company which monitors congestion worldwide, released its 2017 Global Traffic Scorecard. Out of 300 cities monitored in the United States, the City of

Stamford was tied with the City of Boston for the worst peak hour congestion in the country. The City of Danbury was ranked 39<sup>th</sup>.

Due to severe congestion on the highway network and a bustling economy in southwestern Connecticut, access to reliable and frequent commuter rail service is an integral component of developing a transportation system that meets the needs of the Region.

Local transit service also plays an important role in creating a transportation network that offers an affordable mobility option for a variety of users.

Traffic patterns change over time and may be affected by a host of factors including, development, technology, policy, economics, and regulatory and fiscal policy (e.g. highway pricing). In recent years there has been extensive discussion about how best to fund transportation projects. Proposals have included changes to the fuel tax, creation of user fees, vehicle miles traveled tax, kilowatt hour tax, and highway pricing (e.g. tolls). These proposals may have significant effects on the transportation system that will require additional study.



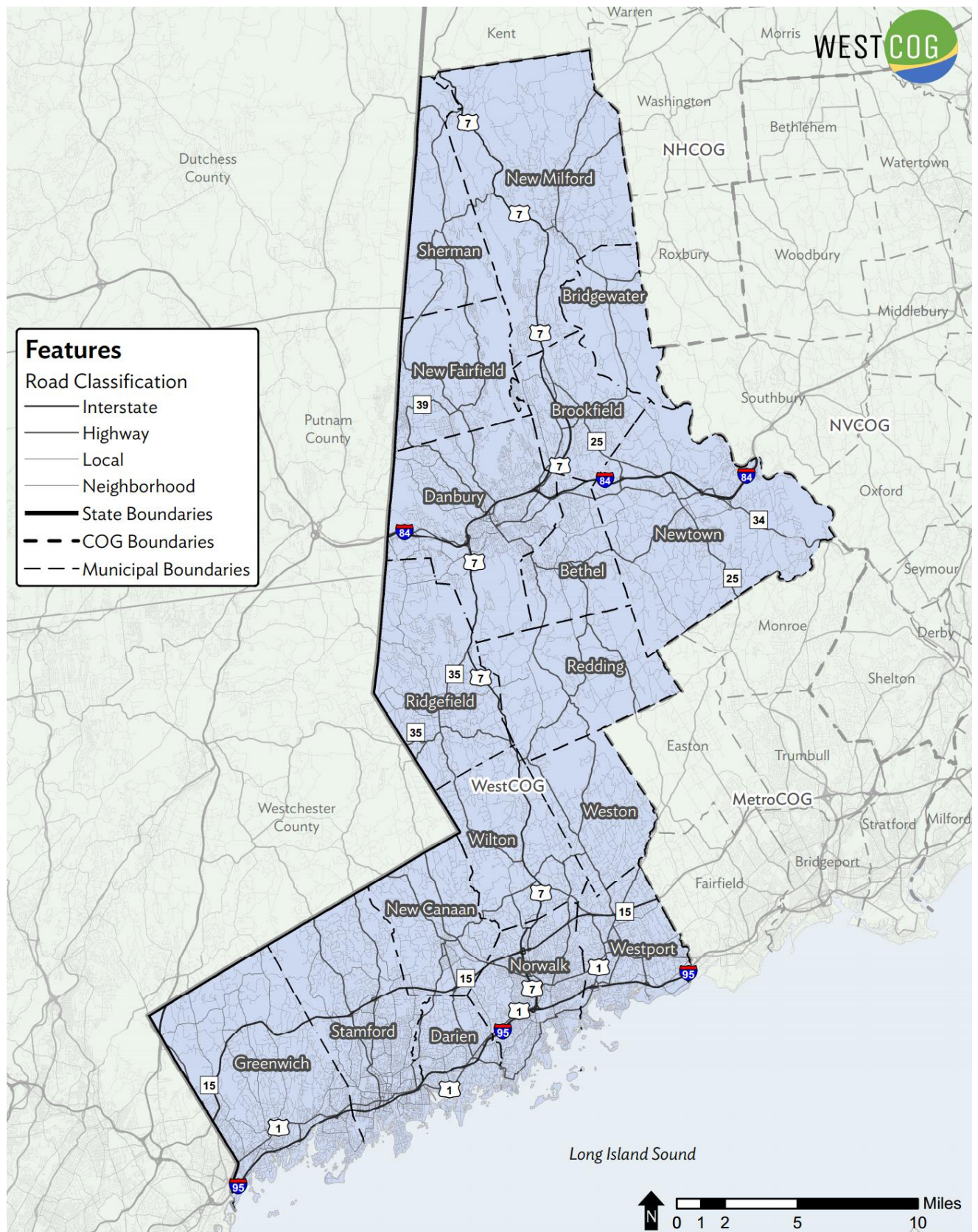


Figure 9. HVMP and SWRMPO Road Network



## Highways and Streets

The classification of roadways by function is a basic organization within transportation planning. It is a process by which streets and highways are grouped into similar classes according to character of travel service they are intended to provide.

Figure 9 displays the road network in HVMPO and SWRMPO, including interstates, highways, and local and neighborhood roads.

### National Highway System

Throughout the nation, the combination of all interstates and some major arterials forms the National Highway System (NHS). The NHS is a federal designation of the most important roadways in the country for the nation's economy, defense, and mobility.

#### Interstate 95

Interstate 95, also known as the Connecticut Turnpike or Governor John Davis Lodge Turnpike, is the South Western Region's busiest highway. Opening in 1958 and traversing the Region from the state line in Greenwich to Westport, I-95 serves as the spine of the highway network, carrying upwards of 150,000 vehicles per day in certain segments and providing access to employment centers and residential areas alike. In addition to providing the main highway connection to Connecticut and the New York City Metropolitan Area, I-95 must also be viewed from a national and global perspective as a link in the superhighway that stretches 1,925 miles from Canada and Maine south to Florida, making it a critical route for passenger travel and goods movement.

On the western side of the corridor, I-95 provides a connection into New York to Route 278 and the Cross-Bronx Expressway. On the eastern side of the corridor, I-95 provides access to Bridgeport, New Haven, Providence,

RI, and Boston, MA. In New Haven, I-95 connects to Interstate 91 which provides access to north to Hartford, Massachusetts and Vermont.

Interstate 95 between the state border and New Haven experiences the most significant truck bottlenecks in Connecticut. According to IHS-Transearch data, I-95 between the state border and New Haven is one of three corridors that carries the highest volume of trucks in the state, by tonnage and volume. The movement of goods along this corridor is critical for the regional and national economy.

#### Interstate 84

Interstate 84 is the busiest highway in the Housatonic Valley Region. Like Interstate 95, Interstate 84 serves a critical role in the movement of people and goods within the Region, greater metropolitan area, and the eastern seaboard.

On the western side of the corridor, Interstate 84 provides a vital connection to the New York area and access to Interstate 684 and Route 22.

Through Danbury, Interstate 84 serves as an important corridor for moving both through and local traffic. The Exit 3 interchange is the interface with Route 7 which provides access south of Danbury to Ridgefield, Redding, Wilton, Norwalk and connection to the Merritt Parkway. The Exit 7 interchange is the interface with Route 7 which provides access north of Danbury to Brookfield and New Milford. Current traffic volumes show that I-84 through the Danbury area carries between 85,000 and 110,000 vehicles each day.

Through Newtown, Interstate 84 provides a connection to Route 6 and Route 25. Continuing east, I-84 provides access to Waterbury and Hartford, and connects to the Massachusetts Turnpike.

### *Route 15*

Route 15, also known as the Merritt Parkway in the Region, is nationally recognized for its historic beauty and unique design. Constructed in 1938, the entirety of the Parkway is designated as a national scenic byway and a state scenic highway, and is included on the National Register of Historic Places. In 2010, it also was named to the National Trust for Historic Preservation's 11 Most Endangered Historic Places. Since then, many efforts have been initiated to preserve the historic nature of the highway which has become a cultural resource, a tourist destination, and a gateway to the Region's tourism economy.

Just as importantly, and similar to I-95, The Merritt Parkway is a critical link in the South Western Region's highway network. The Merritt has interchanges with key arterials that connect the Region's downtowns and town centers, and serves as an alternate route for passenger vehicles when an incident disrupts Interstate 95. East of the Housatonic River, Route 15 continues as the Wilbur Cross Parkway and the Berlin Turnpike, providing access to central Connecticut and the I-91 corridor. Beyond the New York State border, the Merritt Parkway becomes the Hutchinson River Parkway, connecting the Region with Westchester County and New York City.

### *Route 7*

Route 7 provides an essential north-south link between the coastal corridor's business and economic centers and the residential communities of northern Fairfield County, and is the primary connection from the South Western Region to I-84 and Danbury. As such, the highway serves diverse trip purposes, including local trips, trips originating in the Route 7 corridor and travelling outside of it, and through travel of trips originating and

terminating outside the Route 7 corridor. When considering these disparate trip purposes in conjunction with a unique set of topographical, environmental, and land use contexts, it is not surprising that competing visions of Route 7's future existence have emerged and have been debated vigorously.

Route 7 begins as an expressway that connects South Norwalk to the Merritt Parkway and Merritt 7 office park. Approximately one mile north of the Merritt Parkway interchange, the Route 7 expressway abruptly ends as it transitions into a 4-lane primary arterial northward into Wilton, where suburban-type commercial development lining the highway. Further north, approaching Wilton Center, the intensity of development dissipates, as the highway begins to exhibit more rural characteristics. North of Olmstead Hill Road, Route 7 narrows to two lanes, and traverses a more densely vegetated environment but still developed environment before reaching the Georgetown section of Redding.

Route 7 continues north through Ridgefield, primarily as two lanes until the intersection at Route 35 at which point Route 7 transitions to four lanes. In Danbury, Route 7 merges with Interstate 84 through to Exit 7. At this point Route 7 continues north into Brookfield as four lanes and provide access to the downtown commercial area. Once in New Milford, Route 7 splits with Route 202 and heads northeasterly out of the Housatonic Valley Region.

## **Critical Corridors**

### *Route 1*

Route 1 is the South Western Region's most important surface arterial as well as a Main Street for many neighborhoods and communities. From the state line in Greenwich through Westport, Route 1 serves as the Region's primary retail and service corridor, is

home to many of the Region's largest employers, has the highest bus ridership, and functions as an alternate route for I-95 during major incidents.

The cross-section of Route 1 varies according to its context. Through the highway commercial areas of Greenwich, Norwalk, and Westport, Route 1 has two-to-three travel lanes in each direction and many curb cuts. Through town and neighborhood centers in Stamford, Darien, Norwalk, and Westport, Route 1 is narrowed to one lane in each direction, with turn lanes at some intersections. Pedestrian activity is highest in town and neighborhood centers. Nearly all the signals on Route 1 are owned and maintained by municipalities. Route 1 has six expressway interchanges, meaning it also functions as a link between local streets and the expressway system. Maintaining efficient traffic operations and safety in such a complex corridor is quite challenging.

### Other Corridors and Local Roads

The performance, safety, and functionality of major surface streets in the Region notably include: Route 25, Route 34, Route 202, Route 57, Route 53, Route 58, Route 136, Route 33, Route 35, Route 104, Route 106, and Route 123, Route 124, and Route 136.

In recent years, with the growth of smart phones and mobile applications like Google Maps and Waze, local roads have experienced an increase in vehicular traffic. This has highlighted the importance of understanding the function of the entire roadway network, from the highways down to the local neighborhood streets.

## Congestion

Traffic congestion is widely recognized as a preeminent quality of life issue in western Connecticut. Recurring highway congestion, slow speeds, delays are a common complaint and have been repeatedly recognized as a drag on the Region's economy. Major corridors like Interstate 95, Interstate 84 and Route 15 experience congestion particularly

during the morning and afternoon peak periods. While most drivers in the Region expect a certain level of delay due to peak rush hour travel, some congestion is unexpected and excessive resulting in unpredictable travel times.

Due to its population, SWRMPO is designated as part of a Transportation Management Area

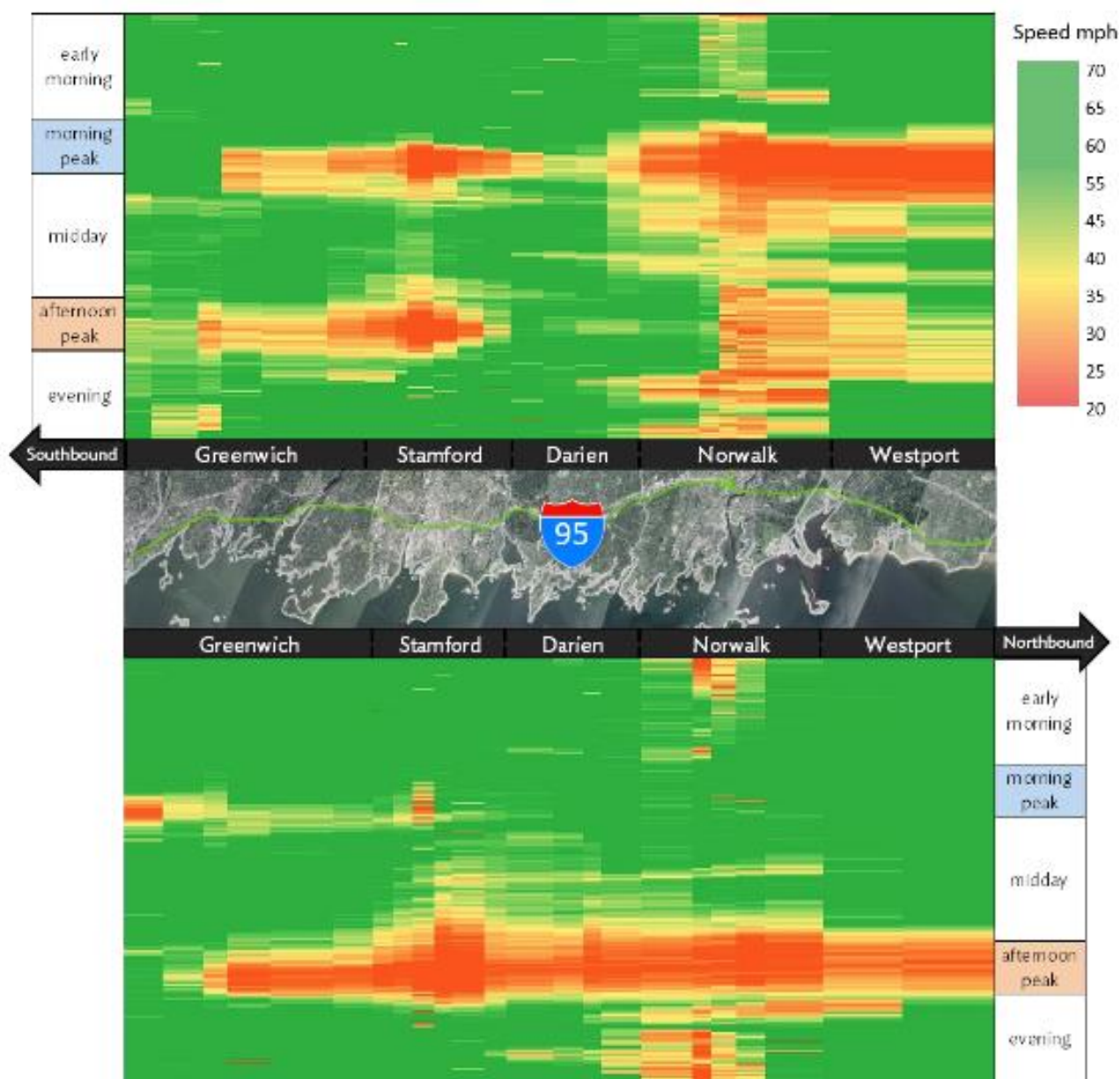


Figure 10. 2016 CMP Briefing: I-95 Speed-Space Time Diagram

(TMA). As a result, SWRMPO is federally required to develop a Congestion Management Process (CMP). The purpose of a CMP is to evaluate and monitor traffic congestion and system performance.

Although the CMP is only required for Bridgeport-Stamford Urbanized Area, congestion is not isolated solely within the South Western Region boundaries. In an effort to develop a more comprehensive CMP report, the analysis has been expanded to also include the Housatonic Valley Region. The analysis of congestion is a planning activity that is closely coordinated with neighboring MPOs.

The CMP is primarily concerned with recurring congestion created by peak period demand rather than non-recurring congestion created by crashes or other incidents. The CMP serves as a tool for evaluating deficiencies within the system and the effectiveness of transportation improvement projects over time.

Figure 10 shows the average speed along I-95 by direction and time of day. Speeds are represented by colors ranging from green (fast) to red (slow). While congestion is most apparent during the peak commuting hours, the data has also reflected a wider spread throughout the day during the mid-day and evening periods.

## Safety

HVMPO and SWRMPO recognize the importance of a safe transportation system for all roadway users, including motorists, bicyclists, pedestrians and transit riders.

HVMPO and SWRMPO support the strategies to enhance safety as identified in CTDOT's Strategic Highway Safety Plan (SHSP) and Highway Safety Improvement Program (HSIP).

CTDOT's 2017-2021 Strategic Highway Safety Plan (SHSP) is a statewide data-driven safety

plan which integrates the 4E's of safety (education, enforcement, engineering, and emergency services). CTDOT's goal is to reduce the number of serious injuries and fatalities on all public roads in the state by 15% by the year 2021. To achieve this goal, the Plan focuses on the following emphasis areas: critical roadway locations, driver behavior, young drivers, non-motorized road users, motorcyclist safety, and traffic incident management. The Plan identifies a series of statewide goals, performance objectives, and strategies to enhance safety in each of the six emphasis areas.

## Regional Safety

In addition to supporting the statewide strategies identified in the SHSP and HSIP, HVMPO and SWRMPO are committed to enhancing safety on a regional level. This is achieved by completing safety analyses and using a data-driven approach in reviewing and prioritizing transportation projects.

In 2017 an analysis was completed in which safety was measured along local roads using TAZs. TAZs are clustered based on statistically significant demographics including: population density, land cover density, roadway mileage, number of intersections, number of households, total vehicles, and average household income. Using TAZs to analyze safety allows for comparisons within similar clusters (Figure 11 and Figure 12).



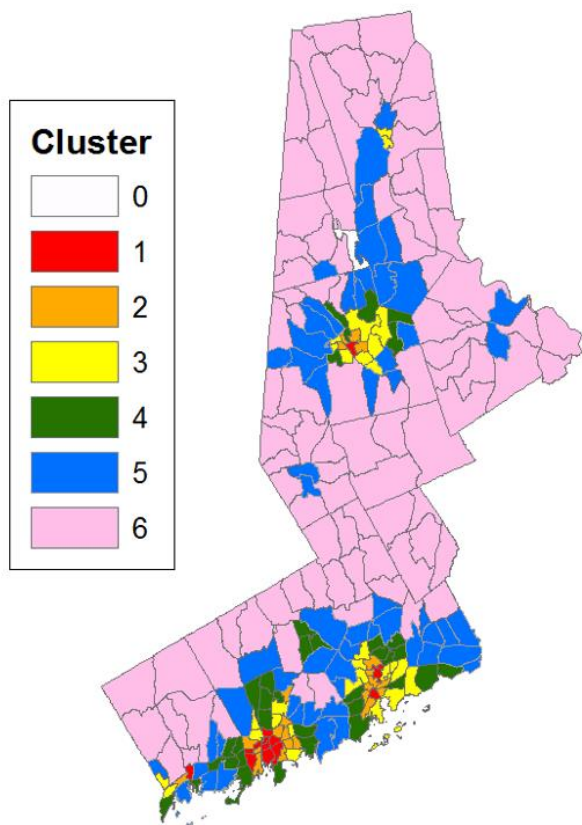


Figure 11. TAZs in HVMP and SWRMPO (2017)

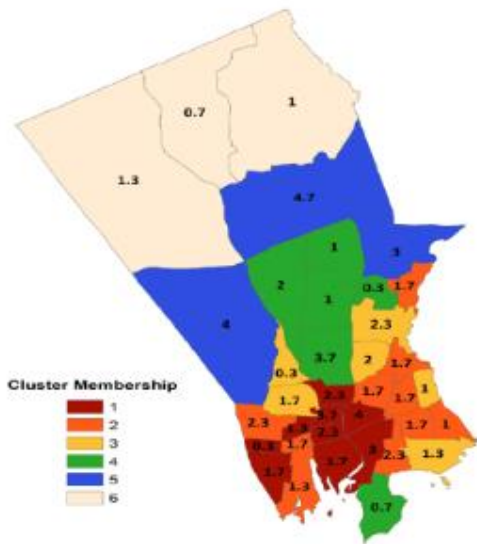
This analysis provided an opportunity to evaluate observed crashes and expected crashes. The results of this analysis were used in determining the locations that demonstrated the most need for safety improvements and were helpful in prioritizing transportation project proposals.

#### Community Connectivity Program

CTDOT implemented the Community Connectivity Grant Program to focus on pedestrian and bicyclist safety throughout the state. Through this program, municipalities were provided an opportunity to receive assistance in completing a Road Safety Audit (RSA) to examine safety challenges and identify counter-measures. The following towns completed an RSA through this program: New Milford, New Fairfield, Bridgewater, Brookfield, Danbury, Ridgefield, Stamford, Norwalk, Weston, Greenwich and Westport. CTDOT also completed a more comprehensive RSA along Route 1 in the South Western Region.

In 2018 and 2019 CTDOT awarded grants to municipalities to help improve safety and

(c) Number of Observed Segment Crashes by TAZ  
Stamford, CT



(d) Number of Expected Segment Crashes by TAZ  
Stamford, CT

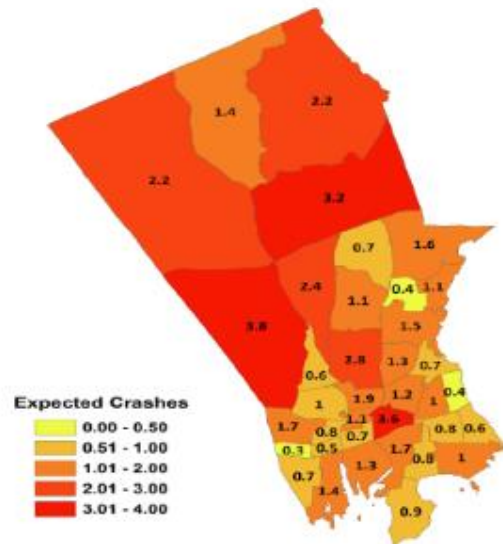


Figure 12. TAZ safety analysis in Stamford, CT



accessibility for all pedestrian and bicyclists. The following municipalities received grants in 2018 and 2019: Ridgefield, New Milford, Danbury, Bethel, Bridgewater, Brookfield, Norwalk, Weston, Westport and Stamford. These grants were awarded for a variety of projects including sidewalks, signage, bicycle facilities, and lighting.

### *Road Safety Audits*

Following the success of CTDOT's Community Connectivity Grant Program, municipalities in HVMPO and SWRMPO expressed interest in conducting more RSAs to address safety challenges. WestCOG staff coordinated with the UCONN Technology Transfer Center to provide technical assistance in completing RSAs in New Fairfield (Figure 13), Darien and Stamford. WestCOG prepared reports for each municipality documenting the RSA and the various short-, mid-, and long-term recommendations.



Figure 13. New Fairfield Road Safety Audit

### *Regional Transportation Safety Plan*

A Regional Transportation Safety Plan will be developed for WestCOG that will cover both HVMPO and SWRMPO. The purpose of this plan is to develop effective measures and goals to reduce potential future crashes and ultimately reduce serious injuries and fatalities. The plan is expected to begin in the summer of 2019 and will be completed in one year.

## Passenger Rail Network

Tens of thousands of local residents rely on the service provided on the New Haven Line, Danbury Branch Line, and the New Canaan Branch Line. The New Haven Line, running from New Haven to New York City, is owned by the State of Connecticut (between New Haven and the New York state line) and operated by Metro-North under an agreement between the State of Connecticut and the Metropolitan Transportation Authority. The Danbury and New Canaan Branch Lines provide service to communities north of the New Haven Line.

Figure 14 displays the passenger rail lines in the Region, as well as the locations of station parking and park-and ride lots.

### New Haven Line

The New Haven Line, which runs between New Haven and New York City, is the busiest commuter rail line in the nation. The New Haven Line provides service to four stations in Greenwich (Greenwich, Cos Cob, Riverside, Old Greenwich), one station in Stamford, two stations in Darien (Noroton Heights and Darien), three stations in Norwalk (Rowayton, South Norwalk, East Norwalk) and two stations in Westport (Westport and Green's Farms).

### Danbury Branch Line

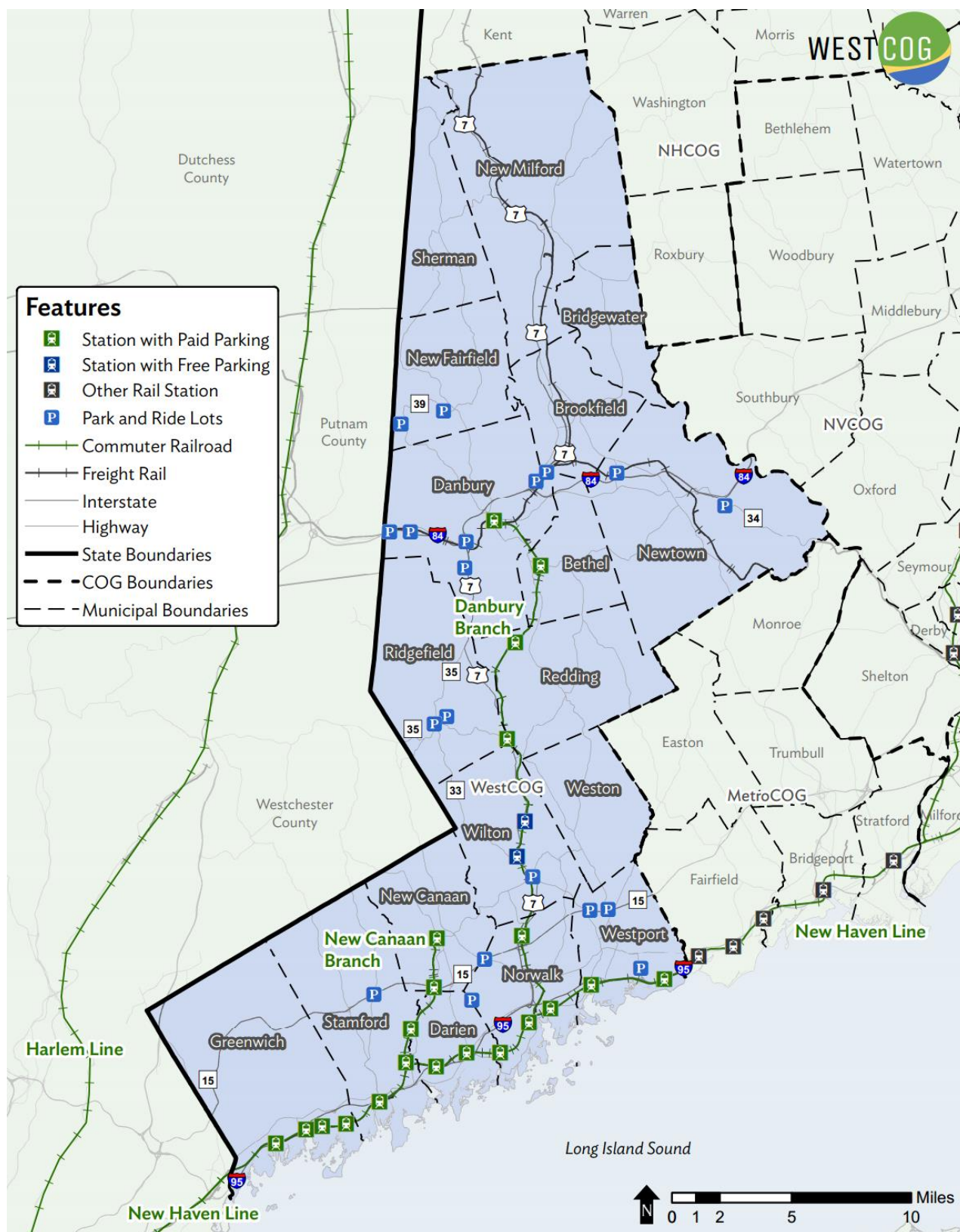
The Danbury Branch Line is a 23.6 mile single track, non-electrified rail line. The line has passing sidings in Branchville, Wilton, and Norwalk. It has passenger stations in Danbury, Bethel, West Redding, in the Branchville section of Ridgefield, two stations in Wilton (Cannondale and Wilton), and two stations in Norwalk (Merritt 7 and the branch line terminal in South Norwalk).

### New Canaan Branch Line

The New Canaan Branch Line provides service north of Stamford at two stations (Glenbrook and Springdale), and two stations in New Canaan (Talmadge Hill and New Canaan).

### Ridership

According to the 2017 [Metro-North Rail Ridership Report](#), ridership on the New Haven Line experienced a slight decline between 2016 and 2017. The Inner New Haven Line recorded a 0.4% decrease in ridership, and the Danbury Branch Line recorded a 3.1% decline. Ridership on the New Canaan Branch Line remained the same.



## Bus System

### Bus Network

Buses play a vital role in the Region's transit network, providing an affordable and dependable mobility option for transit-dependent residents, daily commuters and "choice" riders who choose transit over driving.

Within the Region, bus service is provided by the following operators: Housatonic Area Regional Transit District (HARTransit), Norwalk Transit District (NTD), Connecticut Transit Stamford Division. Figure 16 displays the geographic coverage provided by these operators.

HARTransit provides urban fixed route service to Danbury, Bethel, Brookfield, and New Milford. The urban fixed route bus system operates in a pulse or timed-transfer mode, with all routes meeting at the Pulse Point (central bus station) in Downtown Danbury at the same time at regular intervals Monday through Sunday. This routing structure allows passengers to easily transfer from one route to another at the same place without long waits. Routes are interlined or paired together to allow a moderate proportion of passengers to travel from one route to another without physically switching buses. HARTransit also operates the 7 Link, which provides service along Route 7 through Danbury, Redding, Ridgefield, Wilton and Norwalk.



Figure 15. Route 7 Link Bus

HARTransit also operates three LOOP bus routes which serve Bethel, Brookfield, Danbury and New Milford. The LOOP is designed to complement the urban fixed route system by providing public transit to major employment and low-income housing after the close of the business day. These routes provide a scaled down version of the urban fixed route system, with hourly headways and a timed transfer at the HARTransit Pulse Point.

In addition to these routes, HARTransit also provides weekday shuttle service from park-and-ride lots in Connecticut and New York to the train stations on the northern portion of MTA Metro-North Railroad's Harlem Line. The shuttles are the Danbury-Brewster Shuttle, the Ridgefield-Katonah Shuttle, and the New Fairfield-Southeast Shuttle.

The shuttles are designed to meet morning southbound train departures and afternoon and evening northbound arrivals, primarily for commuters working in White Plains and New York City.

In 2017, HARTransit reported an 9% decrease in annual unlinked trips.

The Norwalk Transit District (NTD) provides local fixed-route service in Norwalk, regional fixed routes services (Coastal Link), Commuter



Connection Shuttles in Westport, Norwalk, and Greenwich. The total population of all communities served throughout Fairfield County is more than 900,000. The primary service area of Norwalk and Westport has a population of 110,000.

Services today consist of eight (8) fixed bus routes that operate Monday through Friday and six (6) routes that operate on Saturday, generally from 6:00 a.m. to 7:30 p.m. Additionally, services known as the Norwalk Evening and Sunday Shuttles operate on two routes, one serving the Connecticut Avenue corridor and the second serving the Main Avenue corridor. As part of the People-to-Jobs initiative Evening and Sunday Shuttles began in 1998 extending service in the central corridors of Norwalk. Working with regional partners to our east (Greater Bridgeport Transit and Milford Transit), the Coast Link began in 1999. In cooperation with Greater Bridgeport transit and the Milford Transit District, the District operates the Coastal Link, a regional fixed route bus service along Route 1 corridor through Norwalk, Westport, Fairfield, Bridgeport, Stratford, and Milford which is one of the heaviest used routes in the State of Connecticut.

The District also operates five Commuter Connection Shuttle routes, serving the train station in Norwalk, the Norwalk Community College, Merritt 7 buildings, 10/20 Westport Road, Norwalk, Hospital and Highland Avenue Express. All five of the shuttles meet Metro-North Railroad trains at the South Norwalk rail station.

Commuter Shuttles have been the backbone of Westport's services since the inception of the Westport Transit District in the late 1970's. Norwalk Transit District assumed responsibility for the operation of those services in 1992. Commuter Shuttles connect residential neighborhoods with the Greens Farms and

Saugatuck rail stations during the morning and evening commuting hours. Shuttles between the rail station and the downtown are also offered. Within the Town of Westport, the District operates commuter services on seven routes weekdays to and from the Saugatuck and Greens Farms rail stations.

Commuter Shuttles have been in place in Greenwich since the early 1990's. The service connects commuters from Greenwich rail station with two business corridors in downtown Greenwich. The District also operates two commuter shuttles that serve the Greenwich Metro-North rail station.

In 2017, NTD reported an 11% decrease in annual unlinked trips. Annual ridership in 2018 was approximately 1.43 million passenger trips, utilizing a total of fleet of 38 peak vehicles.

NTD is redefining service – reducing service where ridership where has declined and enhancing service where demand has changed. NTD is working on enhanced commuter and route design concepts in Norwalk and Westport to move commuters and residents more efficiently. NTD introduced AVL technology in 2016, resulting in better real time information for its customers and management of resources. NTD's mobile app, mySTOP, provides that information.

The face of the public transit industry is changing across the country. Decision-makers and planners are looking to microtransit to optimize existing services. In September 2018, NTD launched a microtransit demonstration project branded Wheels2U in response to the needs of new customers resulting from TOD. Partnering with the City of Norwalk and area developers, microtransit was brought to the table as part of the development solution. The concept is new to the industry and offers on-demand service in Norwalk that provides a unique and convenient alternative mode of transportation. There isn't a specific route like

a traditional bus. A specific travel zone has been designated. By using an app, riders can request pickup and drop off locations within the zone. The shuttle drivers also have an app in each vehicle to provide navigation, live traffic conditions, and real-time pick-up and drop-off information. Services are offered Thursday through Saturday from 5:00 p.m. to midnight and Sunday from noon to 9:00 p.m.

The Wheels2U service is intended to improve the connection between South Norwalk, Maritime Aquarium, the SONO Collection, Wall Street and West Avenue TOD development areas and other key locations that include the East and South Norwalk Train Stations. During the initial five-month demonstration period over 4,000 trips were provided averaging 2.3 passengers per revenue hour. Recent data from the week ending March 17, 2019 recording 257 passengers were carried at a production rate of 4.28 passengers per revenue hours indicating significant growth over the early introduction period.

In 2019, the District will test microtransit in a first and last mile design concept. NTD believes that microtransit will positively impact the city's social mobility and its economic viability, while also addressing growing concerns stemming from traffic congestion and parking congestion.

CTtransit's Stamford Division provides transit services throughout the City of Stamford, and also intercity service to Greenwich, Darien, Norwalk and Port Chester, NY. Most of these routes operate in a radial pattern from the city's main hub at the Stamford Transportation Center. In 2017, CTtransit Stamford reported an 11% decrease in annual unlinked trips.

The Stamford Transportation Center (STC) serves as a critical transportation hub in south western Connecticut. In 2018, a study of the local transit service and private shuttle network in Stamford was completed. The study

evaluated a range of alternatives and ultimately recommended several transit improvements such as service level increases, express services, transit priority measures, changes to the route network, and stop consolidation.

While CTtransit Stamford does not provide shuttle connections like HARtransit and NTD, there is an active shuttle service at the STC which is operated privately by Stamford businesses and employers.

While ridership has experienced a decrease in the Region, this is not a reflection on the service provided, but rather of a nation-wide trend. The local and intercity service provided by these operators continues to be an integral component in developing a transportation system that enhances mobility options, reduces single-occupancy trips, and reduces congestion.

## Human Services Transportation

Human services transportation is a vital component of the transportation system. This type of service generally refers to the services, program and resources available to assist persons that otherwise would have limited transportation options and personal mobility. Human services transportation providers aid residents that are otherwise unable to drive or independently travel by transit by offering transportation access to family and friends, doctors, pharmacies, supermarkets, places of employment, houses of worship, recreation facilities and other social services and personal needs, which can improve their quality of life.

Beyond fixed route service, each transit district also provides transportation services for Seniors and Persons with a Disability.

HARtransit provides paratransit and Dial-a-Ride services, known locally as the SweetHART service, to eight communities. NTD also provides paratransit service to Norwalk,



Greenwich, Westport, and within  $\frac{3}{4}$  mile radius of CTtransit routes in Greenwich and Darien.

NTD has provided door-to-door paratransit service to its residents since 1978. Currently ADA service is offered in Norwalk and Wilton. IN 1991, NTD became responsible for the CTtransit Stamford operating division's ADA service opening the ADA service area to the City of Stamford and within  $\frac{3}{4}$  mile radius of CTtransit bus routes in Greenwich, Darien, and Westchester County New York. In 1992, ADA and paratransit service for Westport elderly and residents with disabilities was added with service provided based on individual specific program requirements to Wilton, Weston, Norwalk, Darien, New Canaan, Stamford and Greenwich. Wilton also offers a town-to-town program for its residents with disabilities like that offered by Westport. Paratransit in the southwest region is fully integrated and coordinated by NTD. Annual ridership in 2018 was approximately 100,000 passenger trips utilizing a total fleet of 21 owned and operated vehicles and 16 contracted owned and operated vehicles.

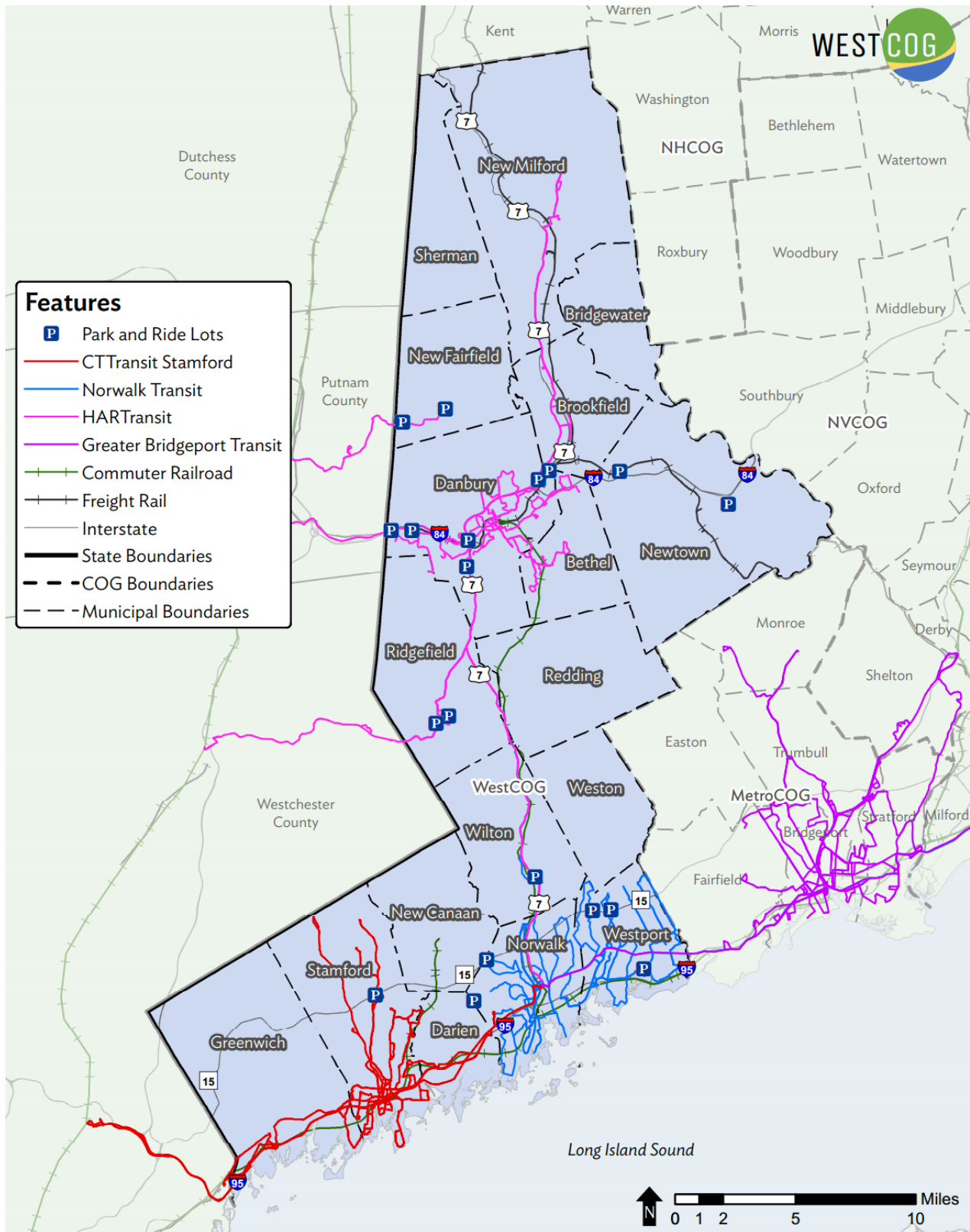


Figure 16. Transportation Systems

## Freight

Of the three limited-access highways that provide highway freight access to New England, two are located within the western Connecticut region. As a result, Interstates 95 and 84 both experience a larger volume of freight truck traffic. In addition to the highway, freight also moves on the rail network through the Region. Challenges with highway congestion and aging rail infrastructure continue to hinder freight movement.

In 2017, CTDOT published the [Connecticut Statewide Freight Plan](#). This document highlights the existing freight network, the challenges in moving goods through the state,

and strategies to mitigate these issues. Key recommendations include:

- Addressing the state's most significant highway freight bottlenecks
- Addressing rail freight capacity issues
- Increasing the supply of truck parking
- Modernizing technology

### Freight Bottlenecks

The Connecticut Statewide Freight Plan analyzed truck movement along the National Highway System and identified locations where congestion was the most severe (Figure 17). Within the Region, these locations include the entire I-95 corridor as well as I-84 between the New York state border through Danbury and east of Danbury between US-202 and CT-34.

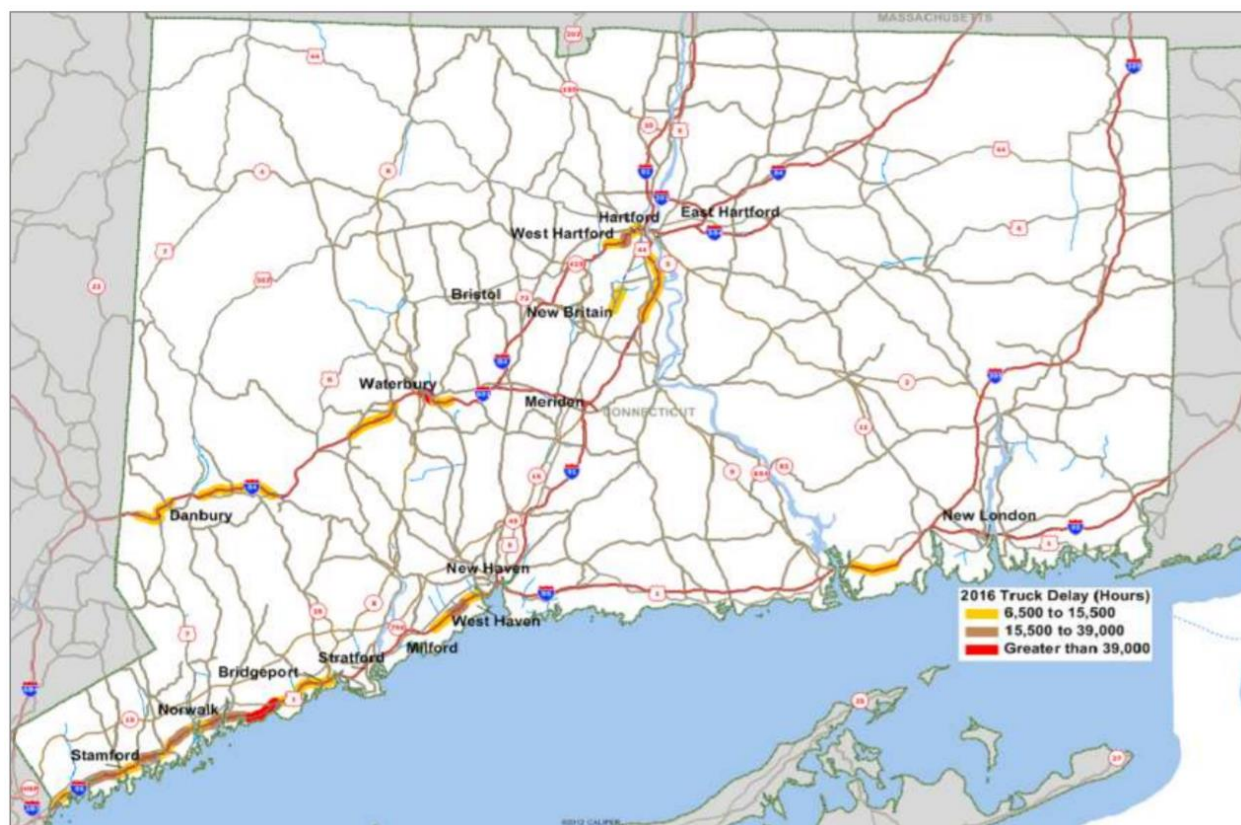


Figure 17. Highway Truck Congestion from 2016 (Source: CTDOT Statewide Freight Plan)

## Truck Parking

While the predominant issue along Interstates 95 and 84 is congestion, both of these corridors are also challenged with a shortage of truck parking.

Figure 18 identifies the locations of sanctioned truck parking areas along I-95 and I-84. Due to a high volume of truck freight along these corridors, and only three sanctioned truck parking lots, the demand for truck parking exceeds the existing supply.

Federal legislation has placed safety regulations on the number of hours freight operators may drive. These regulations, coupled with a shortage of parking areas, has resulted in freight operators parking trucks in unsanctioned locations. Truck drivers who reach their Federal Motor Carrier Safety Administration (FMCSA) limit on hours often park along the entrance and exit ramps and shoulders of Interstate 95 and Interstate 84.

## Rail Freight

Most goods moving through the Region on the rail network are bulk commodities such as crushed stone, lumber, rolled paper, steel, chemicals, and waste products.

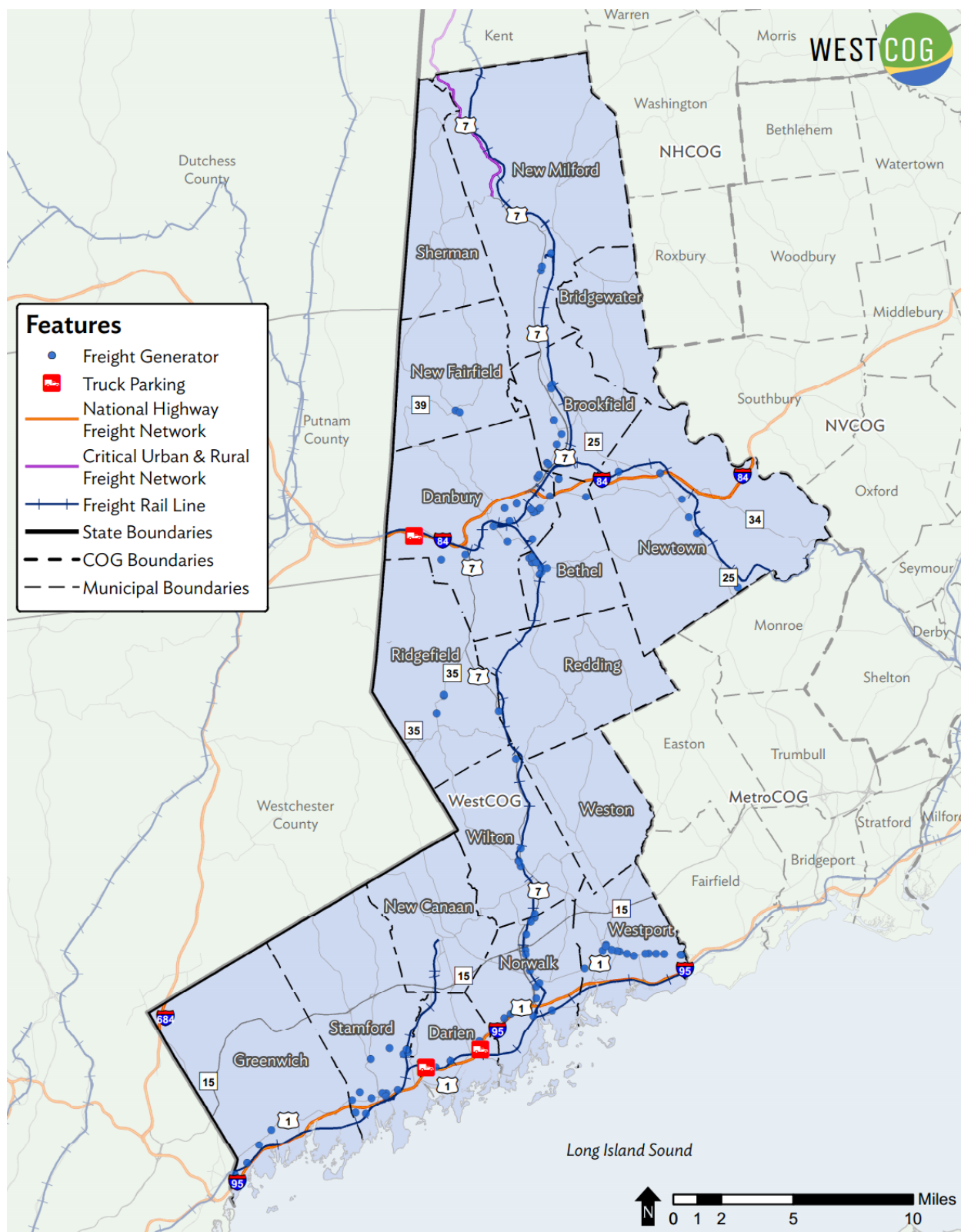
## Freight Generators

To assist with the development of CTDOT's Statewide Freight Plan, WestCOG prepared a list of freight stakeholders in the Western Connecticut region in 2017. These stakeholders included any entity involved in the movement of goods, whether as a shipper or a receiver.

Freight generators were defined as any business larger than a single box store and having three or more loading docks at their site. All shopping centers were included, and manufacturers with a million dollars or more in sales volume were grounded truths for sign of freight distribution.

These generators include warehouses, distribution centers, freight railroads, larger shopping centers, malls, trucking companies, manufacturers, freight forwarders (UPS, FedEx, US Postal Service, etc.), and Lumber Retail.

While this list is not an exhaustive representation of freight generators in Western Connecticut, it serves as a starting point for identifying areas in the Region that may have more than usual freight transportation activity. Figure 18 displays the location of freight generators. This data will be used as WestCOG prepares to develop a Regional Freight Plan, covering both HVMPO and SWRMPO which will begin in 2019.





## Bicycle and Pedestrian Network

Active transportation are modes of transportation that use human power to move from destination to destination. Walking and biking are considered active modes of transportation. Many organizations like the Center for Disease Control and Prevention (CDC) and the U.S. Department of Transportation promote better access to active transportation because of benefits like reducing obesity levels and air pollution and other risks associated with chronic illness and affordability.

### Present Mode Share

Commuters were asked in the 2012–2016 5-year American Community Survey what mode of transportation they used for most of their journey to work. The chart includes both walking and biking, in addition to public transportation, for all municipalities in the Region. Public transportation users start and finish their journey by walking or biking (or driving) to the station or stop, which is why they are also included in this data set. Walkers and transit users are more prevalent in the South Western Region compared to Housatonic Valley Region and the rest of the state. 2 in 10 commuters use public transit or walk to work in the South Western Region, while less than 1 out 10 commuters do in the rest of the state.

Bicyclists make up the smallest of the three groups at 0.3% of the entire workforce, consistent with Connecticut and the United States as a whole.

### Infrastructure

#### Sidewalks

Sidewalks can be found in various types of environments in the Region, most of which are in the downtowns and urban centers but are also in residential areas. However, there are still many barriers that impede pedestrians from

safely using the roadway. Figure 19 shows a crucial missing connection between a residential neighborhood with sidewalks and a major commercial street in the Region by approximately 600 feet in sidewalk. Figure 20 displays a location near two schools (indicated by the star icons). The school in the bottom left has sidewalks on campus and into the surrounding neighborhood streets, while the school in the upper right has an essential missing connection on the southeast street adjacent to campus, between two already constructed sidewalks. The residential neighborhoods surrounding the second school also lack sidewalks.



Figure 19. Example of a gap in the sidewalk network



Figure 20. Sidewalk network around schools



WestCOG is currently working on a geospatial analysis of sidewalks to create a regional network. The purpose of this effort is to identify where there are gaps in the network (like Figures 14 and 15 demonstrate). The results of this analysis can be used to help prioritize transportation projects.

### On-Road Bicycling Facilities

#### Municipal Bicycle Planning

WestCOG and the City of Stamford worked together to develop a Bicycle and Pedestrian Master Plan. The purpose of this plan was to analyze and recommend ways to improve the safety, accessibility, and mobility of pedestrians and bicyclists in Stamford. The plan focused on developing a bicycle network (Figure 22) for a variety of users. Figure 23 shows the different types of facilities that were recommended as part of this plan. Creating a network of different facilities lends itself to making bicycling safe and appealing to people of all ages and abilities. WestCOG is interested in building from this plan and developing similar networks and recommendations for the other municipalities in HVMPO and SWRMPO.

In the Housatonic Valley Region, the Newtown Planning Commission continues to support efforts to enhance pedestrian connectivity, including connecting Hawleyville to the Town of Bethel along Route 6.

#### Regional Bicycle Planning

WestCOG is currently working on a regional bicycle network to improve bicyclist safety and mobility. The goal of this plan is to create a cohesive network building from existing studies' recommendations. The plan will support continued development of major travel corridors and identify strategies to



Figure 21. Photo-visualization – buffered bicycle lane



Figure 22. Stamford Planned Bicycle Network

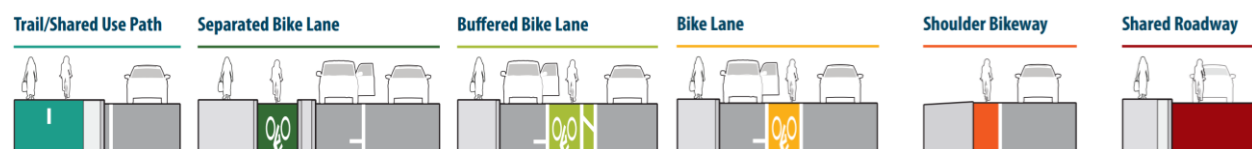


Figure 23. Types of Bicycle Facilities (Stamford Bicycle and Pedestrian Plan)

enhance these routes and provide better connections to key destinations. As part of this effort, an inventory of existing bicycle facilities will be completed.

Following the development of CTDOT's Statewide Active Transportation Plan,

WestCOG prepared a similar analysis evaluating bicycle suitability on state routes in HVMPO and SWRMPO (Figure 24). This analysis was based on Average Daily Traffic (ADT) and the width of the roadway shoulder. This analysis will be used during the development of the Regional Bicycle Plan.

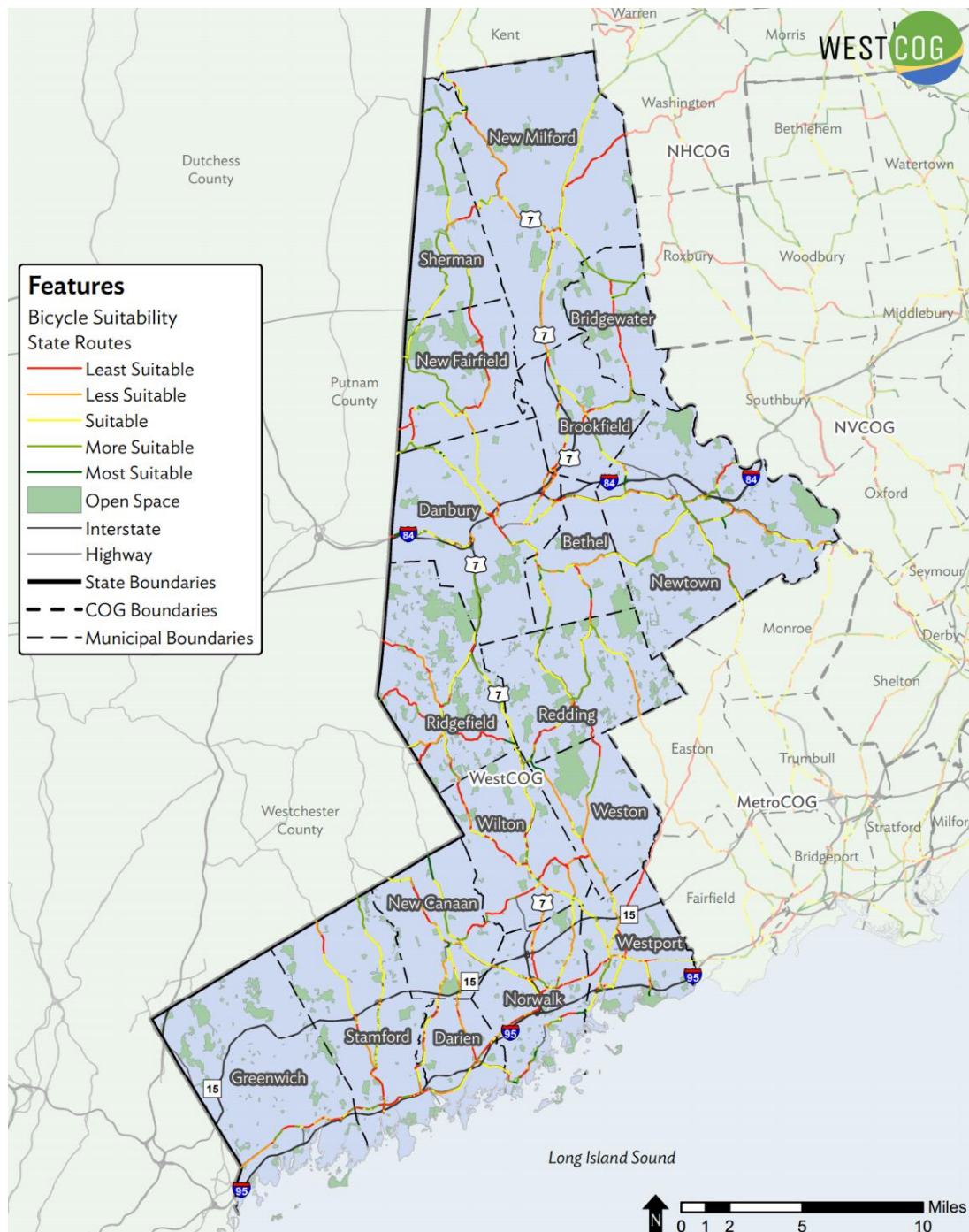


Figure 24. Bicycle Suitability Analysis

### *Paved Trails*

Access to recreational trails provides numerable benefits to the residents in the Housatonic Valley and South Western Regions.

**Still River Greenway** – The Still River Greenway is 2.25 mile, 10-foot-wide paved multi-use trail in Brookfield. Currently, the trail runs from the Four Corners area to Route 133. The long-term goal for the greenway is to connect New Milford and Danbury.

**New Milford River Trail** – Once constructed, this trail will provide a connection to the Still River Greenway in Brookfield. In 2019, New Milford received a grant through the CTDEEP's Recreational Trail Grant Program for the design of the first phase of the trail.

**Merritt Parkway Trail** – This trail would provide an east-west connection along the South Western Region. Once built, the Merritt Parkway Trail would provide a link for the East Coast Greenway, which runs from Florida to Maine. This trail has been identified at a long-term investment in CTDOT's Active Transportation Plan. In 2019, the City of Stamford received a grant through the CTDEEP Recreational Trails Grant Program for the design of the first mile of the trail in Stamford. Additional coordination with stakeholders is critical, such as the Merritt Parkway Conservancy which is not in support of a paved multi-use trail for concern that it will have an adverse effect on the appearance and quality of experience while driving on the highway.

**Norwalk River Valley Trail** – The NRVT is an important multi-use trail providing a north-south connection from Norwalk, through Wilton, Ridgefield, Redding, and on to Danbury. Various segments of this trail have been completed, while others are still in planning or conceptual phases. In 2019, the Town of Redding received a grant through the

CTDEEP Recreational Trails Grant Program for construction of the "Redding Mile".

**Mill River Greenway** – Located in downtown Stamford, this trail will improve bicycle and pedestrian movement in the city. The greenway would parallel the Mill River from Selleck St north until Forest Lawn Ave. It will create a link to several existing parks and open spaces located along the Mill River including Scalzi Park. Construction of the Mill River Park has been completed, and future phases of development include extending the greenway.

### *Natural Surface Trails:*

In addition to these trails, there are a number of walking and multi-use trails located throughout western Connecticut. Figure 25 depicts the locations of foot trails, including the state's blue-blazed hiking trails. Many of the state's natural surface trails are largely built and maintained by volunteers by the Connecticut New England Mountain Biking Association (CT NEMBA), local municipalities and land trusts, and the Connecticut Forest and Park Association (CFPA). Natural surface trails are the most extensive trail system and are a valuable asset for Connecticut. These recreational facilities also support tourism in the Region. WestCOG is currently working on developing a recreational trails system in HVMPO and SWRMPO.

### *Policies*

In recent years, initiatives like Complete Streets policies have put a great deal of focus on providing and enhancing transportation facilities for non-motorized users. Many of the municipalities in the Region with transit access have created transit-oriented development plans to encourage land use development that promotes walkability and connectivity near transit stops and stations.

### *Complete Streets Policy*

In 2009 the State of Connecticut Public Act No.09-154 was signed into law, mandating that



spent on improving infrastructure for non-motorized users, such as sidewalks, bike lanes or separated bike paths. This act also established the Connecticut Bicycle and Pedestrian Advisory Board, whose duties



include “examining the need for bicycle and pedestrian transportation, promoting programs and facilities for bicycles and pedestrians in the state, and advising appropriate agencies of the state on policies...”

## Intelligent Transportation Systems

### Overview

Technology has been integrated into many of the transportation networks people use today; from real-time updates at rail and bus stations to GPS's in cars. Intelligent transportation systems (ITS) technologies are used to promote an efficient, integrated and safer traveling experience.

### Existing System

In 2013 CTDOT released a *Statewide ATMS Plan for Limited Access Highways Needs Assessment Report*. This report cataloged the existing and planned state owned ITS infrastructure, including locations of closed-circuit television cameras (CCTV) and variable message signs (VMS). In the years since the report was published, 1 VMS was removed along I-95 and 2 roadway weather information systems (RWIS) were installed in the region. RWIS stations have several environmental sensors to indicate weather conditions at specific points on a roadway, including pavement temperature, atmospheric conditions and water levels. Snow removal operators and emergency responders use the data to more efficiently respond to weather events.

In summary, CTDOT operates:

- Forty-four (44) CCTV;
  - Thirty-seven (37) on I-95
  - One (1) on Rt. 7
  - Six (6) along I-84
- Eighteen (18) VMS;
  - Six (6) on I-95
  - Two (2) on Rt. 7
  - Three (3) on Rt. 15

- Seven (7) on I-84
- Fiber Optic communications cable along I-95
- Roadway Weather Information System (RWIS)
  - Greenwich (CTDOT Facility on Rt. 15 Southbound)
  - New Milford (RT 7 and Webatuck Rd.)

### Plans

#### SWRPA ITS Strategic Plan

In 2009 the Southwestern Region Planning Agency published an ITS Strategic Plan that investigated viable ITS opportunities for the Region. While the SWRPA region was the primary study area, the Housatonic Valley Region was included as a secondary study area under this study.

The Technical Advisory committee identified eight projects in expressway and arterial management, in addition to projects enhancing transit services. Projects were then evaluated using modeling software designed to determine the benefit-to-cost ratio. Of the eight projects, six were identified to be of a positive benefit to cost ratio, two of which have since been completed:

#### 1. Rt. 15 ITS Instrumentation

This project would supplement the existing ITS system along the Merritt Parkway. It would include the installation of five (5) variable messaging signs (VMS) to bring the total on Route 15 to eight VMS systems.

1. South of Exit 34 on the Northbound side
2. South of Exit 36 on the Northbound side
3. North of Exit 40B on the Southbound side



4. North of Exit 37 on the Southbound side
5. North of Exit 35 on the Southbound side

The second portion of the project would install eight (8) closed circuit television cameras, currently there are none on this limited access highway. The study also suggested an overweight/over height vehicle detector prior to the New York-Connecticut border on the New York side. Many of the bridge underpasses along Route 15 are too low for trucks to pass. This project was rated the highest in terms of cost to benefit.

2. **Norwalk Transit District Automatic Vehicle Location (AVL)**  
This project was completed in 2016 funding from the Federal Transit Administration and Connecticut Department of Transportation. Each bus in the Norwalk Transit District fleet had a GPS unit installed. The system allows for dispatch to provide a more efficient and reliable service. Additionally, passengers can view bus arrival and departure time information at five (5) new information display locations.
3. **CTtransit Stamford Automated Vehicle Location (AVL)**  
This project has been completed on all buses in the CTtransit Stamford division fleet. However, as of 2018, the equipment is not yet fully active. Like the Norwalk Transit AVL project, dispatch can use the newly installed GPS units to direct buses more efficiently.

In addition to AVL technologies on each bus, Automatic Passenger Counters (APC) were installed. APC units collect data regarding the number of passengers entering and exiting at each stop. The data collected can then be used to identify and modify how riders use the system.

4. **Stamford Transit Signal Priority (TSP)**  
This project aims to reduce travel times and increase “on-time” service in the City of Stamford by minimizing the time spent waiting at traffic signals. Each of the buses would be outfitted with a TSP emitter/processors and the central control system would be upgraded to process the transit signal priority requests.
5. **Stamford Real-Time Traveler Information System**  
Travelers would be able to access a web-based mapping service to display traffic incidents, construction zones, congestion levels and camera feed of roadway conditions.
6. **Norwalk Incident Management System**  
This project would include the installation of a system of blankout signs to divert traffic on to local roads when the limited-access highway network is congested, or an incident makes it unpassable. The signs would be integrated into the rest of Norwalk’s incident management system.

## Planned Projects

The following projects were selected for Congestion Mitigation and Air Quality (CMAQ) funding. Upgrading signals helps reduce idle time at intersections further

improving air quality and reducing congestion management.

#### *Greenwich Arch Street Corridor*

This project was awarded funding in 2012 to install adaptive signal control technology near exit 3 off I-95 on Arch Street; an area of immense congestion due to proximity to downtown and the train station. This type of technology continuously changes the signal timing to best manage actual traffic conditions. It is set to go to construction in 2019.

#### *Greenwich Glenville Corridor*

This project aims to reduce congestion near a major Merritt Parkway connection by optimizing and coordinating the current signals. In addition to geometric intersection improvements at Glenville Road and Pemberwick Road to alleviate queuing. This project is set to go to construction in 2020.

#### *Norwalk Various Signals*

Phase 3 and 4 of a city-wide upgrade to its traffic signals. Phase 3 will include upgraded vehicle detection and communication equipment that will be able to communicate with the City's centralized traffic signal operations center. It is set to go to construction in 2019. Phase 4 will upgrade the remaining five coordinated signalize planned to be connected to the operations center. It will also install fifteen variable message signs and

six roadway weather information systems. Phase 4 is set for construction in 2020.

#### *Stamford Various Signals*

Traffic volumes on most roads change drastically by both time of day and directionally. This project aims to improve signal coordination by creating signal plans for a minimum of seven-time periods a day. This will be done by collecting data from all 207 intersections in the City of Stamford system and upgrading the existing traffic signal operations center. This project is set to be completed in 2020.

### **Ridesharing and Commuter Lots**

Commuter parking lots are located at every rail station along the New Haven main- and branch lines. It is common for lots to be at or near capacity, and the waiting list for yearly permits can be up to seven years. The [2018 WestCOG Commuter Parking Inventory](#) study found that the New Haven main line had over 90% of the available parking in use.

In addition to the rail station lots, CTDOT maintains a statewide system of Park & Ride lots, nineteen of which are in the Region. Lot size and usage vary greatly among these lots but generally they are smaller and used less than the rail station lots (Table 4 and Figure 26).

Table 4. Commuter Parking Lot Capacity

Key	Town	Station or Lot Name	Lot Capacity (Cars)	Percent Used
1	Bethel	Bethel Train Station	197	77.2%
2	Danbury	Danbury Train Station	146	37.7%
3		Federal Rd. Park and Ride	115	27.8%
4		I-84 @ Exit 1 Park and Ride	160	18.1%
5		I-84 @ Exit 2 Park and Ride	112	55.4%
6		Miry Brook Park and Ride	171	34.5%
7		I-84 @ Segar St. Park and Ride	45	11.1%
8		White Turkey Rd. Ext. Park and Ride	75	49.3%
9	Darien	Darien Train Station	638	84.0%
10		Noroton Heights Train Station	765	92.0%
11	Greenwich	Cos Cob Train Station	611	91.3%
12		Greenwich Train Station	1117	89.2%
13		Old Greenwich Train Station	571	90.7%
14		Riverside Train Station	319	96.9%
15	New Canaan	New Canaan Train Station	570	97.0%
16		Talmadge Hill Train Station	366	84.2%
17	New Fairfield	Ball Pond Firehouse Park and Ride	12	33.3%
18		Company A Firehouse Park and Ride	30	30.0%
19	Newtown	I-84 @ Exit 9 Park and Ride	53	50.9%
20		I-84 @ Exit 11 Park and Ride	78	50.0%
21	Norwalk	East Norwalk Train Station	186	78.5%
22		I-95 @ Exit 16 Park and Ride	35	85.7%
23		Merritt 7 Train Station	88	78.4%
24		Route 15 @ Exit 38 Park and Ride	40	67.5%
25		Rowayton Train Station	330	87.0%
26		South Norwalk Train Station	941	70.2%
27	Redding	West Redding Train Station	82	75.6%
28	Ridgefield	Bark Park, Park and Ride	30	43.3%
29		Branchville Train Station	161	95.7%
30		Jesse Lee Church Park and Ride	46	93.5%
31	Stamford	Glenbrook Train Station	156	74.4%
32		Route 15 @ Exit 35 Park and Ride	55	61.8%
33		Springdale Train Station	211	72.5%
34		Stamford Transportation Center	1583	94.0%
35	Westport	Greens Farms Train Station	481	90.0%
36		I-95 @ Exit 18 Park and Ride	87	33.3%
37		Route 15 @ Route 33 Park and Ride	99	23.2%
38		Route 15 @ Exit 42 Park and Ride	43	60.5%
39		Saugatuck Train Station	1356	91.7%
40	Wilton	Cannondale Train Station	141	97.2%
41		Wilton Train Station	251	95.2%
42		Wolfpit Road Park and Ride	52	25.0%



Ridesharing options are available throughout the state through CTDOT sponsored CTrides. This service gives commuters and students travel options other than driving alone. Some of the programs available through CTrides include:

- **Carpooling** using an online tool to match commuters with the same origin and destination. This reduces costs to commuters by dividing the transportation costs between the riders. Users are also eligible to sign up for a Free Commuter Rewards Program.
- **Vanpooling** pairs groups of 7-15 people traveling to work together. Through CTrides, users pay a monthly fee to cover the cost of the van, insurance, maintenance and fuel. Users are also eligible for the Free Commuter Rewards Program, Roadside Assistance and Emergency Rides Home.
- The **teleworking** program assists both employers and employees interested in starting a work from home style of work. CTrides offers a program to help with the design and implementation of a successful telecommuting program individualized for the company.

The program currently has over 50,000 members and CTrides estimates 205,117,909 miles not driven and \$111,795,427 in dollars saved since the launch in 2005. Ridesharing works to take vehicles off the road by combining trips that may have been driven alone.

According to the 2016 5-year American Community Survey (Table 5), about 8.1% of the workers in the Region carpool for most of their trip. The municipalities with the highest carpooling rates tend to be in or near cities where many of the workplaces are located. Danbury and New Fairfield have the highest

carpooling rates in the Housatonic Valley Region while simultaneously having eight out of the twelve Park & Rides in the Housatonic Valley Region. In the South Western Region, the City of Stamford has the highest carpooling rates. Another unexpected statistic from the data: while programs like CTrides make carpooling more accessible to all, workers driving alone still outweigh carpoolers 9 to 1.

The same survey collected the number of workers who work from home either by telecommuting or self-employment. Over the past few decades the number of workers working from home has increased three-fold from about 2% in the 1980s to over 6% in 2016. The municipalities with the highest rates of people working at home tend to be in the more rural locations of the Region. Advances in telecommuting technologies has made working from home a viable option for many workers.

## Other Systems

### Airport Facilities

Danbury Municipal Airport is a regional airport located in the City of Danbury. The facility offers two intersecting runways and operates with a control tower.

Candlelight Farms Airport is a small facility located in western New Milford. This airport offers two runways and operates without a control tower.

Since there are no major commercial airports within the Region, residents, workers, and visitors rely on the surface transportation system to provide access to these facilities. Major airports that offer domestic and international passenger service include Tweed-New Haven Airport, Bradley International Airport, John F. Kennedy International Airport, LaGuardia Airport, Newark Liberty International Airport, and Westchester County Airport. Connections to these airports are



provided by the local highway system, passenger rail service, and transit service.

Table 5. Ridesharing and Telecommuting

Geography	Car, Truck, or Van – Drove alone		Car, Truck, or van – Carpooled		Worked at Home	
	Estimate	%	Estimate	%	Estimate	%
Bethel	8,705	82.9%	597	5.7%	534	5.1%
Bridgewater	615	70.1%	70	8.0%	127	14.5%
Brookfield	6,939	82.1%	391	4.6%	776	9.2%
Danbury	33,246	75.7%	6,495	14.8%	1,206	2.7%
Darien	5,018	57.7%	428	4.9%	755	8.7%
Greenwich	16,725	60.8%	1,477	5.4%	2,122	7.7%
New Canaan	4,473	58.7%	305	4.0%	928	12.2%
New Fairfield	5,551	79.8%	757	10.9%	343	4.9%
New Milford	12,554	82.5%	1,516	10.0%	725	4.8%
Newtown	10,944	82.8%	857	6.5%	1,025	7.8%
Norwalk	34,317	72.4%	3,659	7.7%	2,164	4.6%
Redding	3,244	75.3%	241	5.6%	467	10.8%
Ridgefield	9,051	77.3%	481	4.1%	1,232	10.5%
Sherman	1,536	79.4%	122	6.3%	129	6.7%
Stamford	45,444	65.9%	6,145	8.9%	3,220	4.7%
Weston	3,116	67.0%	169	3.6%	775	16.7%
Westport	7,032	58.9%	397	3.3%	1,677	14.0%
Wilton	5,777	69.1%	346	4.1%	933	11.2%
WestCOG	214,287	70.9%	24,453	8.1%	19,138	6.3%
HVMPO	92,385	78.9%	11,527	9.8%	6,564	5.6%
SWRMPO	121,902	65.9%	12,926	7.0%	12,574	6.8%
Connecticut	1,379,406	78.3%	143,187	8.1%	81,050	4.6%

## Land Use

Factors such as density, land use mix, and job concentration effect the available modes and reliability of the transportation system. Likewise, the existing transportation system has broad impacts on where residential, commercial, and industrial developments are located. Coordinating land use and transportation intends to preserve and enhance valued natural and cultural resources and facilitate healthy, sustainable communities and neighborhoods. This coordination can also encourage a mix of uses, such as residential, commercial, and open space in close proximity. Integrating land use and transportation planning is a core goal of this Plan. Currently, commercial, industrial, residential, and agricultural land uses are separated in much of western Connecticut. This separation of uses can encourage auto-oriented, lightly populated residential areas. This Plan seeks to encourage compact, mixed-use, developments. Walkable, mixed-use, and transit-oriented developments can decrease greenhouse gas emissions, save residents money, and increase public health.

To that end, this Plan also promotes transit-oriented development (TOD). TOD is compact, walkable, mixed-use development near transit stations. As seen in Figure 30, nine of the 23 commuter train stations in the Region have some sort of TOD adjacent to them. A goal of this Plan is to encourage TOD. Many opportunities for TOD expansion exist in the Region, especially at current or proposed rail stations.



Figure 27. East Norwalk TOD Study



Figure 28. 2016 Bethel Forward TOD Plan, Concept Design



Figure 29. 2019 Downtown Danbury TOD Study, Concept Design

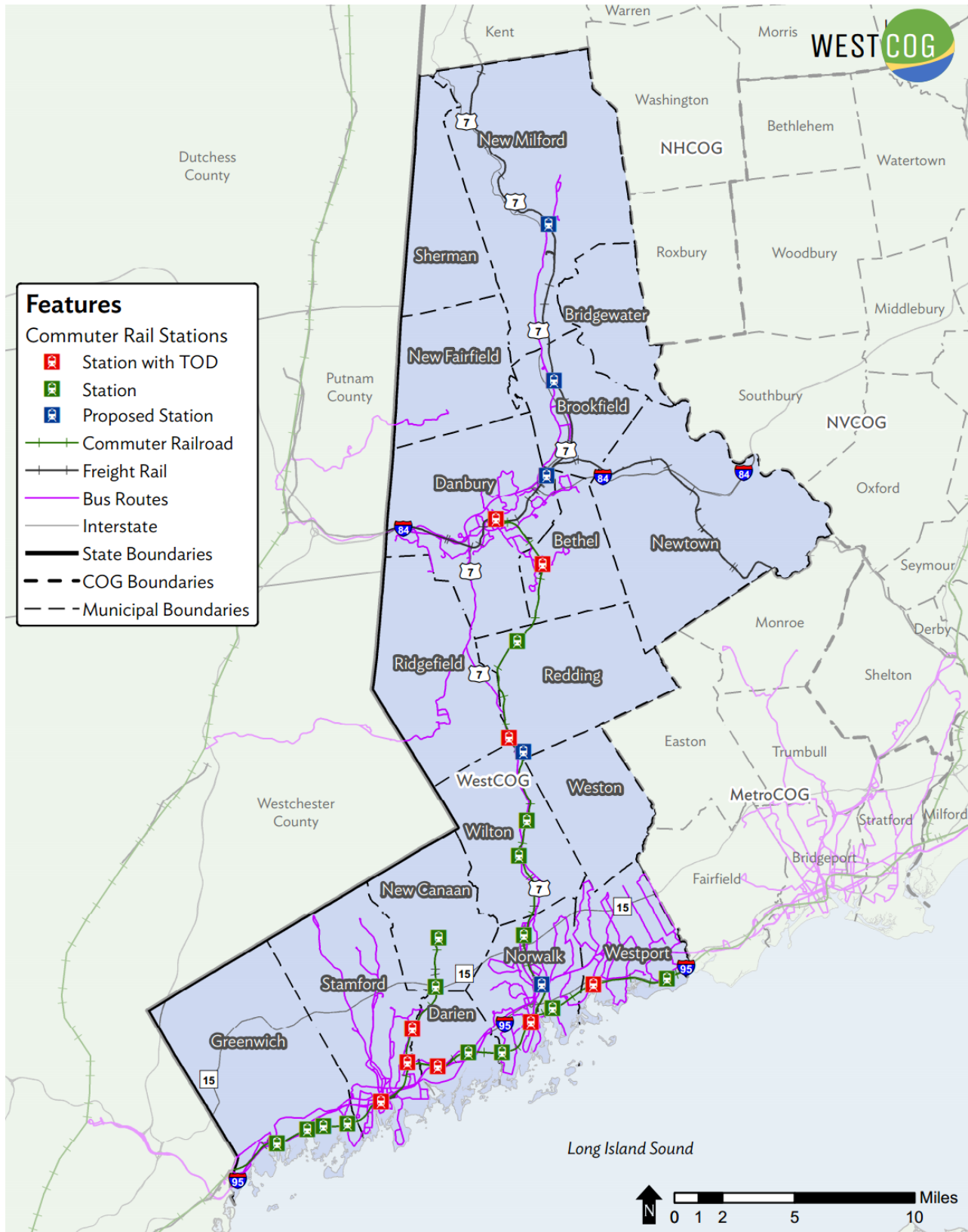


Figure 30. Transit Oriented Development

## Land Use in Western Connecticut

Western Connecticut is home to a variety of land uses, from agricultural to industrial, rural to urban. The municipalities of the HVMPO are mostly forested, with residential areas and small business districts. The densest development in these towns are in the business districts. The Housatonic Valley Region is anchored by Danbury, a city of roughly 80,000. Points of interest in Danbury include the Danbury Hospital, Western Connecticut State University, Danbury Fair Mall, and the Danbury Municipal Airport.

Meanwhile the South Western Region is denser and more developed than HVMPO. The highest density is achieved along the I-95, US Route 1, and the Metro-North Railroad corridor. The principal cities of the South Western Region are Stamford and Norwalk, cities of approximately 130,000 and 88,000 respectively. Stamford is a major employment hub and one of the fastest growing cities in Connecticut.

As seen in Table 6 and Figure 32, the most prevalent land cover category in the Region is forest, which is 49% of the Region. 26% of the Region is developed. As seen in Figure 31 the highest density areas in the Region are centered along the I-95, US Route 1, and the Metro-North Railroad corridor and in the urban cores of Stamford, Danbury, and Norwalk. While there are small farms in the northern end of the Housatonic Valley Region, there is limited agricultural activity on the whole in our Region.

Tourism is a major contributor to western Connecticut's economy. Destinations in western Connecticut include Weir Farm National Historic Site, the Norwalk Maritime Aquarium, the Aldrich Contemporary Art Museum, and the Bruce Museum. The Merritt Parkway, opened in 1938, is both a key piece of transportation infrastructure and a tourist

destination itself. A safe and reliable transportation system will ensure that tourism continues to play this important economic role. This Plan seeks to solidify and expand western Connecticut's reputation as a premier tourist destination in the northeast.

Table 6. Land Cover

Land Cover Type	Percent
Developed	26%
Grass	14%
Agricultural	3%
Forest	49%
Water	4%
Wetland	3%
Barren Land	<1%
Utility Corridors	<1%

Source: 2015 UConn CLEAR Land Cover data

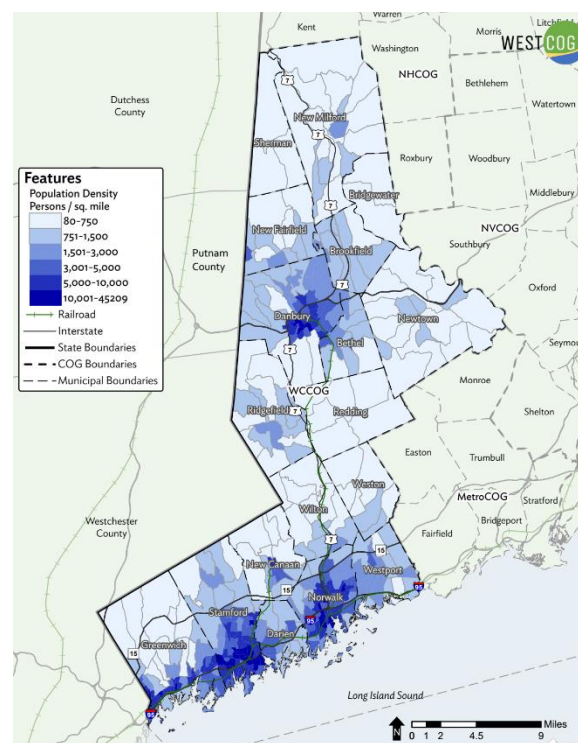


Figure 31. Population Density



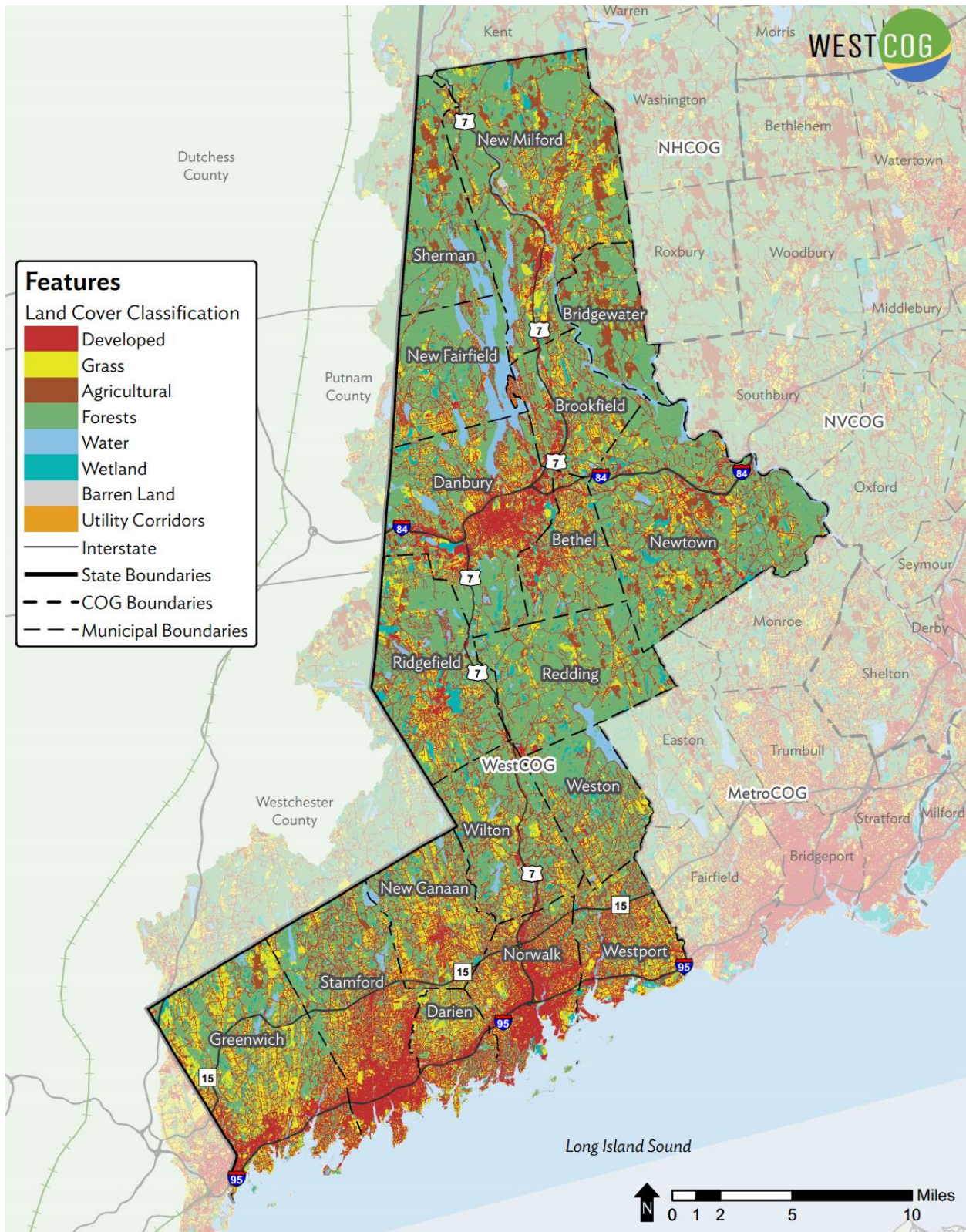


Figure 32. Land Cover



## Environment

The natural landscape of the Region is varied, from the hills of northern Fairfield County to the coastal plain abutting the Long Island Sound. This proximity to Long Island Sound, and the numerous rivers and streams that feed into it, have been critical in shaping the Region and defining its character. Environmental conservation, mitigation, land use, and historic preservation are all important considerations that impact the transportation planning process. Wherever possible, transportation projects should be designed to minimize their negative impacts to natural systems.

Linking communities to recreational areas and the natural environment also plays a vital role in protecting natural resources and promoting environmental awareness. To that end, a number of greenway projects are being pursued by the Region's municipalities. These include the Norwalk River Valley Trail, the Still River Greenway, and the Mill River Greenway. These trails will reduce emissions, spur economic development, and improve citizens' health.

WestCOG also hopes to expand facilities for natural surface mountain biking trails. Natural surface trails suitable for mountain biking can provide similar economic, environmental, and health benefits as paved trails, but at a reduced cost. In addition, these trails can be built in areas that otherwise would not be suitable for paved multi-use trails. There are three large-scale opportunities for expanding the natural surface network which serves hikers, mountain bikers, and equestrians in our Region: along the Merritt Parkway right of way, in the Centennial Watershed State Forest, and in connecting existing trails in the Danbury area. These three opportunities provide the greatest opportunity for mountain biking trail development at the least cost. This Plan encourages mountain bike trail development in other areas to further

economic development and connectivity. Mountain biking trails attract visitors to the local area who in turn are a boost to the local economy by frequenting local businesses and restaurants.

## Air Quality

The Region, like many urban areas, struggles with poor air quality. HVMPO and SWRMPO lie within areas of concern for two EPA-tracked pollutants: ozone and particulate matter. Because of this, all federally-funded transportation projects cannot contribute to any new air quality violations or worsen existing conditions. In the American Lung Association's 2018 State of the Air report, Fairfield County received an "F" for ozone pollution. From 2014-2016, Fairfield County saw 65 days that were either unhealthy for sensitive groups, or unhealthy for the general population due to high ozone levels.

A goal of this Plan is to improve air quality by reducing single occupancy vehicle trips. This can be done by encouraging carpooling, non-motorized transport, and transit use.

## Emergency Relief, Disaster Preparedness, and Security

WestCOG and its predecessor agencies received funding to complete Hazard Mitigation Plans (HMPs) for all 18 communities in the Region. The HMPs are a bridge to potential FEMA Mitigation funds and grant opportunities. The plans are designed to give residents, businesses, and emergency responders with information on natural hazards including floods, coastal storms, nor'easters, hurricanes, blizzards, ice storms, drought, sea level rise, and dam failure. Additionally, the HMPs have an emphasis on providing mitigation goals, objectives, and strategies for each municipality in the Region.

These plans all have significant transportation components. For each natural hazard, impacts on the transportation system are identified. Mitigation strategies are also determined. In total, there is one HMP for the South Western Region, and one for each of the towns of the Housatonic Valley Region. Links to these plans can be found in Appendix C.

## Security

Transportation systems security programs have focused on passenger and asset safety and security for decades. This approach was broadened to address terrorism after international public transportation systems experienced terrorist attacks in the 1990s. Following the 9/11 attacks in 2001, the United States' initiatives for emergency management and homeland security intensified and transportation systems security programs expanded. The Transportation Security Administration (TSA) was initially created within the US Department of Transportation (USDOT) but later transferred to the US Department of Homeland Security. TSA's legal mandate is to manage security programs and provide oversight for security of the transit industry. Over this same two-decade time period, metropolitan transportation planning agency involvement in emergency management and homeland security as well as transit security has increased, and is now a required activity.

The Connecticut Department of Emergency Management and Homeland Security (DEMHS) has designated five emergency planning regions in the state. WestCOG participates in Region 1, with the Connecticut Metropolitan Council of Governments, as well as Region 5 with the Northwest Hills Council of Governments and the Naugatuck Valley Council of Governments. The purpose of this

As Co-Chair of the DEMHS Region 1 and Region 5 Emergency Support Function group

(a subset of the Regional Emergency Planning Team), WestCOG provides technical assistance to identify transportation emergency planning needs in the MPO area. The team works to identify what regional emergency priorities need to be addressed, develops strategies to respond to threats to the Region's transportation systems, and decides how regional resources will be allocated.

For all other modes of transportation, HVMPO and SWRMPO are supportive of the agencies who are directly involved in security planning and response, including but not limited to:

CTDOT –

- Highways
- Rail
- Infrastructure
- Transit

HARTtransit, NTD, CTtransit Stamford –

- Bus transit

Metro-North –

- Rail

State and Local Police Departments:

- Highway

## Climate Change

Changes in climate influence global temperatures, the quantity, rate, and spatial distribution of precipitation, cloud cover, and other factors. This will increase the potential likelihood for the Region to experience increases in the frequency and severity of storms, drought, extreme heat and cold, sea level rise, and storm surge. Infrastructure in the Region is vulnerable to the impacts of climate change, although specific vulnerability by hazard varies by geography. Urban areas, which historically developed in low-lying areas that were close to water, have higher amounts of impervious cover and are especially vulnerable

to extreme precipitation. Wind damage from storms and subsequent downed trees/utility lines also present inherent risk to infrastructure.

The November 2018 Fourth National Climate Assessment states that climate change is expected to cause growing losses to American infrastructure. According to the assessment, sea level rise is progressively making coastal roads and bridges more vulnerable and less functional. Unfortunately, vulnerable transportation facilities are not all on the coast. Inland transportation infrastructure is vulnerable to intense rainfall and flooding. High temperatures can stress bridge integrity and extend delays to passenger and freight rail systems.

The 2016 WestCOG HMP for the South Western Region reveals both coastal and riverine flooding to be of significant concern and a threat to area infrastructure. Wind damage from storms (nor'easters, thunderstorms, tornados, etc.) and subsequent downed trees/utility lines also present inherent risk to infrastructure, including the mobility of the transportation network.

As part of HMP efforts in the Region, an impact assessment was conducted using sea level rise (SLR) data from The Nature Conservancy (TNC) for years 2020, 2050, and 2080. WestCOG also conducted a second GIS model using variables such as elevation, soil type, impervious area and other hydrologic components to determine susceptibility to Extreme Precipitation Events (EPE).

The SLR impact assessment found potential impacts in all five coastal towns. With over 7,000 parcels and 7% of the Regions assets impacted in the most severe 2080 SLR scenario, impacts are also anticipated to occur well inland for some of the major rivers—up to four miles in Westport. The EPE model indicates that hundreds of locations on major arterials and highway, and potentially, thousands of locations on local streets and roads are vulnerable for all eight towns in the SWR.

This modeling effort found that that all five coastal towns have vulnerable assets, transportation infrastructure, and parcels; and that the impacts are not strictly along the coast of Long Island Sound. Impacts can occur well inland (i.e. north of I-95) and along areas adjacent to the Mianus, Norwalk, and Saugatuck Rivers, which are major estuaries running inland from Long Island Sound.

As seen in Figure 33, transportation vulnerability is potentially significant, particularly in the 2080 scenario. For that scenario approximately 5.1 miles of highways, 81.5 miles of roads appear vulnerable to inundation, including 24 separate locations along the rail system. Five major clusters of impacts occur. One is on the eastern coast of Greenwich Cove. Another occurs in parts of downtown Stamford. A third is along the east bank of the mouth of Five Mile River. The final two are scattered along the estuaries of the Norwalk and Saugatuck Rivers respectively.

*Table 7. Transportation Impacts from Sea Level Rise (SLR)*

SLR Scenarios	Number of Assets Impacted	Locations Along Rail System	Vulnerable Roads (miles)	Vulnerable Arterial Roads / Highways (miles)	SLR Inundation Area (square miles)
2020 SLR	11	17	46.4	1.7	2.7
2050 SLR	20	17	49.2	2.6	3.3
2080 SLR	45	24	81.5	5.1	4.8

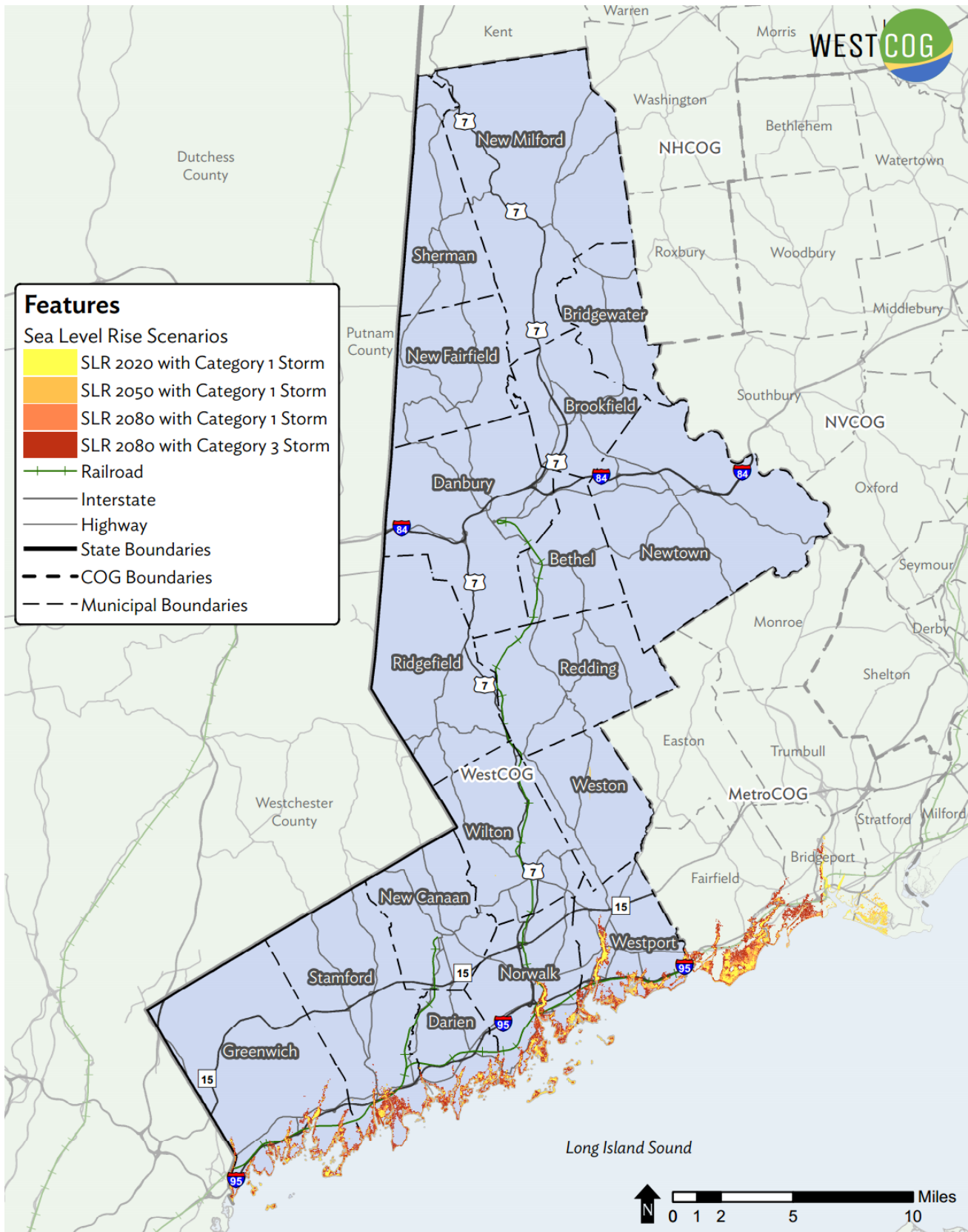


Figure 33. Sea Level Rise Scenarios



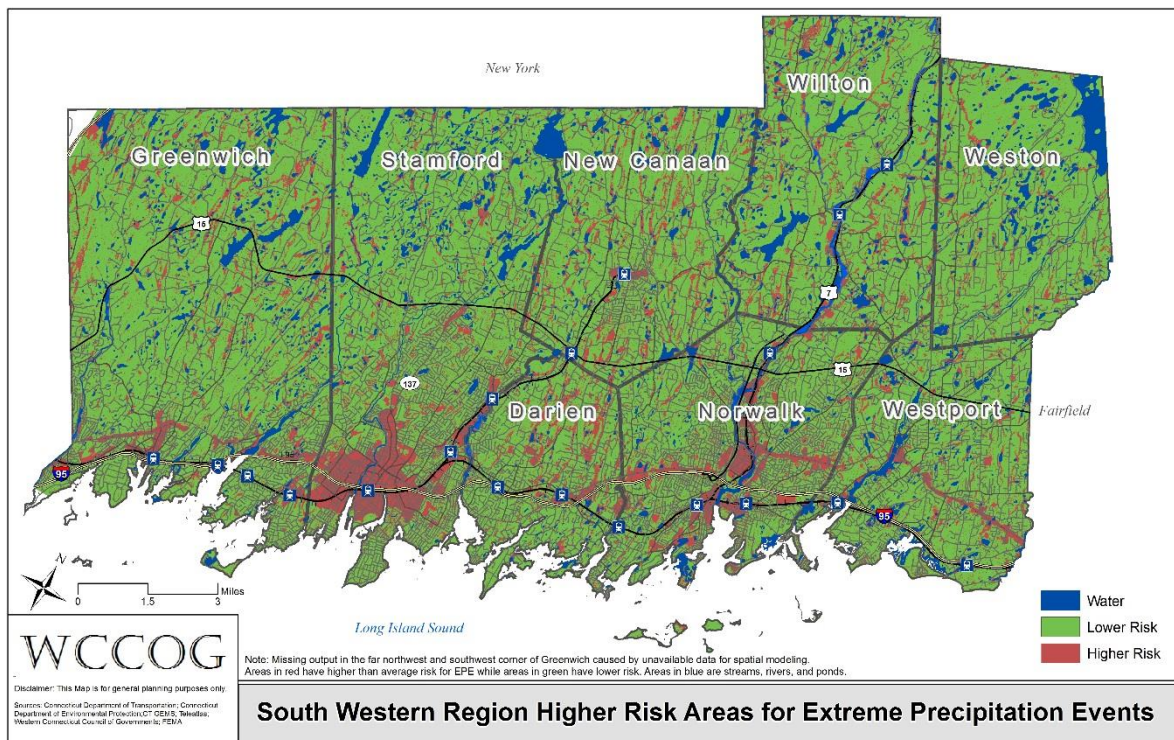


Figure 34. South Western Region Higher Risk Areas for Extreme Precipitation Events (2016 South Western Region Hazard Mitigation Plan)

Please note that this modeling effort is highly dependent on the accuracy of the predicted elevation change brought about by SLR. The actual date of inundation for any one location is influenced by a wide variety of local, regional, and global factors. These results are intended for planning purposes only. Vulnerability should be further assessed by site assessment, and individual site or parcels impacts are influenced by local topography, infrastructure, and engineering methods.

The intent of this model is to identify inland locations in the Region that are vulnerable to the hydrologic impacts of climate change, specifically extreme precipitation events. Urban areas, areas with little drainage, and locations in and around streams, rivers, and ponds will tend to elevated risk while forested areas with well drained soils should have the lowest vulnerability to EPE.

Roughly 70% of the Region has reduced risk and 30% of the Region has elevated risk, 20% of which lies in the most vulnerable EPE category. As depicted in Figure 34, locations with the green colors are typically much drier locations in the landscape, and these areas will have very little flooding risk while the red colors are areas more prone to impacts during EPE. Please note that all medium and higher density urban areas are assumed to be most vulnerable to EPE because of the inherent flashiness of runoff in urban land use areas.

The least vulnerable areas are primarily to the north of the Merritt Parkway corridor in the uplands areas away from the valley floors, including the hilly areas west of Route 7 in Wilton and the municipal boundary between Greenwich and Stamford. The more vulnerable areas are typically in areas with urban development, topography that concentrates



water flow, and soils that drain slowly such as downtown Stamford and Norwalk.

The impacts to infrastructure, land, and property inland from the coastal areas are potentially significant from EPE. The vulnerability of transportation infrastructure is a particularly important planning consideration because of its role in providing evacuation routes for citizens for a variety of potential threats. This modeling effort suggests that Highways and Arterial-type roads are vulnerable to extreme precipitation events and that further evaluation of the potential impacts are warranted. For instance, about 700 locations along these roads intersected the 500-year FEMA floodplain and about 7,000 different stretches of road crossed areas with the higher or highest vulnerability class. Finally, about 2,800 locations along major roads crossed non-perennial drainages that will concentrate water in EPE. A far greater number of potential impacts would be included in this analysis if local roads were included.

While the model utilized very high-resolution data, it is intended for planning purposes only. An assessment of the vulnerability of roads and

other assets to drainage and runoff changes depends on the type and quality of site engineering, local land use, year of design, and other factors. The modeling should be interpreted within local regions and that values are for relative interpretation only. Impacts noted in this analysis effort should be evaluated by trained professionals such as civil engineers or landscape architects.

## Environmental Mitigation

Environmental mitigation is an integral part of the transportation planning process. WestCOG is involved in this process through the National Environmental Policy Act and the Connecticut Environmental Policy Act. These regulations identify the impacts of proposed actions on the natural environment and seek to mitigate these impacts. An environmental review process is conducted for individual projects as required. WestCOG will continue to work with Federal and State agencies to determine environmental impacts and mitigation activities that restore and maintain the environmental functions affected by the Region's transportation system.

CHAPTER

3

STRATEGIES &  
INVESTMENTS

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# Strategies and Investments

## Overview

The intent of the Long-Range Transportation Plan is to coherently describe the policies and projects that will be needed to achieve the Region's objectives, and to develop a roadmap leading towards implementation of recommended strategies and projects. Federal guidelines also require that metropolitan transportation plans fit within a constrained

financial envelope, meaning that available resources must not exceed the estimated cost of implementing recommended projects.

## Strategies

The following list describes the key strategies recommended in the Plan. The list is broken down into broad categories based on the Plan's overarching goals and objectives. For each overarching strategy indicated, a series of sub-goals is listed.

ECONOMIC VITALITY, TRAVEL, AND TOURISM
Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency. Promote responsible land use by concentrating development in areas that are in close proximity to existing transportation infrastructure.
Enhance travel and tourism
Wherever possible, utilize context sensitive design solutions to ensure that transportation projects are developed in harmony with host communities and preserve environmental, scenic, aesthetic and historic resources while maintaining safety and mobility
Promote the development of greenways and trails
Identify tourism destinations and access to the transportation network
Balance the needs of traffic operations, safety, economic development, and community character on streets and highways that pass through the Region's downtown and neighborhood centers
Develop innovative financing techniques to be considered for potentially providing additional funding assistance for transportation projects, including public/private partnership
Enhance connections to other regions so that people can move more easily between home and work
Coordinate of land use and transportation planning to create communities that support transit and to provide new opportunities for mixed use "village"-type development
Bring transportation funding and needs into alignment
Identify opportunities for efficiencies and cost-savings

SAFETY AND SECURITY
Increase the safety of the transportation system for motorized and nonmotorized users.
Increase the security of the transportation system for motorized and nonmotorized users
Support Community Connectivity Program
Develop real time traveler information programs
Upgrade Incident Management Programs for HVMPO and SWRMPO
Develop Regional Safety Plan

Support education and training programs and regulations for truck safety, bicycles and pedestrians, older drivers, and driving under the influence.
Support CT DOT's efforts to implement the strategies and achieve the goals set forth in the Strategic Highway Safety Plan.
Focus on improving the safety of the traveling public through a program of engineering upgrades and enhanced use of technology.
Implement traffic signal and system improvements required to adequately maintain, replace/upgrade as needed to maximize vehicular and pedestrian traffic flow, efficiency and safety.
Upgrade pedestrian signals
Inventory location of low-bridges to reduce truck bridge strikes
Conduct safety analyses in corridor and special studies
Work with DEHMS and Municipalities to develop evacuation plans and to identify resource and infrastructure needs.
Upgrade high risk at-grade rail crossing locations

## ACCESSIBILITY AND MOBILITY, INTEGRATION AND CONNECTIVITY

Increase accessibility and mobility to promote the movement of people and goods. Enhance the integration and connectivity of different modes within the transportation systems for people and freight.
Expand intermodal connections at Metro North rail stations
Promote transit-oriented development and related techniques to concentrate new construction along existing transit corridors and within walking distance of train stations
Optimize use of the region's rail system for passenger and freight movement
Improve bicycle and pedestrian infrastructure in the vicinity of rail stations and bus stops as an alternative to over-subscribed parking lots and to support transit oriented development
Develop access management plans for all major corridors, and utilize access management strategies to improve safety and reduce congestion
Study deficient roadway segments and intersections to develop improvement programs, and implement intersection, turning lane, signal system upgrades or traffic signal timing and coordination improvement projects in consultation with municipalities and using context sensitive design solutions
Further evaluate opportunities for use of congestion pricing on roadways and for transit services, recognizing that computer modeling performed as part of the study point to pricing as the most effective way to encourage mode shift among travelers
Expand the CMP into a more comprehensive product that informs project development and selection
Expand traffic counting program to monitor traffic patterns and congestion
Implement innovative measures to improve bus service, including enhanced bus service and integration of intelligent transportation systems components
Adequately fund transit services to the extent necessary to maintain and strategically expand existing levels of service to accommodate ridership growth and improve regional connectivity and mobility



Improve bike storage at rail station to provide adequate rail station bicycle storage facilities that are convenient, safe, secure and well-maintained
Strategically expand hours of operation and geographic coverage of demand responsive transportation services to better serve client populations, and provide better alternative transportation options for mobility restricted populations during timeframes when other transportation services are not operating
Develop strategic operations and capital plans for human services transportation services to improve connectivity on a regional basis to areas not served by transit and during off-peak timeframes
Implement service enhancements on transit services to meet ridership demand, improve frequencies where large gaps in service exist during certain timeframes, and where new development warrants increased service
Implement enhanced transit services to mitigate and alleviate congestion caused by major transportation systems construction projects
Work with CTDOT, municipalities, and advocates to develop a system of multi-use trails
Develop a Regional Bicycle Plan
Maintain flexibility in the type of vehicles used in paratransit and dial-a-ride operations in consideration of rider comfort and ease of access
Expand passenger rail service to additional communities and reactivate former freight and passenger rail lines for passenger rail service, including the extension of passenger rail service on the Danbury Branch Line north into New Milford, and connections between Brewster, NY and Danbury, and connections between Derby and Newtown

## ENVIRONMENT, QUALITY OF LIFE

Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
Promote clean air initiatives to: encourage smart growth and TOD; use of alternative fuels; expand effective travel demand management programs such as telecommuting, flexible work weeks and various forms of ridesharing; support public transit, rail freight, traffic flow improvements, and incident management programs
Integrate environmentally friendly technology into the region's bus fleet, including the use of battery powered/electric technology, or propane technology to reduce emission of greenhouse gases
Reduce greenhouse gas emission from transportation sources and impacts to air quality and the environment through the reduction of Vehicle Miles Traveled (VMT)

## SYSTEM MANAGEMENT AND OPERATIONS

Improve the efficiency of the existing resources and current systems through effective transportation systems management and operations.
Encourage policymakers to implement balanced multimodal solutions for congestion relief

Expand the CMP into a more comprehensive product that informs project development and selection
Increase rail parking capacity and more effectively utilize existing resources to the extent necessary to meet current and future parking demand
Improve transit amenities to provide improved signage, wayfinding information, shelter, and more attractive public spaces
Work with CTDOT, municipalities, and transit agencies to advance ITS strategies that improve the operations and efficiency of the regional transportation system
Develop smart-card technology that can be used universally across all transit modes in the Region and State

## PRESERVE THE EXISTING SYSTEM

Emphasize the preservation of the existing transportation system and maintain a state of good repair.
Preserve the transportation network's structural integrity and operational efficiency, and identify and correct safety, capacity and congestion deficiencies within existing financial, environmental and regulatory constraints
Support performance goals identified in the Transit Asset Management Plans
Modernize the transportation network by addressing system deficiencies, including structurally deficient bridges, poor road surfaces, and transit fleet operating beyond its useful life
Conduct resurfacing, repair and safety programs for state highways, with priority assigned to limited access highways, and implement or improve pavement management systems at local and state levels
Support performance goals related to system performance, pavement conditions, bridge conditions

## RESILIENCY AND RELIABILITY

Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
Continue to work with Federal and State agencies to review inventories of historic, natural, and cultural resources and to determine environmental impacts and mitigation activities that restore and maintain the environmental functions affected by the Region's transportation system
Work with state agencies and municipalities to study the likely impacts from climate change and to develop mitigation strategies
Further evaluate how changes in weather patterns and mean sea level may impact the transportation network and explore adaptation techniques that can be incorporated into current and future projects

## Financial Plan Details and Fiscal Constraint:

This section provides an overview and details regarding the financial plan and constraint for this Plan. Per federal requirements, the projects identified in the Plan must be fiscally constrained. This information is included to insure that the Plan can be reasonably implemented, since overall federal and state funding will be limited.

**System Improvements** – projects which enhance safety, improve mobility, increase system productivity or promote economic growth.

**System Preservation** – projects such as repaving roadways, bridge repair or replacement and any other form of reconstruction in place.

**Major Projects** – projects identified by CTDOT with significance beyond the HVMPO region.

Over the 25-year span of the Plan (2019-2045), CTDOT has estimated \$3,629,496,102 is available for SWRMPO.

<b>System Improvements</b>	\$1,247,718,585
<b>System Preservation</b>	\$1,395,377,517
<b>Major Projects of Statewide Significance</b>	\$986,400,000
<b>Total</b>	\$3,629,496,102

Table 8 displays the federal funds available for transit projects. Maintaining the transit system in a state of good repair and implementation of the Transit Asset Management Plan requires the use of all transit funds for this timeframe.

Table 8. Federal Transit Funds

Expected Revenue for Transit Projects				
Federal Funds and State Share				State Funded Only
MPO	Total Cost	FTA Share	State Share	State Funded
SWRMPO	\$3,169,000,000	\$2,535,200,000	\$633,800,000	\$272,500,000
Expected Federal Revenue for Transit Projects – Multi-Regional				
Federal Funds and State Share				State Funded Only
MPO	Total Cost	FTA Share	State Share	
Statewide	\$1,697,500,000	\$1,358,000,000	\$339,500,000	\$2,946,500,000
New Haven Line - Systemwide	\$4,413,500,000	\$3,530,800,000	\$882,700,000	\$1,400,000,000
CTtransit Systemwide	\$813,000,000	\$650,400,000	\$162,600,000	\$358,000,000
SWRMPO/HVMPO	\$250,000,000	\$200,000,000	\$50,000,000	\$45,000,000

Table 9 displays major projects of statewide significance. Specific MPO and multi-regional transportation and transit projects may be found in Table 10.

Table 9. Major Projects of Statewide Significance

Project	Route	Town	Description	Total Cost	FHWA Federal Share	State Share
0102-0296	CT 15	NORWALK	Resurfacing, Bridge & Safety Improvements, CT 124 to Newton Turnpike	\$85,000,000	\$68,000,000	\$0
0102-0358	RT 7	NORWALK	Rt. 7 / Rt. 15 Interchange Reconstruction and Reconfiguration	\$193,000,000	\$0	\$193,000,000
0135-0325	RT 1	STAMFORD	Bridge Rehab Route 1 in Stamford	\$20,000,000	\$0	\$20,000,000
0135-0334	I-95	STAMFORD	Bridge No. 00032 on I-95 in Stamford	\$20,000,000	\$0	\$20,000,000
TBD	RT 7	NORWALK	Rt. 7 Reconfiguration at End of Expressway (at Grist Mill Road)	\$28,250,000	\$0	\$28,250,000
TBD	RT 7	NORWALK	Rt. 7 Reconstruction from Grist Mill Road to Rt. 33	\$18,000,000	\$14,400,000	\$0
TBD	I-95	GREENWICH / STAMFORD	I-95 Southbound Widening Between Exits 1 and 7 and Replacing Bridge #0001	\$600,000,000	\$0	\$600,000,000
TBD	I-95	DARIEN / NORWALK	I-95 Northbound & Southbound Widening & Reconfiguration Between Exits 13 & 16	\$635,000,000	\$508,000,000	\$0
TBD	I-95	STAMFORD / DARIEN / NORWALK	I-95 Northbound Widening Between Exits 9 and 19 (NEW)	\$495,000,000	\$396,000,000	\$0
South Western MPO Total				\$2,094,250,000	\$986,400,000	





Table 10. Transportation and Transit Projects

Project #	Town	Route/Street Number	Project Description	Estimated Cost			
				Funding Source	Years 1 to 4	Years 5 to 10	Years 11 to 27
0102-0296	Norwalk	CT 15	Resurfacing, Bridge & Safety Improvements, CT 124 to Newton Turnpike	FHWA	\$ 68,000,000	\$ -	\$ -
0102-0358	Norwalk	RT 7	Rt. 7 / Rt. 15 Interchange Reconstruction and Reconfiguration	State	\$ -	\$ 193,000,000	\$ -
0135-0325	Stamford	RT 1	Bridge Rehab Route 1 in Stamford	State	\$ 20,000,000	\$ -	\$ -
0135-0334	Stamford	I-95	Bridge No. 00032 on I-95 in Stamford	State	\$ 20,000,000	\$ -	\$ -
TBD	Norwalk	RT 7	Rt. 7 Reconfiguration at End of Expressway (at Grist Mill Road)	State	\$ -	\$ -	\$ 28,250,000
TBD	Norwalk	RT 7	Rt. 7 Reconstruction from Grist Mill Road to Rt. 33	FHWA	\$ -	\$ -	\$ 14,400,000
TBD	Greenwich / Stamford	I-95	I-95 Southbound Widening Between Exits 1 and 7 and Replacing Bridge #0001	State	\$ -	\$ -	\$ 600,000,000
TBD	Darien / Norwalk	I-95	I-95 Northbound & Southbound Widening & Reconfiguration Between Exits 13 &16	FHWA	\$ -	\$ -	\$ 508,000,000
TBD	Stamford / Darien / Norwalk	I-95	I-95 Northbound Widening Between Exits 9 and 19 (NEW)	FHWA	\$ -	\$ -	\$ 396,000,000
0301-0040	Westport	NHL	NHL - Moveable Bridges - SAGA Replacement	FTA	\$ -	\$ 90,000,000	\$ 1,010,000,000
0301-0176	Norwalk	NHL	NHL - Moveable Bridges - WALK Replacement	FTA	\$ 455,000,000	\$ 295,000,000	\$ -
TBD	Stamford	CT Transit	Bus Maintenance Facility Improvements - Stamford SOGR	FTA	\$ -	\$ 25,000,000	\$ 30,000,000
TBD	Various	CT Transit	New BRT-Like Service - Route 1 Norwalk/Stamford	FTA	\$ -	\$ -	\$ 64,000,000
TBD	Greenwich	NHL	NHL - Moveable Bridges - COS COB REPLACEMENT	FTA	\$ -	\$ 90,000,000	\$ 1,010,000,000
TBD	Stamford	NHL	NHL - Stamford Station SOGR	FTA	\$ -	\$ 50,000,000	\$ -
TBD	Statewide	All Transit Districts	Bus Fleet Overhauls & Replacements - All Other Buses	FTA	\$ 65,000,000	\$ 40,000,000	\$ 140,000,000
TBD	Statewide	Statewide Bus	Systemwide Technology Upgrades for Buses	FTA	\$ -	\$ 30,000,000	\$ 60,000,000
TBD	Statewide	All Transit Districts	Bus Maintenance Facility Improvements - All Other Bus Facilities SOGR	FTA	\$ 35,000,000	\$ 45,000,000	\$ 100,000,000
TBD	Various	Statewide Bus	Bus Fleet Expansion in Urban Areas, Including Real-Time Scheduling and Smart Card Fare Boxes	FTA	\$ -	\$ 16,500,000	\$ 66,000,000
TBD	Statewide	Statewide	Multimodal Fare Technology Improvements	FTA	\$ -	\$ 45,000,000	\$ 150,000,000
TBD	Various	NHL	NHL - Rail Yard Improvements Statewide	FTA	\$ -	\$ -	\$ 905,000,000
TBD	Various	NHL	NHL - Fixed Bridge SOGR	FTA	\$ -	\$ 650,000,000	\$ 725,000,000
TBD	Various	NHL	NHL - Communications / Signal Upgrades SOGR	FTA	\$ 130,000,000	\$ 280,500,000	\$ 1,200,000,000
TBD	Various	NHL	NHL - Track Improvements SOGR	FTA	\$ 70,000,000	\$ 145,000,000	\$ 365,000,000
TBD	Various	NHL	NHL - Catenary SOGR / Power Upgrades	FTA	\$ 15,000,000	\$ -	\$ 30,000,000
TBD	Various	NHL	NHL - Stations/Parking - Systemwide Technology Upgrades for Rail at Stations	FTA	\$ 73,000,000	\$ -	\$ 10,000,000
TBD	Various	NHL	NHL - Stations/Parking - Station Improvement Program	FTA	\$ 10,000,000	\$ 20,000,000	\$ 50,000,000
TBD	Various	NHL	NHL - New Rail Maintenance Facility and Yard for Intercity Rail Service	FTA	\$ -	\$ 50,000,000	\$ 20,000,000
TBD	Various	NHL	NHL - Full Capacity New Haven Line Service	FTA	\$ -	\$ -	\$ 270,000,000
TBD	Various	NHL	NHL - Future Station Improvements for More Efficient Express Service to NYC	FTA	\$ -	\$ -	\$ 300,000,000
TBD	Statewide	CT Transit	CT Transit System wide - Admin Capital / Misc. Support	FTA	\$ 12,000,000	\$ 42,000,000	\$ 140,000,000
TBD	Statewide	CT Transit	Bus Fleet Overhauls & Replacements - CTTransit	FTA	\$ 18,500,000	\$ 166,500,000	\$ 434,000,000
TBD	Danbury	NHL	Danbury Branch Line - New Rail Storage Yard	FTA	\$ -	\$ 2,000,000	\$ 48,000,000
TBD	Danbury / Wilton	NHL	Danbury Branch Line - Double Tracking to Wilton	FTA	\$ -	\$ -	\$ 200,000,000
TBD	Various	NHL	Danbury Branch Line - Electrify Existing Tracks Between Norwalk & Danbury	State	\$ 19,500,000	\$ 25,500,000	\$ -
0301-0047	Stamford	NHL	NHL - Stations/Parking - Stamford Parking Garage & Pedestrian Bridge	State	\$ 60,000,000	\$ -	\$ 60,000,000
0301-0177	Westport	NHL	NHL - Moveable Bridges - SAGA Interim Repairs	State	\$ 15,000,000	\$ -	\$ -
0302-0014	Norwalk	NHL	NHL - New Stations/Parking - Merritt 7	State	\$ 20,000,000	\$ -	\$ 34,000,000
TBD	Greenwich	NHL	NHL - Moveable Bridges - COS COB Interim Repairs (Ramp-Up)	State	\$ 33,500,000	\$ -	\$ -
TBD	Various	NHL	New Canaan Branch Line - Various Improvements	State	\$ -	\$ -	\$ 50,000,000
TBD	Statewide	Rail Freight	Rail Freight Network Annual Funding Program (SOGR)	State	\$ 20,000,000	\$ 20,000,000	\$ -
TBD	Various	NHL	NHL - Electric Fleet Mid-Life Overhauls & Replacements	State	\$ -	\$ -	\$ 1,400,000,000
				Total	\$ 1,159,500,000	\$ 2,321,000,000	\$ 10,417,650,000

## Air Quality Conformity

The Clean Air Act of 1970, as amended in 1990, requires that the US Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) for seven common pollutants: carbon monoxide, lead, ozone, nitrogen oxides (NO<sub>x</sub>), Sulfur Dioxide, and fine particulate matter less than 10 and 2.5 (PM<sub>2.5</sub>) microns in diameter. Areas where concentrations of certain pollutants exceed the established standards are designated as non-attainment areas by the EPA. Emissions associated with transportation systems have been identified as a major source for many of these pollutants. HVMPO and SWRMPO are currently within the New York-New Jersey-Connecticut (NY-NJ-CT) Attainment/Maintenance Area for PM<sub>2.5</sub>, and the Greater Connecticut and NY-NJ-CT Marginal Ozone Areas.

Figure 35 displays Connecticut's ozone non-attainment areas and PM<sub>2.5</sub> attainment/maintenance Areas.

The CTDOT Air Quality Conformity Determination Reports may be found here: <https://www.ct.gov/dot/cwp/view.asp?a=3529&q=447490>

Ozone is formed as part of a reaction between heat and gas emissions, from motor vehicles or other types of fuel combustion, primarily organic hydrocarbons (VOC) and NO<sub>x</sub>. Fine Particulate matter is composed of tiny solids suspended in the air, which are smaller than 2.5 micrometers in diameter. These microscopic particles may be released with smoke or vehicle exhaust. High Concentrations of both Ozone and PM<sub>2.5</sub> contribute to poor air quality, which may pose a threat to public health. To ensure

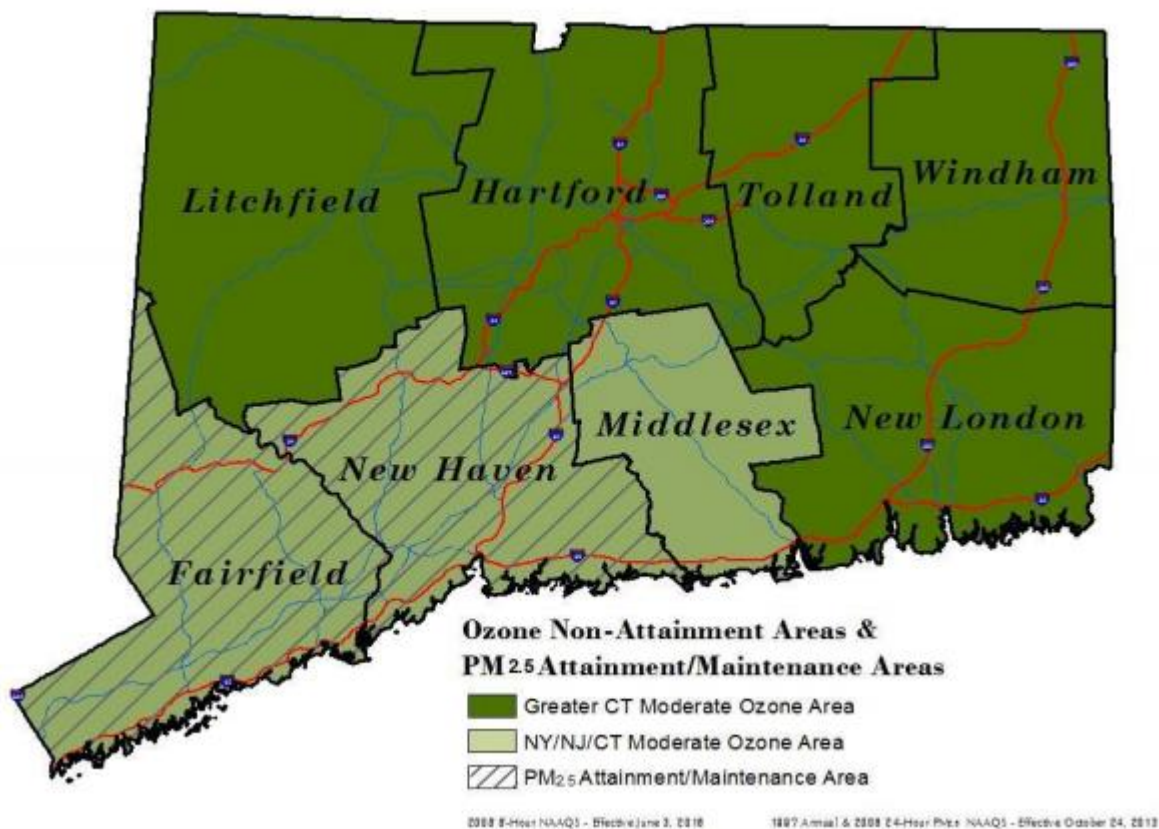


Figure 35. Ozone and Particulate Matter 2.5 Areas in Connecticut

Transportation planning and projects do not contribute to degraded air quality, projects included in the Long-Range Transportation Plan are evaluated for conformity with State and Federal air quality standards.

The conformity analysis is used to show that projected emissions for the proposed projects, programs or plans do not contribute to poor air quality and help non-attainment areas meet NAAQS. Air quality conformity modeling was conducted by CTDOT according to the State Implementation Plan (SIP) for ozone and PM<sub>2.5</sub>. The SIP establishes the vehicle emissions budget used to evaluate the Region's transportation program based on the following tests:

- For VOC and NO<sub>x</sub>, transportation emissions from the Action Scenarios must be less than the 2009 transportation emission budgets if analysis year is 2009 or later. Action scenario years are: 2018, 2020, 2023, 2025, 2035, 2045.
- For PM<sub>2.5</sub>, emissions from future Action Scenarios from 2017 on, must be less than the 2017 Motor Vehicle Emission Budgets
- For PM<sub>2.5</sub> Emissions from future Action Scenarios from 2025 on, must be less than the 2025 Motor Vehicle Emission Budgets

CT DOT uses a model that applies emission to factors identified by the EPA. One of the principal factors is vehicle miles traveled data, which is generated using a travel demand model that assigns trips to the highway network. Conformity determinations are based on the expected emissions resulting from vehicles traveling over the existing and future highway

network. It is important to note that while some individual projects may increase emissions, these emissions may be offset by transit or congestion mitigation projects that reduce congestion. Overall, the entirety of the transportation program must move the region towards cleaner air.

In February 2019, emissions analyses were completed by CTDOT and included in the Air Quality Conformity Reports for the Connecticut portion of the NY-NJ-CT non-attainment area for both ozone and PM<sub>2.5</sub>, and for the Greater CT ozone area. Results indicated that the projects and recommendations included in the plan will assist with improving air quality in the non-attainment area and move the region towards meeting all NAAQS.



Table 11. Ozone Conformity: NO<sub>x</sub> and VOC Emissions Budget Test Results

Year	Ozone Area	Tons per day					
		Series 31G		Budgets		Difference	
		VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>
2018	CT Portion of NY-NJ-CT Area	16.61	23.74	17.6	24.6	-0.99	-0.86
	Greater CT Area	14.96	21.18	15.9	22.2	-0.94	-1.02
2020	Greater CT Area	13.54	17.84	15.9	22.2	-2.36	-4.36
2023	CT Portion of NY-NJ-CT Area	13.06	15.70	17.6	24.6	-4.54	-8.90
2025	CT Portion of NY-NJ-CT Area	12.39	19.94	17.6	24.6	-5.21	-10.66
	Greater CT Area	11.18	12.53	15.9	22.2	-4.72	-9.67
2035	CT Portion of NY-NJ-CT Area	7.27	8.45	17.6	24.6	-10.33	-16.15
	Greater CT Area	6.49	7.53	15.9	22.2	-9.41	-14.67
2045	CT Portion of NY-NJ-CT Area	6.41	7.85	17.6	24.6	-11.19	-16.75
	Greater CT Area	5.76	7.01	15.9	22.2	-10.14	-15.19

Table 12. PM<sub>2.5</sub> Conformity: Direct PM<sub>2.5</sub> and NO<sub>x</sub> Emission Budget Test Results

Year	PM <sub>2.5</sub>	Tons per year					
		Series 31G		Budgets		Difference	
		PM <sub>2.5</sub>	NO <sub>x</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>
2018	CT Portion of NY-NJ-CT Area	318.1	7,837.5	575.8	12,791.8	-257.7	-4,954.3
2025	CT Portion of NY-NJ-CT Area	221.6	4,707.9	516.0	9,728.1	-294.4	-5,020.2
2035	CT Portion of NY-NJ-CT Area	169.2	2,987.4	516.0	9,728.1	-346.8	-6,740.7
2045	CT Portion of NY-NJ-CT Area	152.4	2,803.5	516.0	9,728.1	-363.6	-6,924.6

CHAPTER

# 4

PERFORMANCE  
MEASURES

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# Performance-Based Planning And Programming

## Overview of Performance Measures

In accordance with federal requirements, “The metropolitan transportation planning process shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals...”.

The Final Rule on Statewide and Metropolitan Transportation Planning established new requirements for MPOs to coordinate with transit providers, set performance targets, and

integrate those targets into the planning process. The MPOs are responsible, together with the State, for the comprehensive, continuing, and cooperative transportation planning process for the SWRMPO and HVMPO region. In May 2018, HVMPO and SWRMPO amended their respective Unified Planning Work Programs to include a Statement of Cooperation with CTDOT outlining the MPO’s role and responsibilities in performance-based planning and programming.

Performance Measures use system information to support investment and policy decisions that help achieve these goals. Federal law requires a performance-driven and outcome-based approach for transportation planning and programming as per 23 USC § 134(c)(1); 49 USC § 5303(c)(1). Performance Measures



Figure 36. Performance-Based Planning Process (Source: FHWA)



support 3C planning and facilitates quantitative planning approaches. The Federal Highway Administration and Federal Transit Administration regulations governing federal transportation assistance require MPOs to integrate data-driven performance targets into their planning documents. As per 23 CFR 450.324 and 23 CFR 450.326, MPO's are required to incorporate performance targets and performance-based plans into their Transportation Improvement Programs (TIPs) and Metropolitan Transportation Plans.

## Performance-Based Planning and the MPO Planning Process

Per the federal requirements and the Statement of Cooperation between CTDOT and HVMPO and SWRMPO, performance measures and the setting of targets are established in a collaborative process. CTDOT shares the targets and the methodology used in developing their targets with the MPOs.

### PERFORMANCE MANAGEMENT AREAS:

**Highway Safety**  
**Pavement & Bridge Condition**  
**System Performance**  
**Freight Movement**  
**On-Road Mobile Source Emissions**  
**Transit Asset Management**

It is important to note that the development of performance measure targets is based on a variety of factors, with significant emphasis on anticipated funding for future projects. Federal guidance recommends setting realistic and achievable targets for each performance area. In some cases, targets may worsen over the reporting-period.

Following the establishment of targets by CTDOT, the MPOs have 180 days to develop their own targets or support the state targets.

To facilitate this process, staff provide an overview of the performance measure area state targets to the Technical Advisory Group (TAG). Members of the TAG review this information and provide a recommendation to the MPO Policy Boards to either support the state targets or establish different targets for the MPO regions.

The following section provides an overview of the performance management areas and the dates that the MPOs adopted the targets.

## Highway Safety

Federal Highway Administration published a Final Rule to establish Safety Performance Measures for State Department of Transportation to carry out the Highway Safety Improvement Program (HSIP). The HSIP is a federal-aid program which seeks to reduce traffic fatalities and serious injuries on all public roads. The FHWA Safety Metrics are safety-related and included the following categories:

- Number of Fatalities
- Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million VMT
- Number of Non-Motorized Fatalities and Serious Injuries

HVMPO and SWRMPO endorsed resolutions supporting the 2018 FHWA Safety Performance Measure targets established by CTDOT on February 15, 2018. In August 2018, CTDOT established new safety targets for 2019. These targets were supported by HVMPO and SWRMPO on January 17, 2019. HVMPO and SWRMPO understand the need for attainable short-term targets, however zero fatalities and serious injuries remain the long-term vision of the MPO boards.

Table 13. Highway Safety Performance Measures

Performance Measure	2018 Targets	2019 Targets
Number of Fatalities	257	274
Rate of Fatalities per 100 million VMT	0.823	0.873
Number of Serious Injuries	1,571	1,574
Rate of Serious Injuries per 100 million VMT	5.033	5.024
Number of Non-motorized Serious Injuries and Fatalities	280	290

## Pavement Conditions

Federal guidance focuses the Pavement Condition Performance Measures on the National Highway System (NHS) Infrastructure Management on the network of strategic highways, including interstates and other roads that serve major airports, rail or truck terminals, and other strategic transport facilities. The Performance Measure tracks the percent of the Interstate and National Highway

System (NHS) in “Good” and “Poor” condition. Pavement condition is determined by measuring roughness, cracking, rutting, and faulting.

The MPO endorsed a resolution supporting the Pavement Condition Measures targets established by CTDOT on November 15, 2018.

Table 14. Pavement Condition Targets

	Current condition		2-year targets (2020)		4-year targets (2022)	
	Good %	Poor %	Good %	Poor %	Good %	Poor %
Interstate Pavement	66.2	2.2	65.5	2.0	64.4	2.6
Non-Interstate NHS Pavement	37.9	8.6	36.0	6.8	31.9	7.6

## Bridge Conditions

Federal Highway Administration published a Final Rule to establish Bridge Condition Performance Measures for the National Highway Performance Program. This target measures the percent of National Highway System (NHS) Infrastructure Management bridges in “Good” and “Poor” condition.

Bridge condition is calculated using National Bridge Inventory condition ratings for bridge decks, superstructures, substructures, and culverts. Bridges located on off- & on- ramps connected to the NHS are included in the rule.

The MPO endorsed a resolution supporting the Bridge Condition Measures targets established by CTDOT on November 15, 2018.

Table 15. Bridge Condition Targets

	Current condition		2-year targets (2020)		4-year targets (2022)	
	Good %	Poor %	Good %	Poor %	Good %	Poor %
<b>NHS Bridge Condition</b>	18.1	15.0	22.1	7.9	26.9	5.7

## System Performance

The performance of the NHS target measures the percent of Interstate and National Highway System (NHS) person-miles that are “reliable” for the National Highway Performance Program (NHPP). Reliability is defined as the ratio of the 80th percentile travel time of a reporting segment to the 50th percentile travel time. The MPO endorsed a resolution supporting the Performance of National Highway System targets established by CTDOT on November 15, 2018.

Table 16. System Performance Targets

	Current condition	2-year targets (2020)	4-year targets (2022)
	Reliable %	Reliable %	Reliable %
<b>Interstate</b>	78.3	75.2	72.1
<b>Non-Interstate NHS</b>	83.6	80.0	76.4

TTTR is measured as the ratio between the worst congestion experienced along a segment (95<sup>th</sup> percentile) and the average congestion along that segment (50<sup>th</sup> percentile).

The MPO endorsed a resolution supporting the Freight Movement on the Interstate System targets established by CTDOT on November 15, 2018.

Table 17. Freight Movement Targets

	Current condition	2-year targets (2020)	4-year targets (2022)
	TTTR	TTTR	TTTR
<b>Interstate TTTR</b>	1.75	1.79	1.83

## Freight Movement

The Freight Movement on the Interstate target for the National Highway Freight Program (NHFP) is measured using the truck travel time reliability index (TTTR) along the Interstate system. TTTR is measured as the ratio between the worst congestion experienced along a segment (95<sup>th</sup> percentile) and the average congestion along that segment (50<sup>th</sup> percentile).

This target is measured using the truck travel time reliability index (TTTR) along the Interstate system.

## On-Road Mobile Source Emissions

The Congestion Mitigation & Air Quality Improvement Program, or the On Road Mobile Source Emissions target, is measured by cumulative emissions of pollutants per day. This measure consists of the cumulative 2-year and 4-year Emissions Reductions (kg/day) for CMAQ-funded projects. The current and future targets reflect the rate of reduction in emissions. It covers the following pollutants: Nitrogen Dioxide (NO<sub>x</sub>), Carbon Monoxide (CO), Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>), Ozone (O<sub>3</sub>), and Volatile Organic Compounds (VOCs). The contribution of a given project

towards emissions reduction are only counted in the project's initial year.

This measure consists of the cumulative 2-year and 4-year Emissions Reductions (kg/day) for CMAQ-funded projects. The current and future targets reflect the rate of reduction in emissions.

The MPO endorsed a resolution supporting the Congestion Mitigation and Air Quality (CMAQ) Program Measures- On-Road Mobile Source Emissions targets established by CTDOT on November 15, 2018.

Table 18. On-Road Mobile Source Emissions Targets

	Current condition		2-year targets (2020)	4-year targets (2022)
	2-year cumulative kg/day	4-year cumulative kg/day	2-year cumulative kg/day	4-year cumulative kg/day
<b>Volatile Organic Compounds (VOC)</b>	10.820	263.890	19.320	30.140
<b>Nitrogen oxide (NO<sub>x</sub>)</b>	34.680	462.490	67.690	102.370
<b>Particulate Matter</b>	1.040	12.950	1.632	2.674

## Transit Asset Management

FTA's Transit Asset Management (TAM) Performance Measure set performance targets for achieving a state of good repair. TAM applies to recipients and sub-recipients who own, operate, or manage public transportation capital assets. In HVMPO and SWRMPO, this includes: Metro-North Railroad (Tier 1), CT Transit Stamford (Tier 1), Norwalk Transit District (Tier 2), and Housatonic Area Regional Transit (Tier 2). Target setting is coordinated with CTDOT and transit operators. The MPOs will continue to actively coordinate with these entities.

FTA's Transit Asset Management Final Rule (TAM) Performance Measures set performance targets for achieving a state of good repair for the following four asset categories:

- **Rolling Stock:** The percentage of revenue vehicles (by type) that exceed the useful life benchmark (ULB).

- **Equipment:** The percentage of non-revenue service vehicles (by type) that exceed the ULB.
- **Facilities:** The percentage of facilities (by group) that are rated less than 3.0 on the Transit Economic Requirements Model (TERM) Scale.
- **Guideway Infrastructure:** The percentage of track segments (by mode) that have performance restrictions. Track segments are measured to the nearest 0.01 of a mile.

HVMPO and SWMRPO endorsed a resolution supporting the State of Good Repair (SGR) Performance Targets set by CTDOT to comply with the FTA Transit Asset Management Final Rule on June 15, 2017.

Table 19. Transit Asset Management Targets

Tier 1	Asset	Connecticut ULB	2019 Target
Rail Revenue Vehicles	Commuter rail locomotive (MNR)	35 years	13%
	Commuter rail coach (MNR)	35 years	13%
	Commuter rail self-propelled car	35 years	13%
Rail Service Vehicles	Rubber Tire Vehicle (Truck)	14 years	7%
	Automobiles	5 years	17%
	SUVs	5 years	17%
	Vans	5 years	17%
	Steel Wheel Vehicle	25 years	0%
Bus Revenue Vehicles	Bus	12 years	14%
	Articulated Bus	12 years	14%
	Over-the-road Bus	12 years	14%
	Cutaway	5 years	17%



Bus Service Vehicles	Rubber Tire Vehicle (Truck)	14 years	7%
	Automobiles	5 years	17%
	Vans	5 years	17%
	SUVs	5 years	17%
Tier 2	Asset	Connecticut ULB	Target
Bus Revenue Vehicles	Bus	12 years	14%
	Cutaway	5 years	17%
	Mini van	5 years	17%
Bus Service Vehicles	Rubber and Tire Vehicles	14 years	7%
	Automobiles	5 years	17%
	Vans	5 years	17%
	SUVs	5 years	17%
Tier 1 and Tier 2	Asset	FTA TERM Scale	Target
Bus Facilities	Passenger	TERM 1- 5	0% below 3
	Administrative/Maintenance	TERM 1- 5	0% below 3
Tier 1	Asset	2018	2019 Target
Rail	Percentage of track segments with performance restrictions	0%	2%

CHAPTER

5

ENGAGEMENT &  
EQUITY ANALYSIS

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# Engagement and Equity Analysis

## Public and Stakeholder Engagement

The purpose of the report is to summarize the public involvement activities and input received regarding the Housatonic Valley Metropolitan Planning Organization (HVMPO) and South Western Region Metropolitan Planning Organization (SWRMPO) Long-Range Transportation Plan 2019-2045 (LRTP). The public engagement efforts used for the development of this plan are in accordance with HVMPO and SWRMPO's [Public Participation Plan](#). Opportunities for public participation were offered throughout the planning process.

The key objectives of the LRTP public involvement process were to:

- Obtain input on important transportation issues, needs, projects and priorities from key stakeholders during the development of the LRTP;
- Provide the general public with the opportunity to learn about the metropolitan transportation planning process as well as to review and provide input on the plan;
- Provide an opportunity for the TAG and MPO to review and comment on the draft LRTP and to adopt the LRTP; and
- Comply with federal requirements regarding public participation in the development of the LRTP.

## Listening Sessions

Public involvement began in October 2018 with public listening sessions. These sessions were designed to provide the public an opportunity

to learn about what a Long-Range Transportation Plan is, how their feedback helps in the development of the plan, and what their experience is with the transportation system in western Connecticut.

To provide the greatest opportunity to participate, listening sessions were scheduled in the mornings, afternoons, and late evenings. Schedules were distributed to Town/City Clerks and public libraries; posted on WestCOG's website, monthly newsletter, social media accounts; and provided as news releases. Legal notices were distributed to Town/City Clerks and placed in the following newspapers: The Danbury News-Times, The Stamford Advocate, The Norwalk Hour, La Voz Hispana (translated in Spanish), and La Tribuna (translated in Spanish and Portuguese).



Figure 37. LRTP Listening Session

The purpose of these sessions was to provide members of the public opportunities to share their experiences and perspectives on the region's transportation system first hand. All comments were collected and recorded in notes taken by staff, and when desired by members of the public, by written comments submitted to WestCOG staff. Sign-in sheets were maintained. WestCOG also accepted comments via email ([plan@westcog.org](mailto:plan@westcog.org)). Written comments (submitted in person or via email) were compiled into a spreadsheet, and

staff notes from listening sessions were summarized and included as well.

In addition to maintaining an email address for comment submission, WestCOG staff also maintained a mailing list for members of the public to receive updates to the Listening Sessions schedule.

### Listening Session Feedback

The following is a summary of the feedback received during the nineteen listening sessions. Most of the comments pertained to one of two main topics: public transportation, especially the Danbury Branch Line, and congestion. Vehicular congestion is a major concern in western Connecticut, especially for those commuting towards New York City, and attendees voiced concern that there are not many viable alternatives.

Vehicular traffic was reported to be a major concern especially along Interstate 95, Interstate 84, Route 15 and Route 7. Most of the traffic of concern along Route 15 and Interstate 95 was reported to be headed towards the metropolitan area, especially towards Stamford and New York City. Reported Interstate 84 and Route 7 congestion centered around Danbury, especially the Interstate 84 and Route 7 interchange.

Comments about the Danbury and New Canaan Branch Lines primarily concerned improving service speeds and schedules. Many reported that service towards New York City is slow, especially along the Danbury Branch Line, and is also prohibitively inconsistent and frequently delayed. Schedules are also insufficient to meet commuter needs, especially return trips from New York City. Many residents of municipalities along the Branch Lines reported that inconsistent, slow service had larger economic impacts as well; potential residents, especially commuters, were

### Press Releases

To reach a wider audience, press releases were distributed to the following newspapers for publication:

*The Newtown Bee*

*The Bethel Patch*

*The Redding Pilot*

*The News-Times*

*The New Milford Spectrum*

*The Brookfield Patch*

*The Greenwich Times*

*The Litchfield County Times*

*The Town Tribune*

*The Darien Daily Voice*

*The New Canaan Daily Voice*

*The Ridgefield Daily Voice*

*The Ridgefield Patch*

*The Weston Patch*

*The Weston Forum*

*Westport Now*

*Westport News*

*The Westport Daily Voice*

*The Wilton Daily Voice*

*The Danbury Patch*

*The Norwalk Patch*

*The Norwalk Daily Voice*

*The Stamford Patch*

*The Norwalk Hour*

*The Stamford Advocate*



dissuaded into choosing other areas by the length of the commute.

General access to public transportation was reported as a consistent issue as well, especially for residents of less urbanized areas with limited access to personal vehicles. Attendees also raised concerns about people with disabilities, elderly populations, and generally those who had limited ability to drive, who also needed consistent access to medical facilities. Shortcomings in availability of ‘Dial a ride’ services, as well as increased reliance on volunteer groups struggling to meet the increasing needs of these populations were raised as growing issues. Increasing public transit, increasing wheelchair accessibility within public transit, as well as the possibility of subsidizing alternate services (such as Uber or Lyft) were proposed as possible solutions.

Many attendees requested more sidewalks, improvements to pedestrian access and safety

along major roads that cut through many municipalities, improvements to bicycle access, and increased public transportation. Busses have been most frequently requested in less urban areas, such as the more rural municipalities. Attendees reported that walking is less viable in areas where traffic is growing, and children are not able to walk to schools safely which in turn increases traffic.

## Public Comment Period and Public Hearings

The public comment period for the draft plan began on February 27, 2019 and concluded on March 29, 2019. Members of the public were provided the opportunity to view the draft plan on WestCOG’s website or request to view a hard-copy of the draft plan in WestCOG’s office. Presentations were given to the TAG and MPO, and the following public hearings were held:

Date	Municipality	Location
October 15, 2018	New Canaan	New Canaan Public Library - Curtis Gallery
October 15, 2018	Stamford	Henry Bennett Branch Library - Meeting Room
October 15, 2018	Greenwich	Greenwich Library - Meeting Room
October 17, 2018	Newtown	Booth Library - Meeting Room
October 17, 2018	Redding	Mark Twain Library - Upstairs Meeting Room
October 17, 2018	Bethel	Bethel Library - Parloa Room
October 24, 2018	Wilton	Wilton Library - Rimer Room
November 7, 2018	New Fairfield	New Fairfield Library - Community Room
November 7, 2018	Danbury	Danbury Library - Lower Level Meeting Room
November 7, 2018	Ridgefield	Ridgefield Library - Program Room
November 8, 2018	Norwalk	Norwalk Library - Children's Activity Room
November 8, 2018	Weston	Weston Library - Community Room
November 8, 2018	Darien	Darien Library - Conference Room
November 20, 2018	Brookfield	Brookfield Library - Community Room
November 20, 2018	New Milford	New Milford Town Hall, Upper Conference Room
November 26, 2018	Westport	Westport Town Hall - Room 201
December 11, 2018	Newtown	Booth Library Meeting Room
December 17, 2018	Greenwich	Greenwich Library - Meeting Room
December 18, 2018	Stamford	Stamford Library Auditorium
March 11, 2019	Stamford	Stamford Library Auditorium
March 13, 2019	Danbury	Danbury Police Department, Community Room

March 11, 2019 7:00pm – Stamford (Ferguson Main Library Auditorium)

March 13, 2019 7:00 pm – Danbury (Danbury Police Department, Community Room)

All comments received during this time period were recorded, reviewed and incorporated into the updated plan as appropriate.

## Online Presence

### WestCOG Website

WestCOG maintains a webpage for HVMP and SWRMPO material on the WestCOG website. A separate webpage was created for the LRTP to document public outreach efforts and planning materials, including the draft LRTP and air quality conformity documents.

Information about the process of developing the LRTP is here:

<https://westcog.org/transportation/long-range-transportation-plans/lrtp2018/>

The schedule for listening sessions, public comment period, and public hearings is posted here: <http://plan.westcog.org>

### Social Media

WestCOG also maintains several social media accounts. Below are examples of how WestCOG publicized information about the LRTP through these channels:



Twitter [@WesternConnCog](https://twitter.com/WesternConnCog)



Facebook [@WestCOG](https://www.facebook.com/WestCOG)



LinkedIn [Western Connecticut Council of Governments](https://www.linkedin.com/company/Western-Connecticut-Council-of-Governments)



## Newsletters

The WestCOG newsletter is distributed to those who sign up for the newsletter mailing list on WestCOG's home page on a monthly basis. It is also posted to the website after distribution, as well as linked in WestCOG social media accounts. LRTP updates were included in the newsletters distributed during the duration of the planning process.



## Mailing List

WestCOG created a mailing list so that interested parties could receive updates on the development of the LRTP and announcements about scheduled listening sessions, the public comment period and dates for the public hearings.

## Other Coordination

The development of the LRTP requires close coordination with municipalities and other state agencies to ensure the LRTP is complementary with other plans that impact transportation. The objective is to compare plans, maps and inventories by other agencies with the LRTP and the Transportation Improvement Program to ensure compatibility. This is an on-going effort that extends beyond the development of the LRTP. The following

are examples of agencies or plans that were reviewed during the development of the LRTP:

### Connecticut Department of Transportation

- Statewide Metropolitan Transportation Plan
- State Transportation Improvement Program
- 5-year Capital Plan
- Transportation Performance Management
- Strategic Highway Safety Plan
- Highway Safety Improvement Program
- Statewide Active Transportation Program
- Statewide Freight Plan

### Connecticut Department of Energy and Environmental Protection

- Statewide Comprehensive Outdoor Recreation Plan
- Environmental and Natural Resources inventories and GIS data

### Connecticut Department of Economic and Community Development

- State Historic Preservation Office

### UConn Center for Land Use Education & Research

- Land Use

### HVMPO and SWRMPO Municipal Plans of Conservation and Development

## Title VI/Equity Analysis

### Title VI/Limited English Proficiency

Title VI of the 1964 Civil Rights prohibits the discrimination based on national origin and Executive Order 13166 (2000) mandates that persons with Limited English Proficiency (LEP) be provided meaningful access to federally funded programs and activities.

The federal LEP definition refers to persons for whom English is not their primary language and who have a limited ability to read, write, speak, or understand English. The criteria for a limited English proficiency area are either 1,000 speakers or 5% of the population in an area with limited English proficiency.

### Environmental Justice

Executive Order No. 12898, issued February 11, 1994, requires that each federal agency incorporate Environmental Justice (EJ) into its mission. The objectives of EJ are to identify and address, as appropriate, disproportionately high adverse impacts on minority and low-income populations. In cooperation with CTDOT and the United States Department of Transportation, WestCOG works to ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

For HVMPO planning efforts to comply with EJ mandates, characteristics of the area populations are evaluated against three criteria at the census tract level:

- 1) *Percent of minority population, defined as all persons except those identifying themselves as White, non-Hispanic. The threshold for measurement is the MPO area percent of minority population. In the HVMPO region, 23.0% of the population identifies as a minority.*
- 2) *Per capita income. The threshold for measurement is the MPO area per capita income. The per capita income for the HVMPO region is \$44,086.*

- 3) *Percent of persons below the poverty level. The threshold for measurement to be the MPO area percent of person below the poverty level. 6.7% of the population of the HVMPO region is under the poverty level.*

For SWRMPO planning efforts to comply with EJ mandates, characteristics of the area populations are evaluated against three criteria at the census tract level:

- 1) *Percent of minority population, defined as all persons except those identifying themselves as White, non-Hispanic. The threshold for measurement is the MPO area percent of minority population. In the SWRMPO region, 33.8% of the population identifies as a minority.*
- 2) *Per capita income. The threshold for measurement is the MPO area per capita income. The per capita income for the SWRMPO region is \$65,632.*
- 3) *Percent of persons below the poverty level. The threshold for measurement to be the MPO area percent of person below the poverty level. 7.2% of the population of the SWRMPO region is under the poverty level.*

### Determination

Many projects listed in the Plan are small-scale projects such as roadway resurfacing, intersection improvements, and signal upgrades. Short-term construction-related impacts associated with these projects are likely to be minimal and affect all users of the transportation system equally. Furthermore, the improvements proposed in the Plan have the potential to create significant benefits for all populations by improving the transportation system.

Given the potential projects and equitable distribution of short-term construction related impacts, environmental justice requirements are satisfied following the federally prescribed process and consistent with the WestCOG Title VI and public participation plan.

Larger-scale projects similarly aim to create significant benefit all users equally, though

impacts, especially during construction, are generally larger. To reduce the negative impacts, Public Involvement Plans tailored to specific projects are developed and managed by CTDOT. Information and schedules are posted to project websites, as are the Public Involvement Plan and outreach materials.

Additionally, for each project on the Plan, additional public outreach, Title VI, EJ, and environmental considerations are at a more localized scale.



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# Appendices

# Appendix

Appendix A – List of Acronyms

Appendix B – Relevant Transportation Plans, Reports, and Studies

Appendix C – Map Book

# Appendix A

## List of Acronyms

ADA Act	Americans with Disabilities Act
AVL	Automatic Vehicle Location
CDC	Center for Disease Control and Prevention
CMAQ	Congestion Mitigation & Air Quality Improvement Program
CMP	Congestion Management Process
CTDOT	Connecticut Department of Transportation
EJ	Environmental Justice
EPA	Environmental Protection Agency
EPE	Extreme Precipitation Events
FAST Act	Fixing America's Surface Transportation Act
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GIS	Geographic Information System
HARTtransit	Housatonic Area Regional Transit
HMP	Hazard Mitigation Plan
HSIP	Highway Safety Improvement Program
HVCEO	Housatonic Valley Council of Elected Officials
HVMPO	Housatonic Valley Metropolitan Planning Organization
ITS	Intelligent Transportation Systems
LEP	Limited English Proficiency
LOTCHIP	Local Transportation Capital Improvement Program
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century Act
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NHFP	National Highway Freight Program
NHPP	National Highway Performance Program
NHS	National Highway System
NTD	Norwalk Transit District
PPP	Public Participation Plan
SGR	State of Good Repair
SHSP	Strategic Highway Safety Plan
SIP	State Implementation Plan

SLR	Sea Level Rise
SWRMPO	South Western Region Metropolitan Planning Organization
SWRPA	South Western Regional Planning Agency
TAG	Technical Advisory Group
TAM	Transit Asset Management
TIP	Transportation Improvement Program
TNC	The Nature Conservancy
TOD	Transit Oriented Development
TSP	Transit Signal Priority
TTTR	Truck Travel Time Reliability Index
ULB	Useful Life Benchmark
UPWP	Unified Planning Work Program
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled
WCSU	Western Connecticut State University



# Appendix B

## Links to relevant HVMPO and SWRMPO planning documents

Western Connecticut Commuter Parking Inventory (2018)

<https://westcog.org/wp-content/uploads/2018/05/Commuter-Parking-Executive-Summary.pdf>

<https://westcog.org/wp-content/uploads/2018/05/Commuter-Parking-Individual-Lot-Summaries-Update.pdf>

Ladders of Opportunity Overview (2017)

<https://westcog.org/wp-content/uploads/2017/10/4-page-brief-online.pdf>

Congestion Management Process

<https://westcog.org/transportation/foundational-plans/congestion-management-process/>

- Interstate 95 Briefing <https://westcog.org/wp-content/uploads/2018/02/I-95-web-layout.pdf>
- Interstate 84 Briefing <https://westcog.org/wp-content/uploads/2018/02/I-84-web-layout.pdf>
- Route 15 Briefing <https://westcog.org/wp-content/uploads/2018/02/Route-15-Updated-web-layout.pdf>

Natural Hazard Mitigation Plan 2016-2021 Update for the South Western Region (2016)

<https://westcog.org/wp-content/uploads/2016/05/HMP-2016-WestCOG-South-Plan.pdf>

Town of Bethel Hazard Mitigation Plan (2016)

<https://westcog.org/wp-content/uploads/2017/06/Bethel-HMP.pdf>

Town of Bridgewater Hazard Mitigation Plan (2015)

<https://westcog.org/wp-content/uploads/2017/06/Bridgewater-HMP.pdf>

Town of Brookfield Hazard Mitigation Plan (2014)

<https://westcog.org/wp-content/uploads/2017/06/Brookfield-HMP.pdf>

City of Danbury Hazard Mitigation Plan Update (2017)

<https://westcog.org/wp-content/uploads/2017/06/Danbury-HMP.pdf>

Town of New Fairfield Natural Hazard Mitigation Plan (2011)

<https://westcog.org/wp-content/uploads/2017/06/New-Fairfield-HMP-reduced.pdf>

Town of New Milford Hazard Mitigation Plan (2015)

<https://westcog.org/wp-content/uploads/2017/06/New-Milford-HMP.pdf>

Town of Newtown Hazard Mitigation Plan (2015)

<https://westcog.org/wp-content/uploads/2017/06/Newtown-HMP.pdf>

Town of Redding Hazard Mitigation Plan (2015)

<https://westcog.org/wp-content/uploads/2017/06/Redding-HMP.pdf>

Town of Ridgefield Hazard Mitigation Plan (2015)

<https://westcog.org/wp-content/uploads/2017/06/Ridgefield-HMP.pdf>

Town of Sherman Hazard Mitigation Plan Update (2017)

<https://westcog.org/wp-content/uploads/2017/06/Sherman-HMP.pdf>

# Appendix C

## Map Book

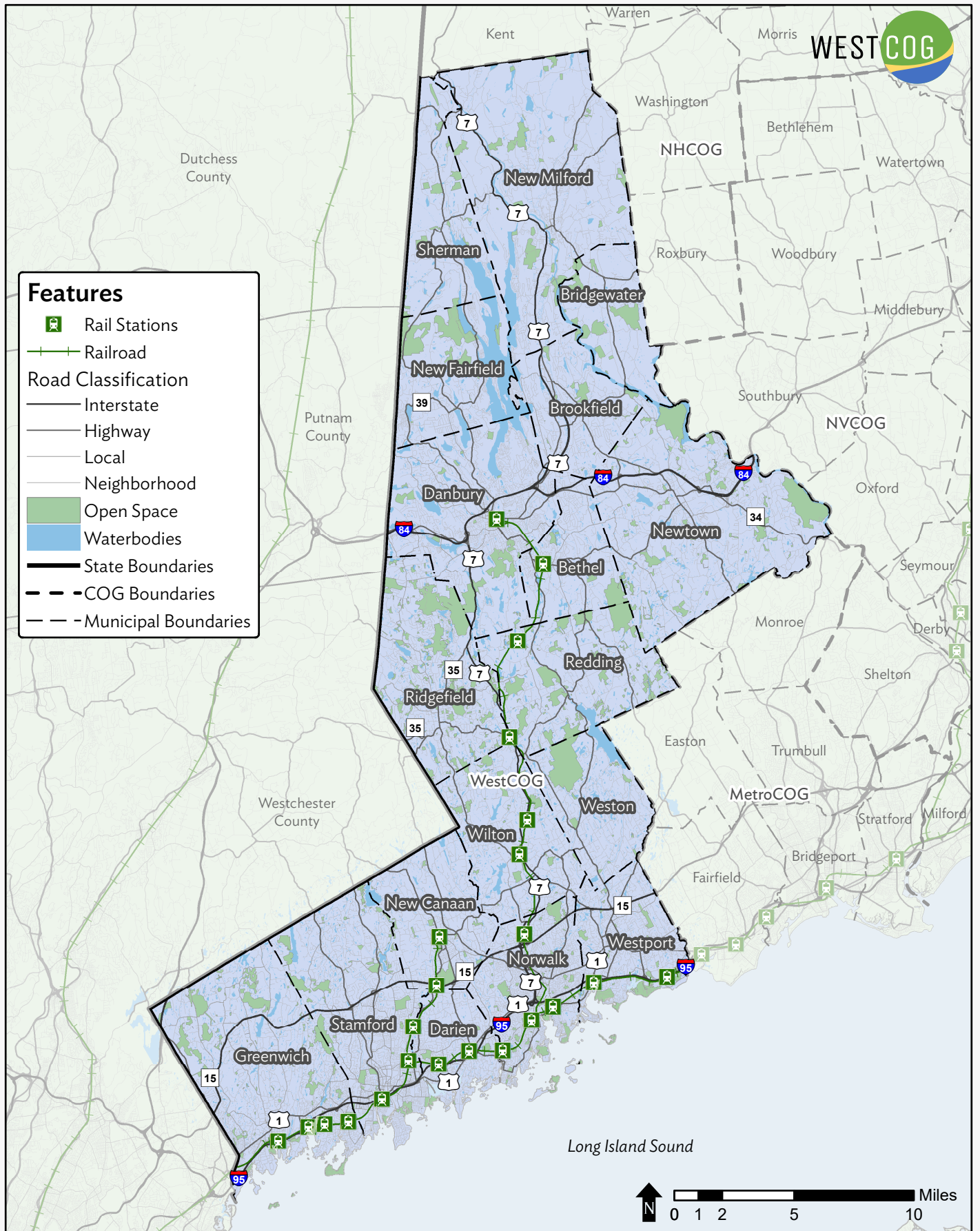
# WestCOG Thematic Map

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

- Rail Stations
- Railroad
- Road Classification**
  - Interstate
  - Highway
  - Local
  - Neighborhood
- Open Space
- Waterbodies
- State Boundaries
- COG Boundaries
- Municipal Boundaries



# MPO Regions

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



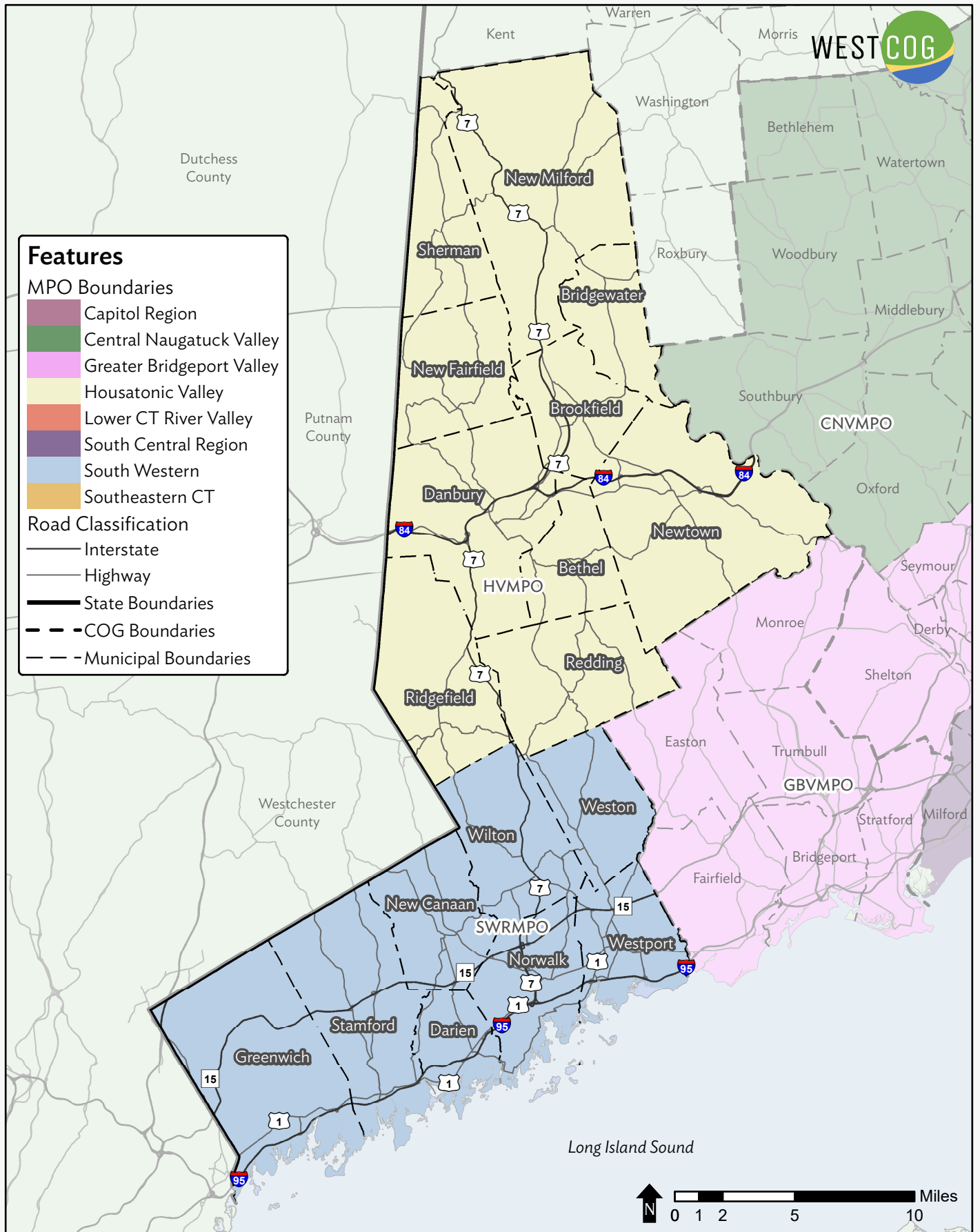
## Features

### MPO Boundaries

- Capitol Region
- Central Naugatuck Valley
- Greater Bridgeport Valley
- Housatonic Valley
- Lower CT River Valley
- South Central Region
- South Western
- Southeastern CT

### Road Classification

- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries





# Road Network

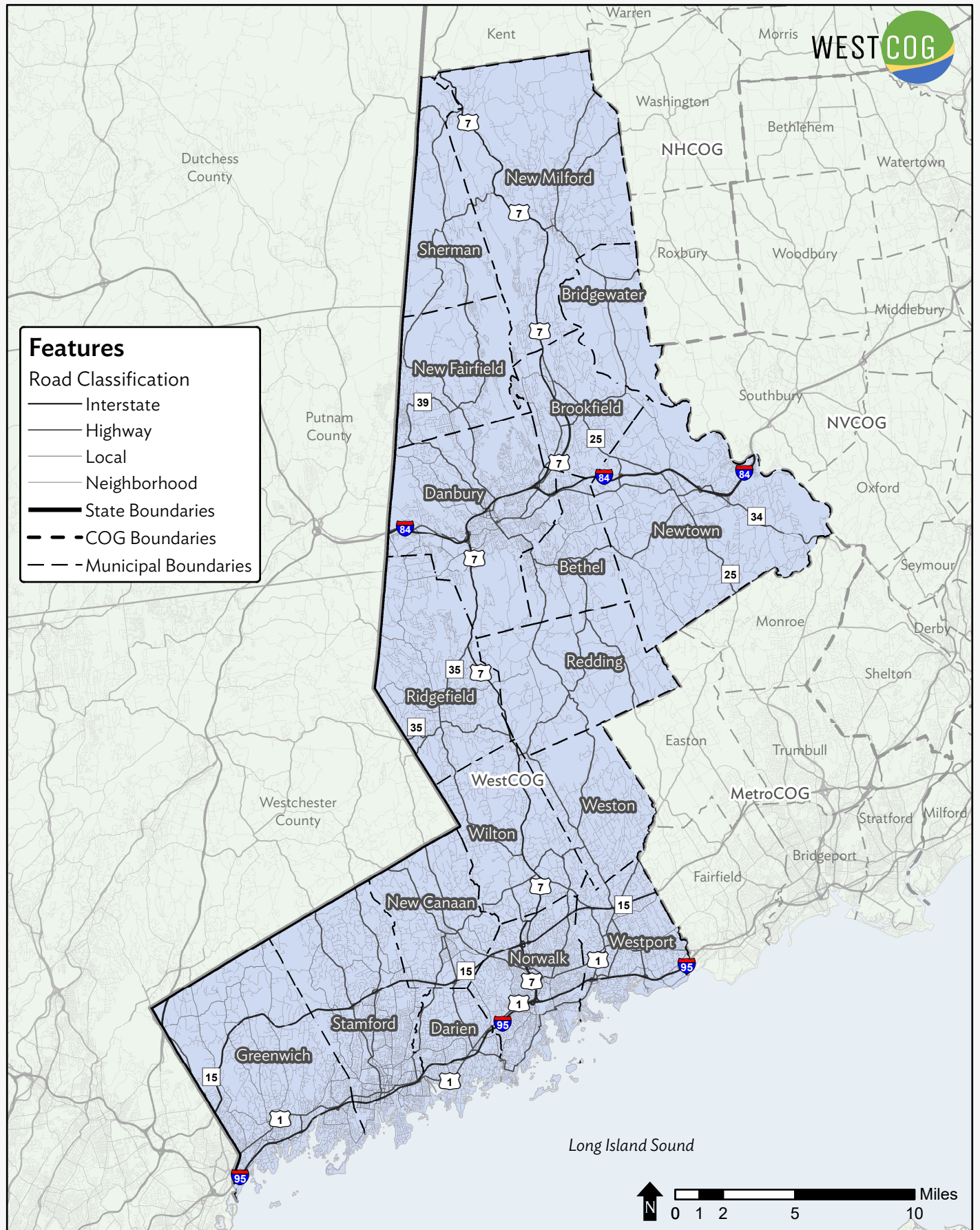
Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

### Road Classification

- Interstate
- Highway
- Local
- Neighborhood
- State Boundaries
- COG Boundaries
- Municipal Boundaries



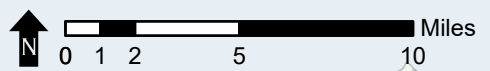
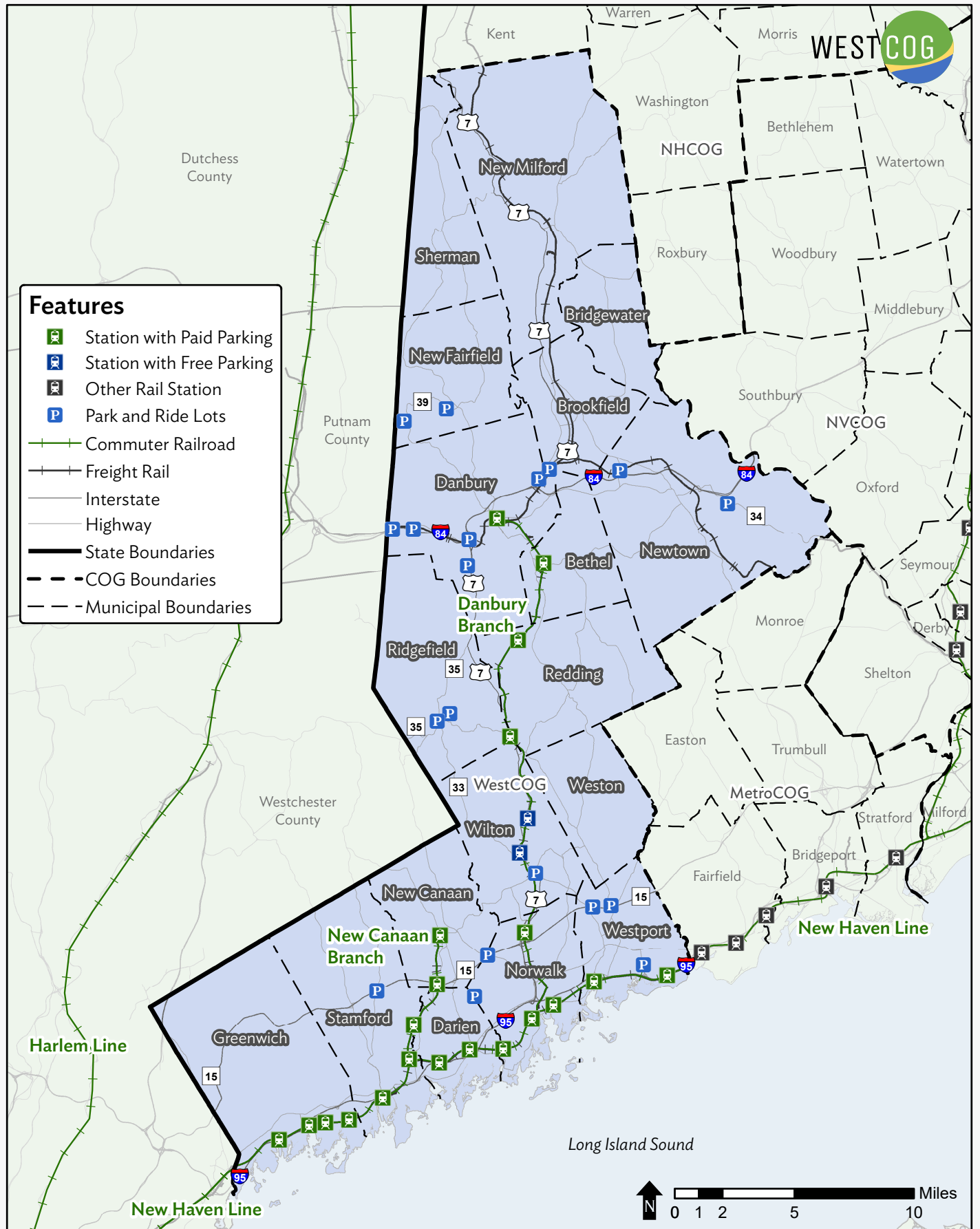
# Commuter Rail and Parking

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

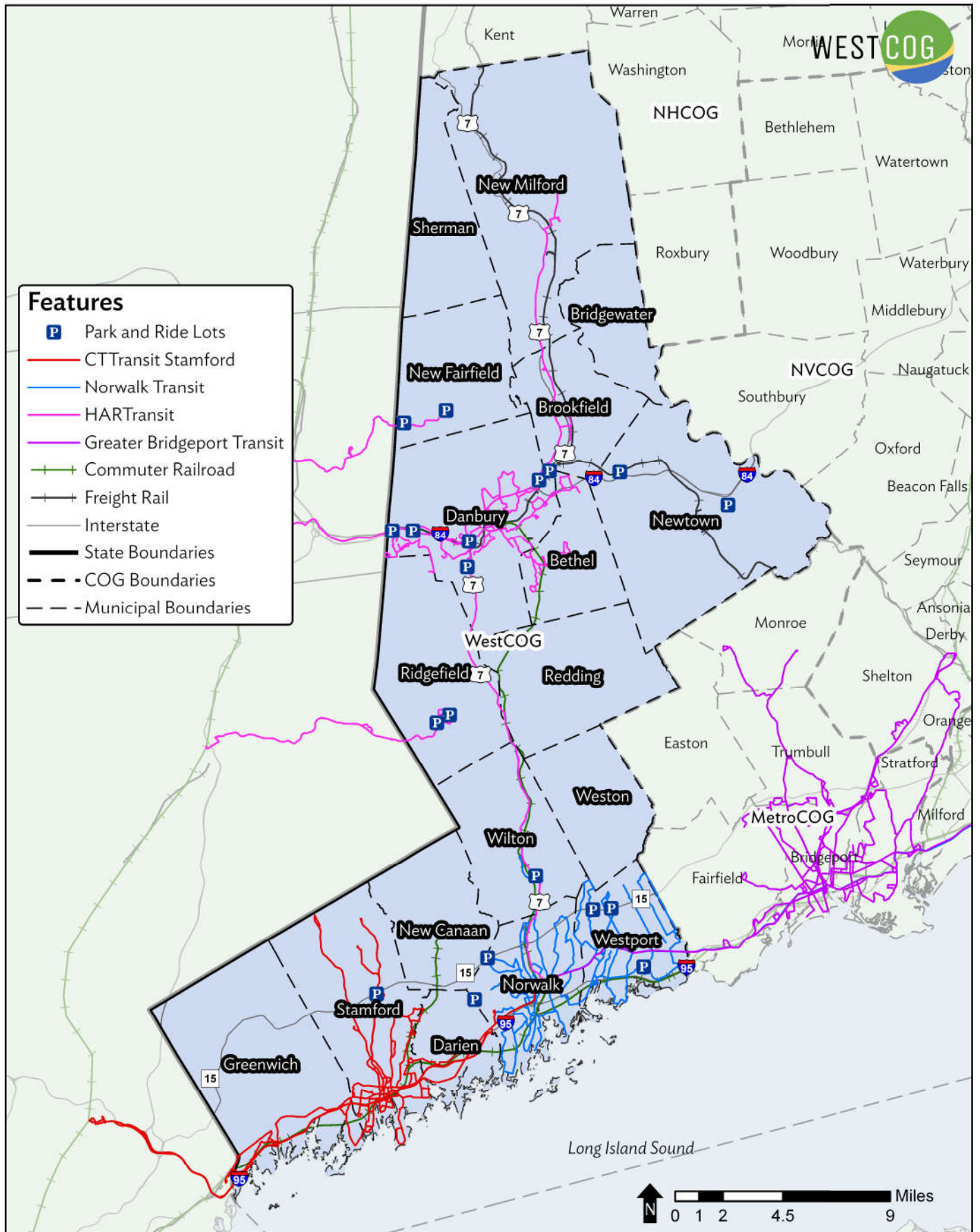
- Station with Paid Parking
- Station with Free Parking
- Other Rail Station
- Park and Ride Lots
- Commuter Railroad
- Freight Rail
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries





# Regional Transit Network

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



# Population Below Poverty Level

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



HVMPO Poverty Level Threshold  
Pop. Below Poverty Level: 6.7%

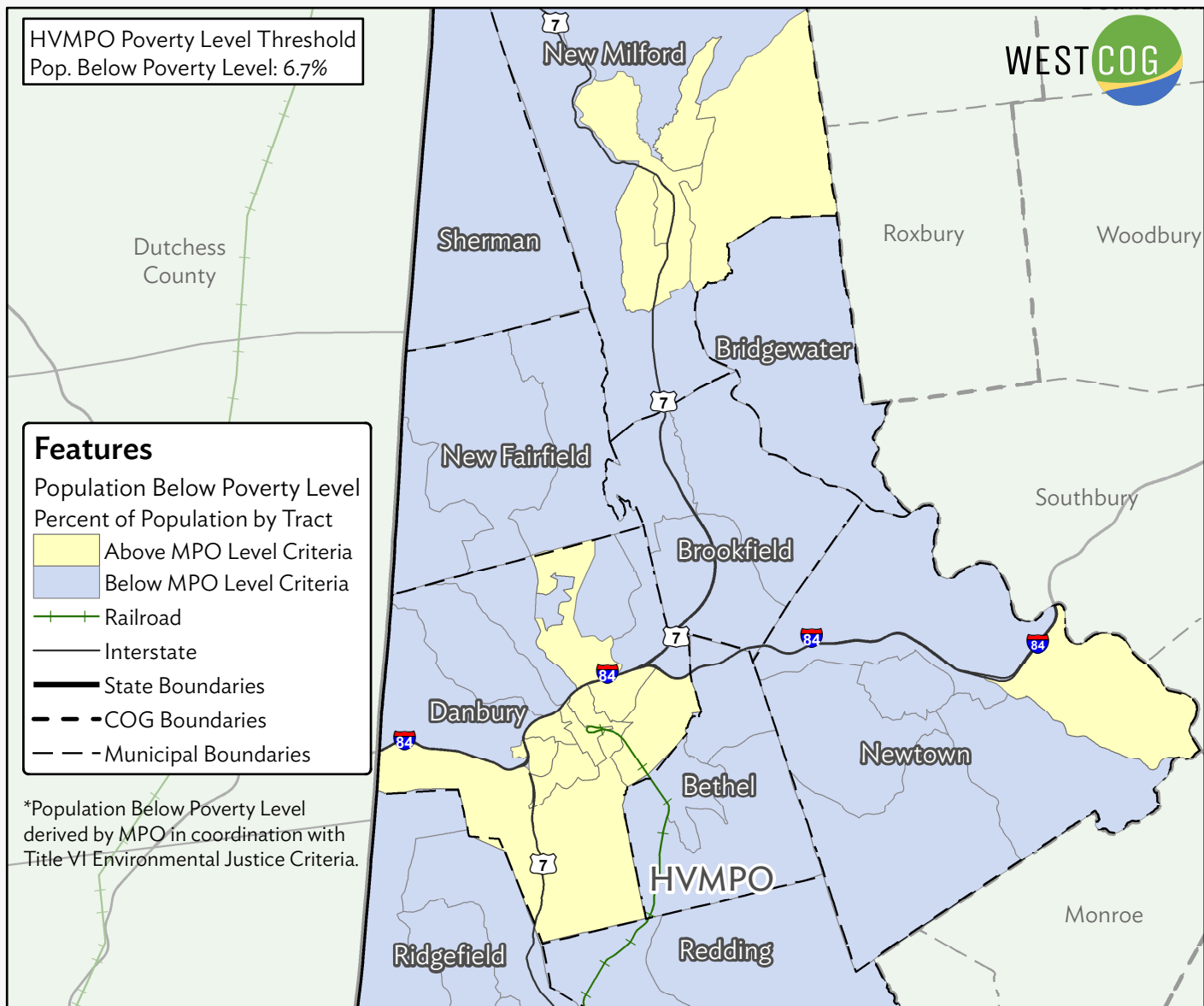
## Features

Population Below Poverty Level  
Percent of Population by Tract

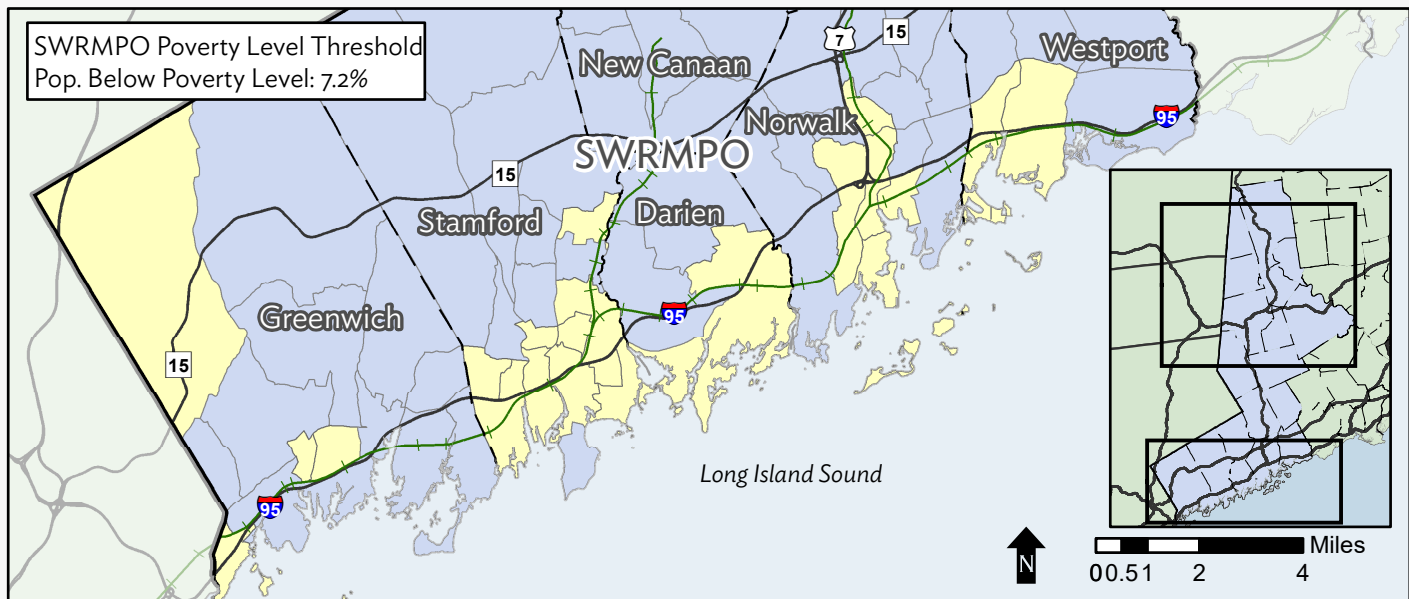
- Above MPO Level Criteria
- Below MPO Level Criteria

- Railroad
- Interstate
- State Boundaries
- COG Boundaries
- Municipal Boundaries

\*Population Below Poverty Level  
derived by MPO in coordination with  
Title VI Environmental Justice Criteria.



SWRMPO Poverty Level Threshold  
Pop. Below Poverty Level: 7.2%



# Environmental Justice Areas

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060

HVMPO Environmental Justice Criteria Thersholds:

1. Minority Population: 23.0%
2. Per Capita Income: \$44,086
3. Pop. Below Poverty Level: 6.7%

\*Environmental Justice Areas are defined at the Cenus Tract level by MPO Region.

## Features

- Environmental Justice Areas
- Census Tracts
- Railroad
- Interstate
- State Boundaries
- COG Boundaries
- Municipal Boundaries

New Fairfield

Brookfield

WEST COG

Danbury

Bethel

Newtown

HVMPO

Ridgefield

Redding

SWRMPO Environmental Justice Criteria Thersholds:

1. Minority Population: 33.8%
2. Per Capita Income: \$65,632
3. Pop. Below Poverty Level: 7.2%

New Canaan

Norwalk

SWRMPO

Stamford

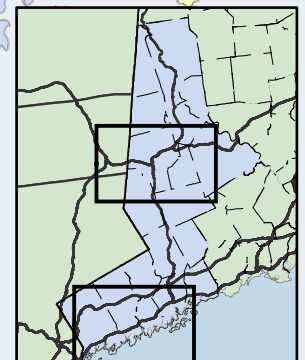
Darien

Greenwich

Long Island Sound



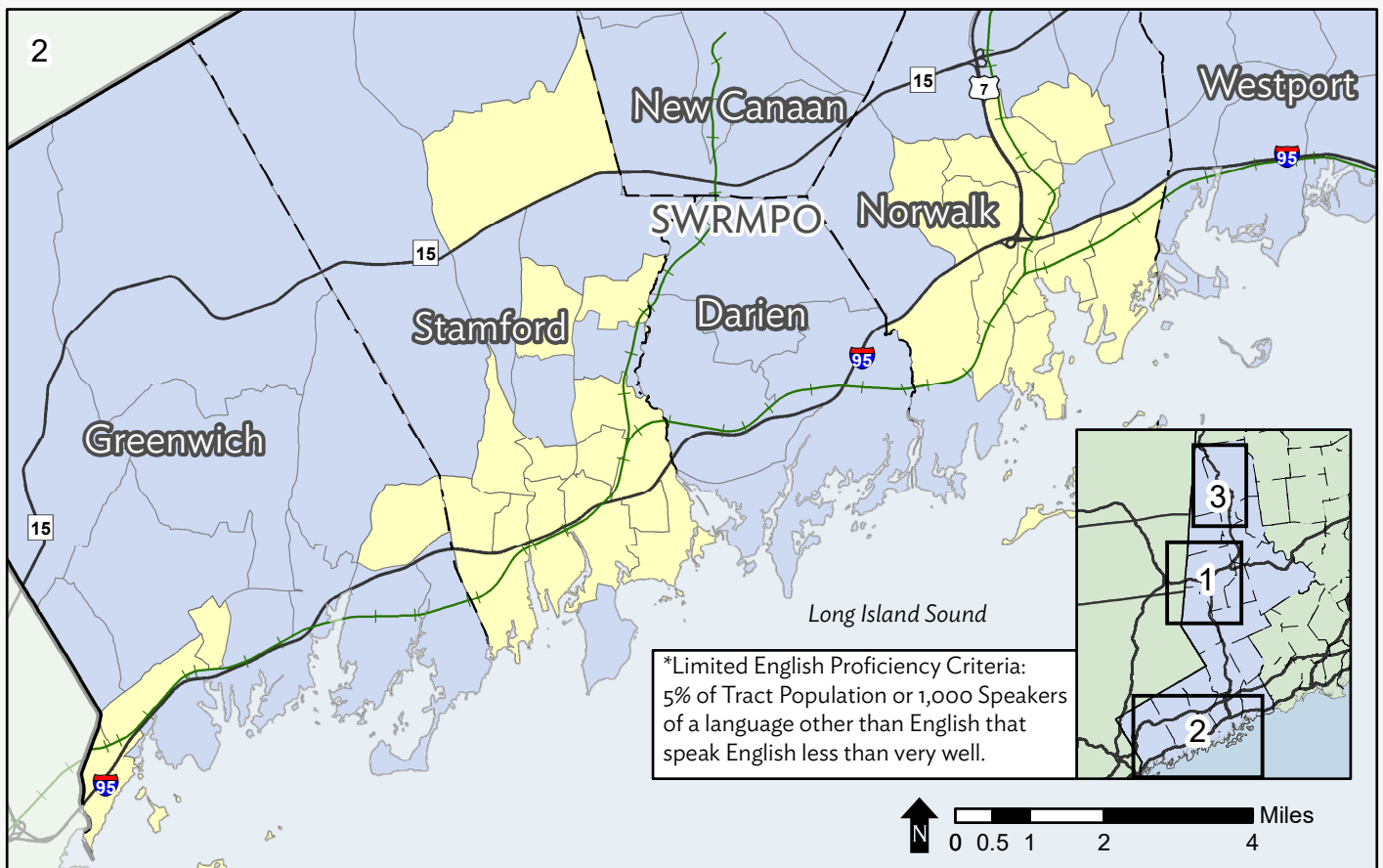
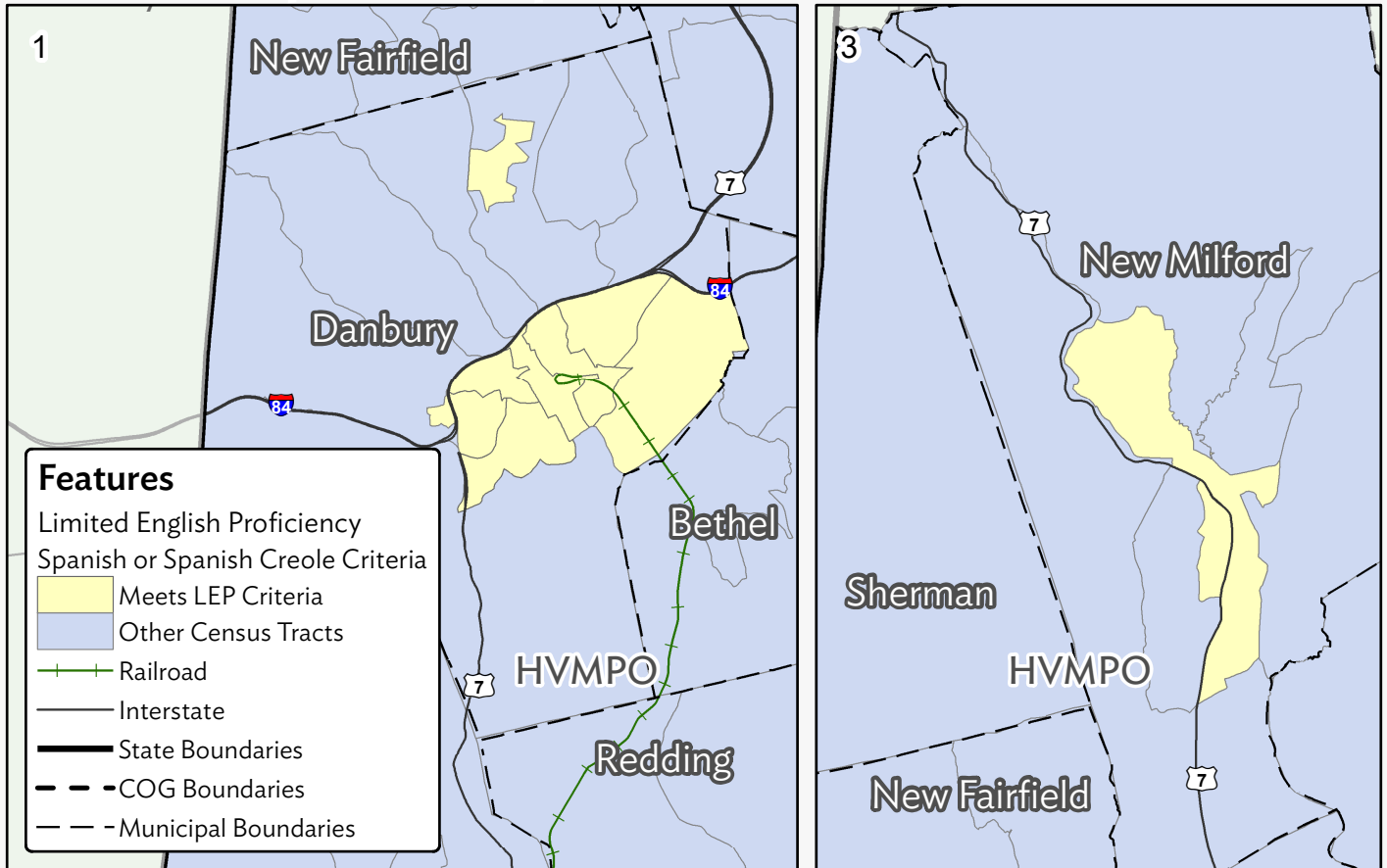
0 0.5 1 2 4 Miles





# LEP: Spanish Speakers

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



# LEP: Portugese and French Speakers

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060

## 1 Portugese and Portugese Creole

### Features

Limited English Proficiency

1. Portugese or Portugese Creole Criteria

Meets LEP Criteria

Other Census Tracts

2. French or French Creole Criteria

Meets LEP Criteria

Other Census Tracts

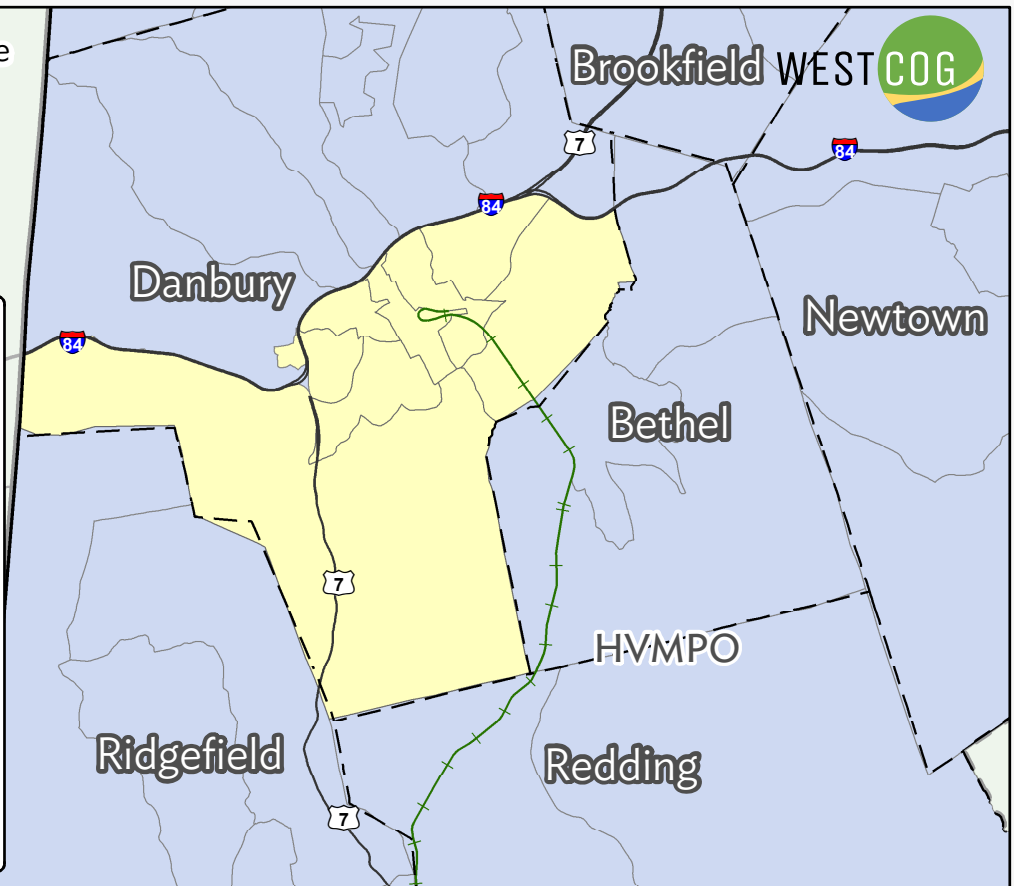
Railroad

Interstate

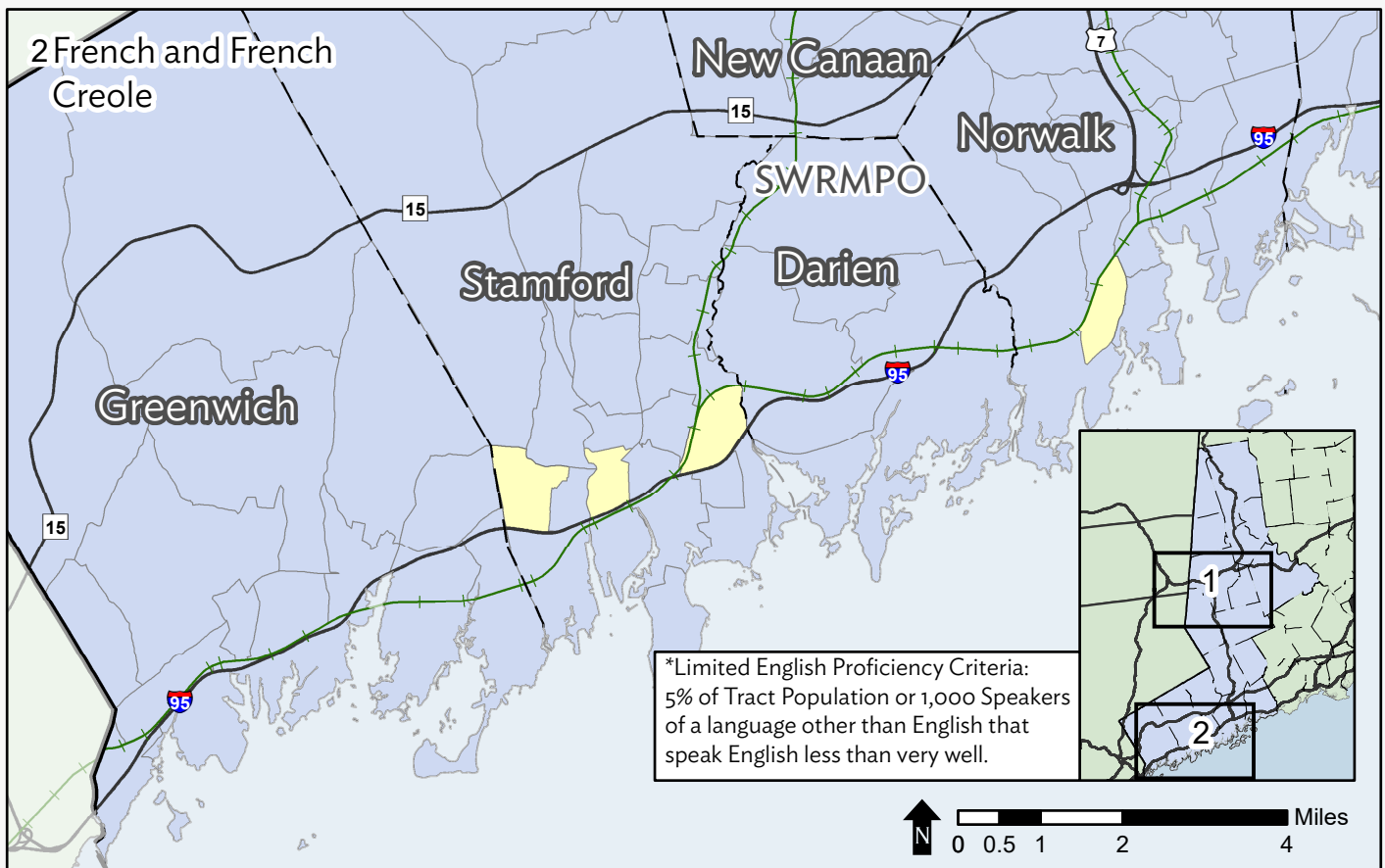
State Boundaries

COG Boundaries

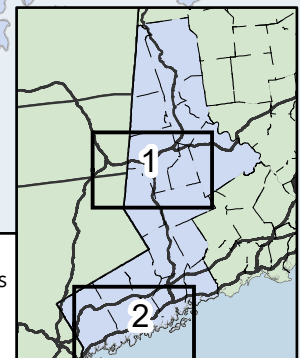
Municipal Boundaries



## 2 French and French Creole



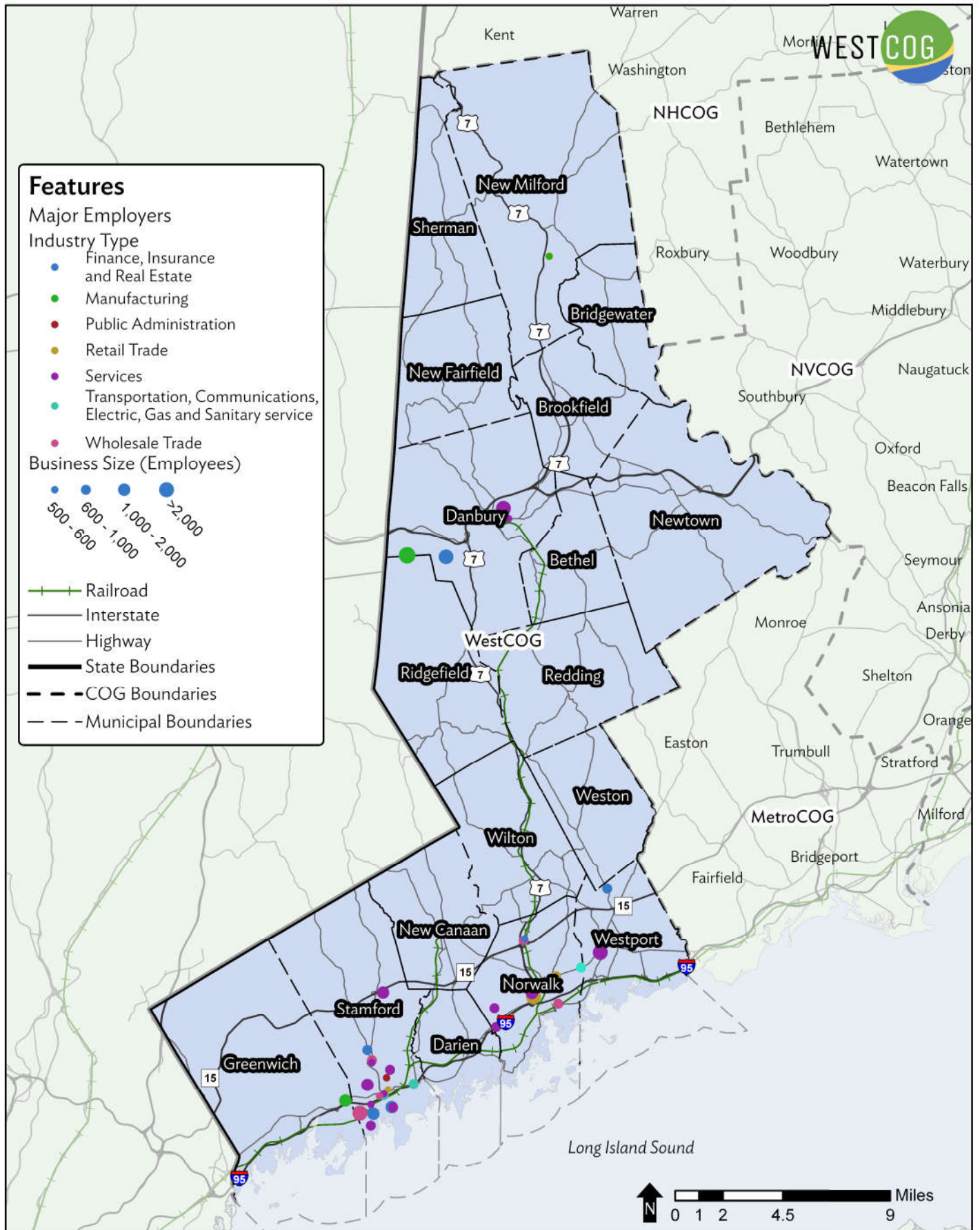
\*Limited English Proficiency Criteria:  
5% of Tract Population or 1,000 Speakers  
of a language other than English that  
speak English less than very well.



0 0.5 1 2 4 Miles

# Major Regional Employers

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060





# Land Cover Classification

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060

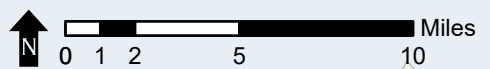
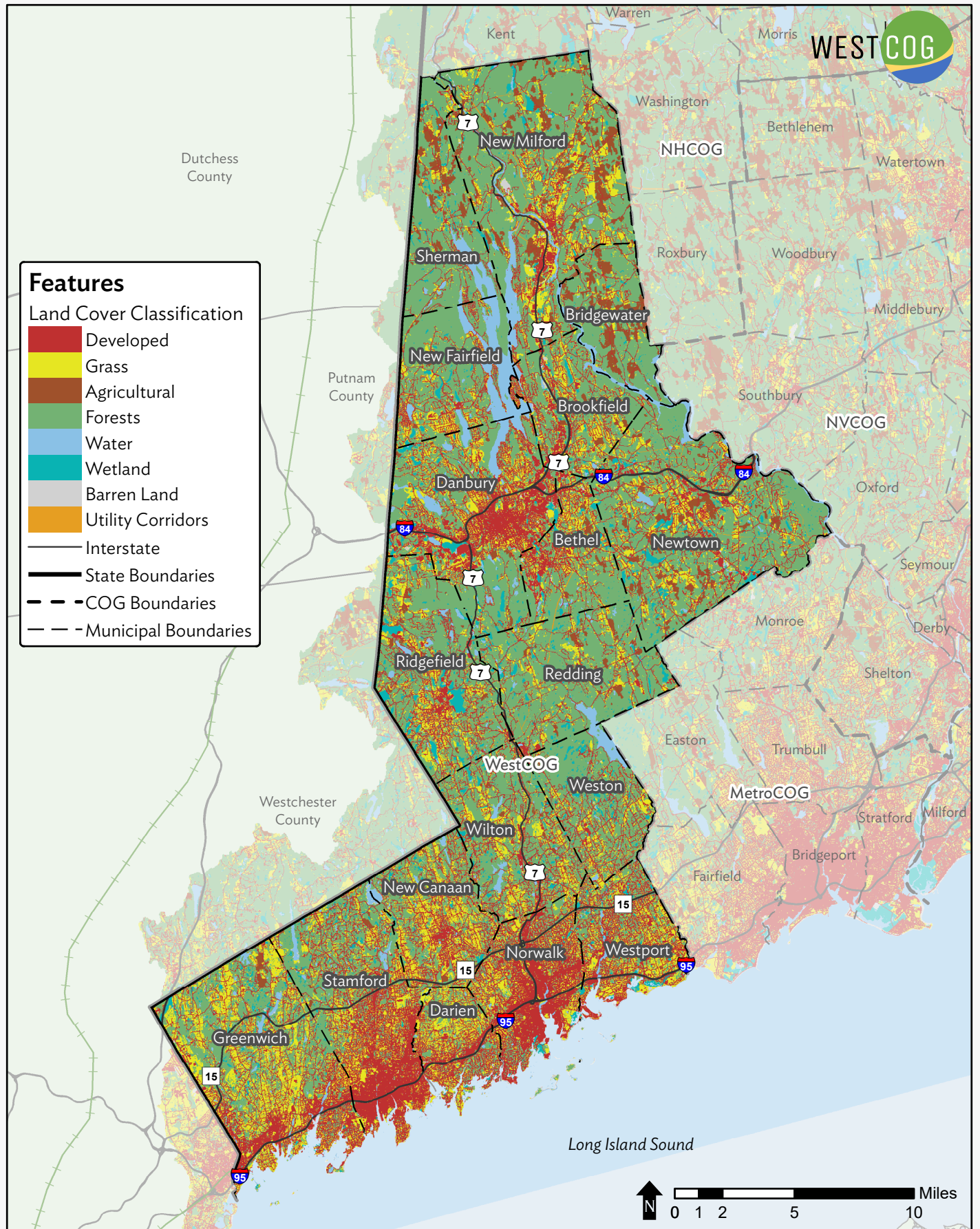


## Features

### Land Cover Classification

- Developed
- Grass
- Agricultural
- Forests
- Water
- Wetland
- Barren Land
- Utility Corridors

- Interstate
- State Boundaries
- COG Boundaries
- Municipal Boundaries





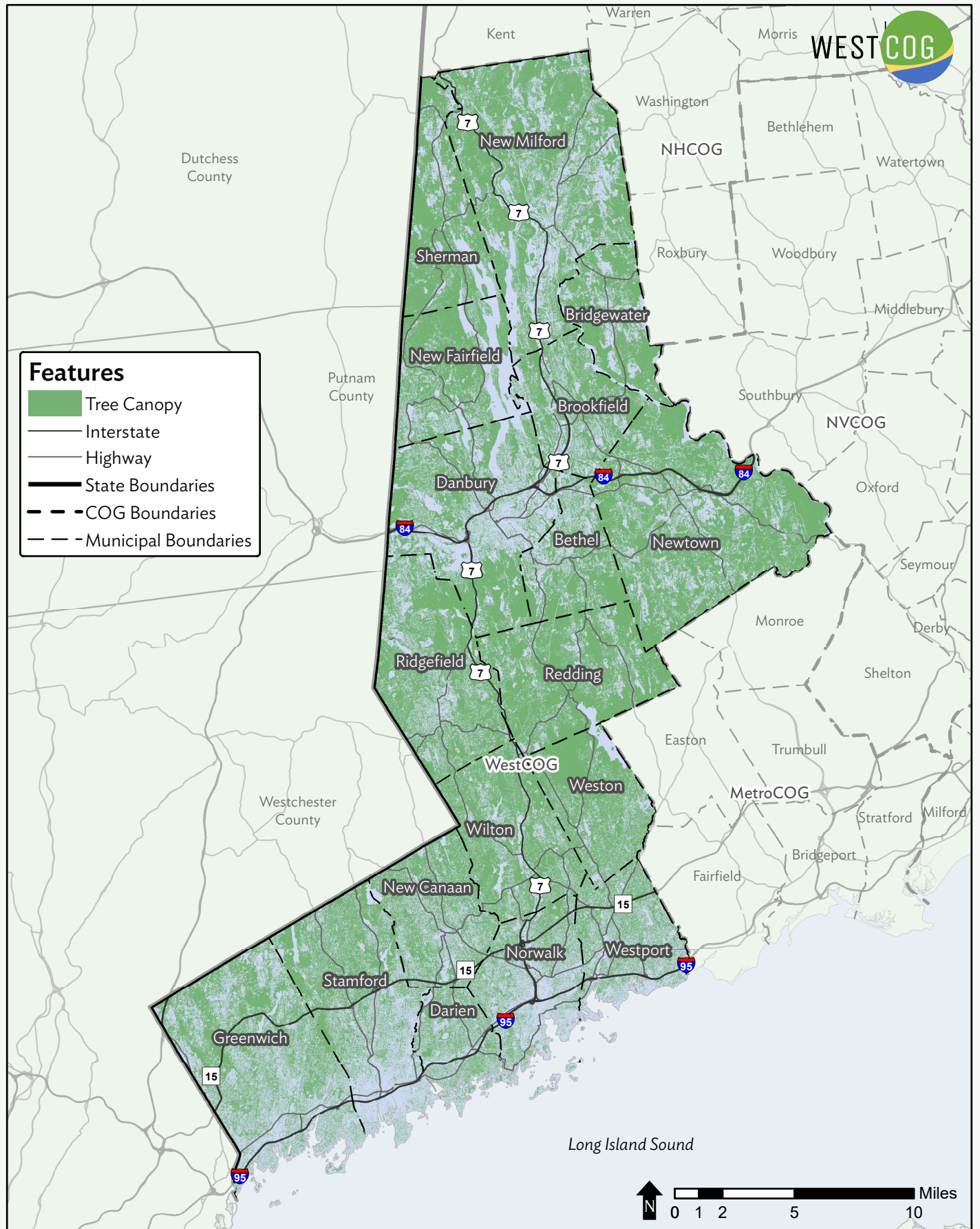
# Regional Tree Canopy

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

- Tree Canopy
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries





# Transit Oriented Development

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

### Commuter Rail Stations

- Station with TOD
- Station
- Proposed Station

Commuter Railroad

Freight Rail

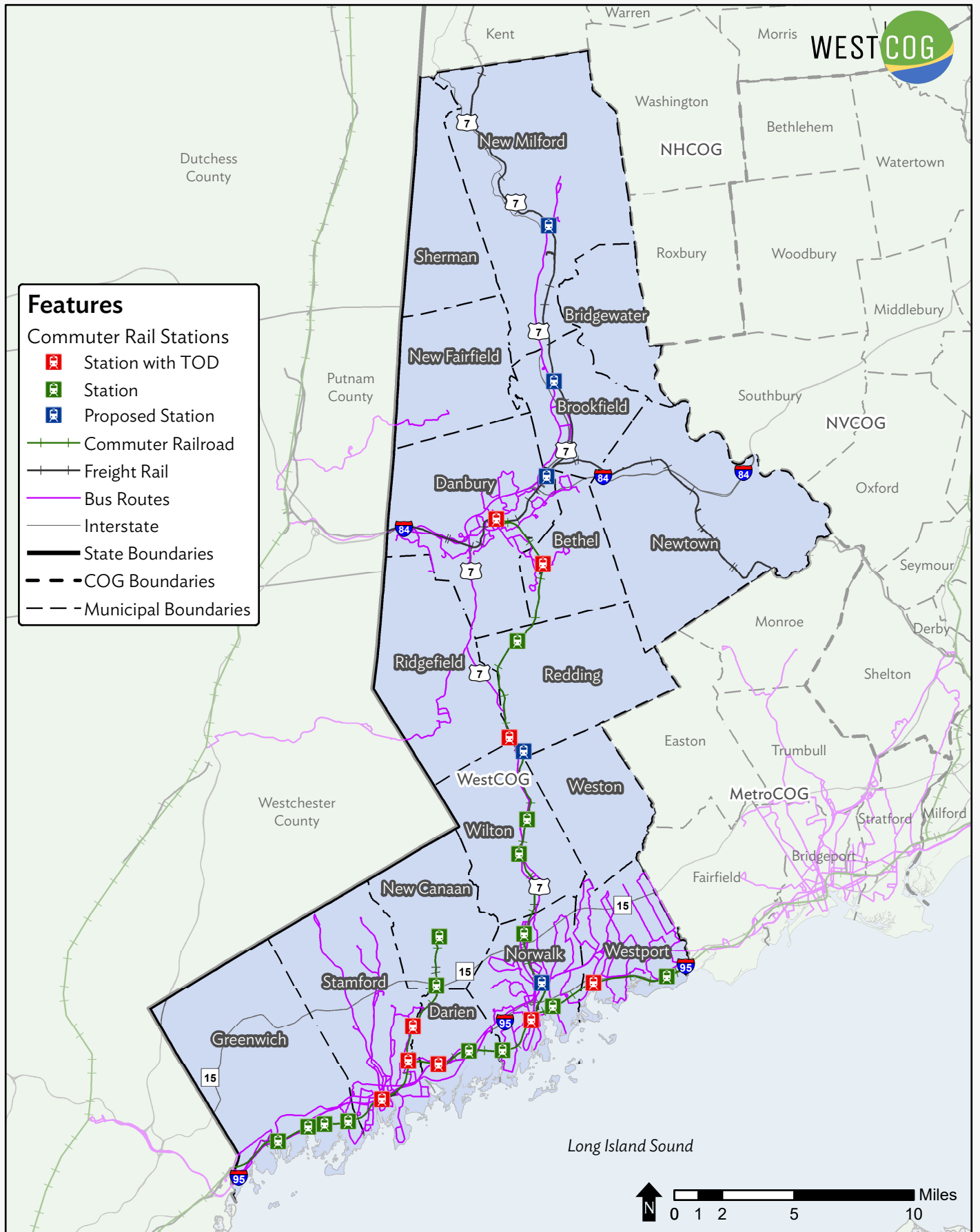
Bus Routes

Interstate

State Boundaries

COG Boundaries

Municipal Boundaries



# Regional Flood Risk

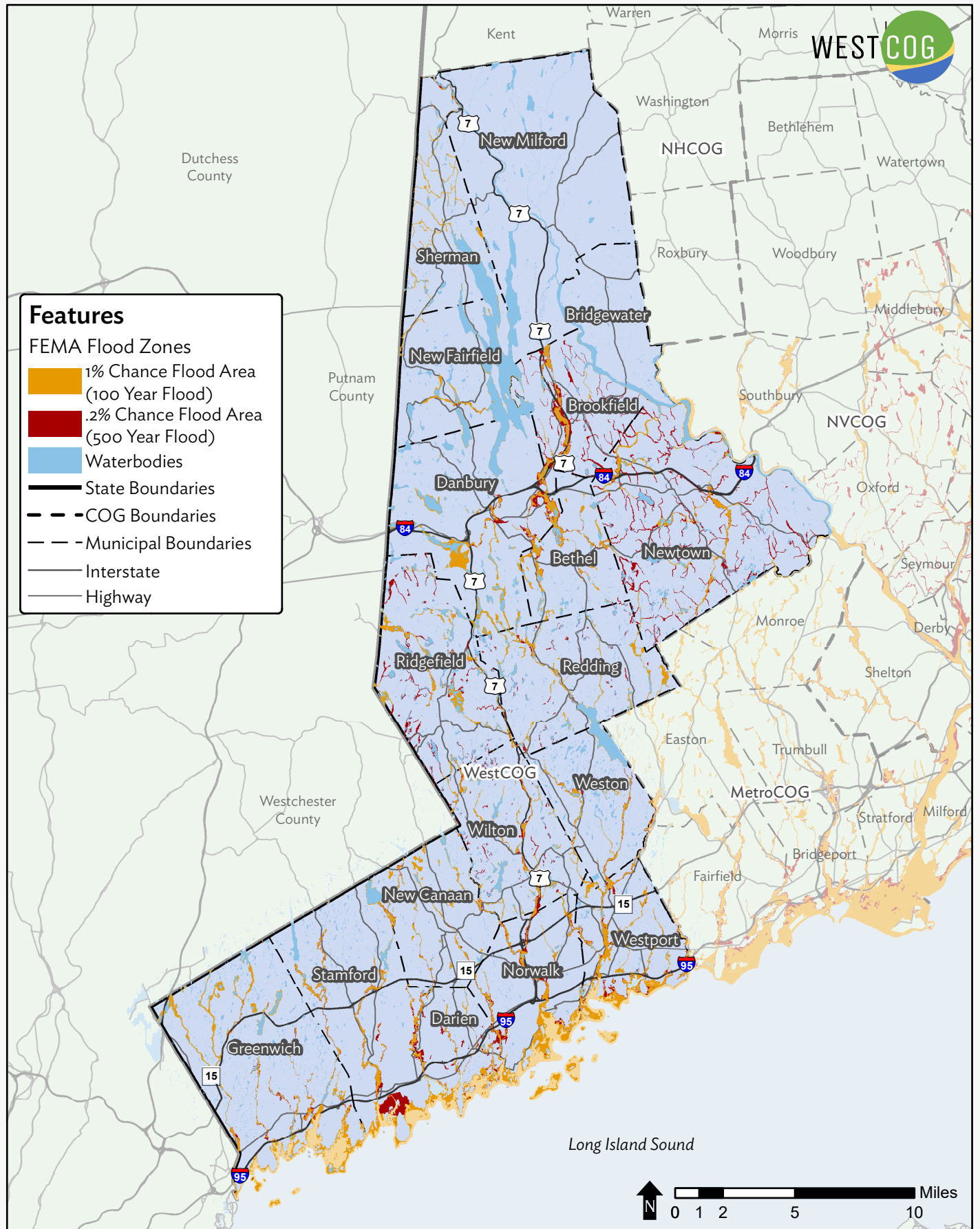
Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

### FEMA Flood Zones

- 1% Chance Flood Area (100 Year Flood)
- .2% Chance Flood Area (500 Year Flood)
- Waterbodies
- State Boundaries
- COG Boundaries
- Municipal Boundaries
- Interstate
- Highway



# Sea Level Rise Scenarios

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060

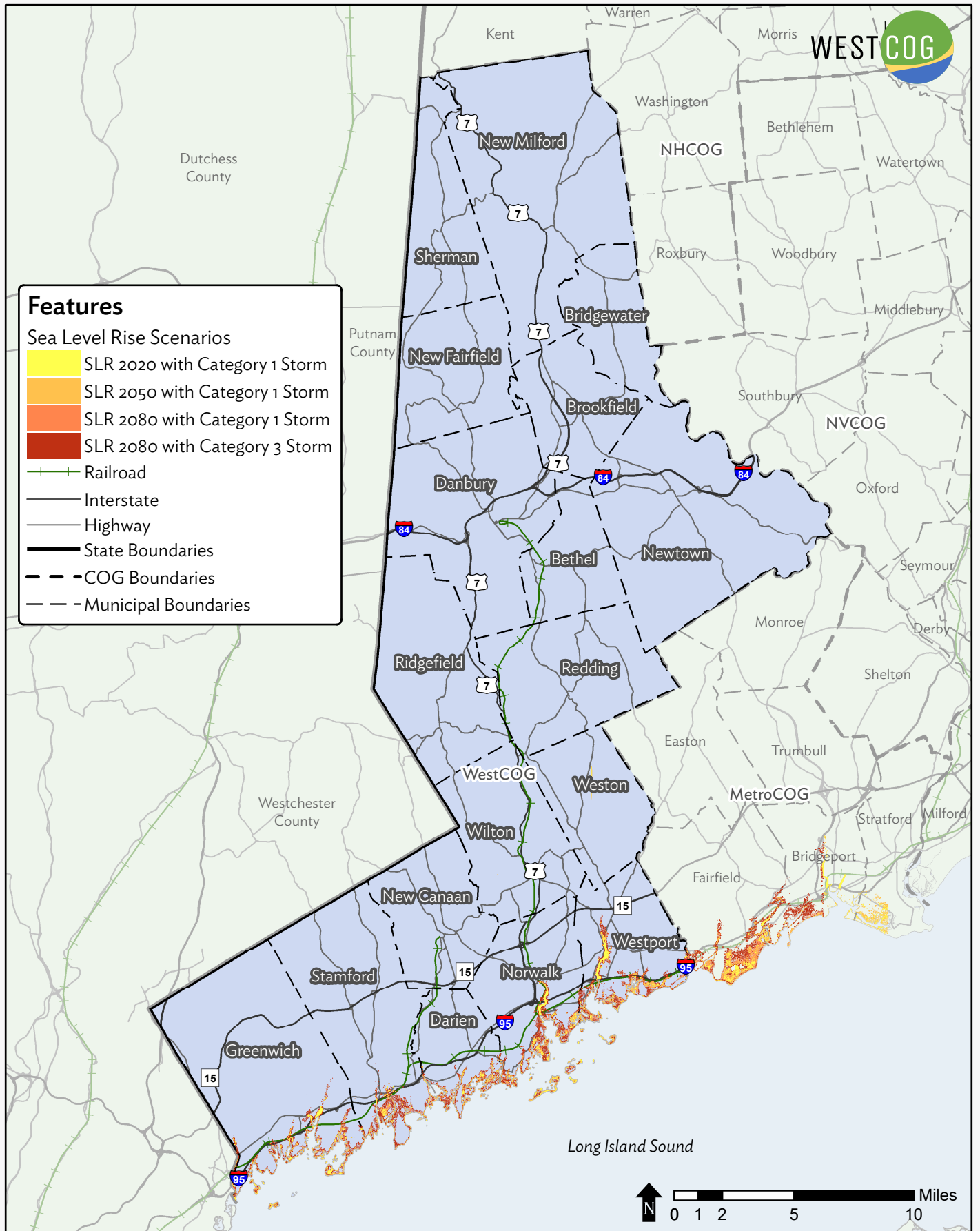


## Features

### Sea Level Rise Scenarios

- SLR 2020 with Category 1 Storm
- SLR 2050 with Category 1 Storm
- SLR 2080 with Category 1 Storm
- SLR 2080 with Category 3 Storm

- Railroad
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries





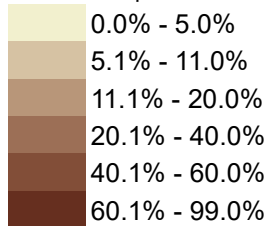
# Impervious Cover: Parcels

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060

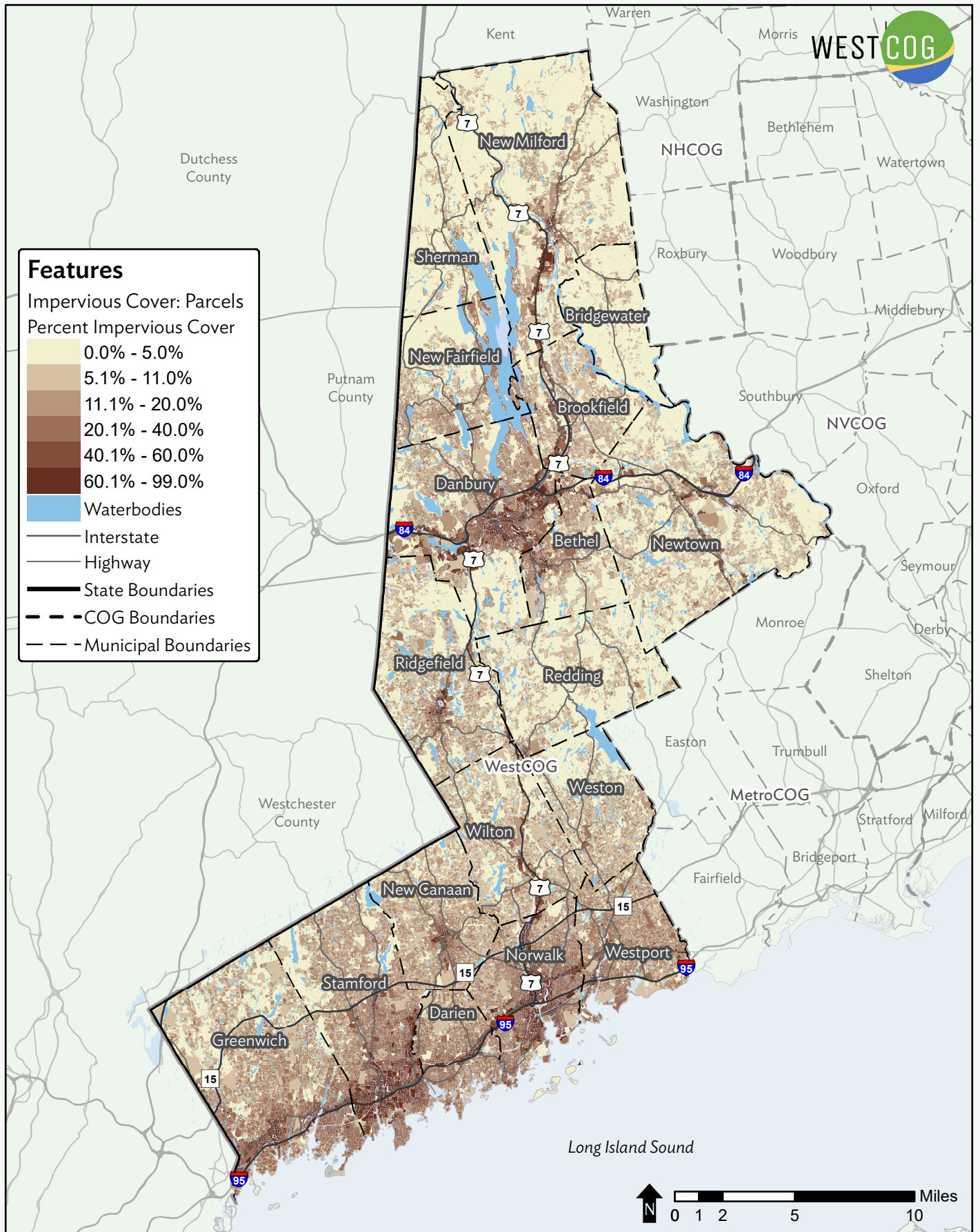


## Features

Impervious Cover: Parcels  
Percent Impervious Cover



- Waterbodies
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries



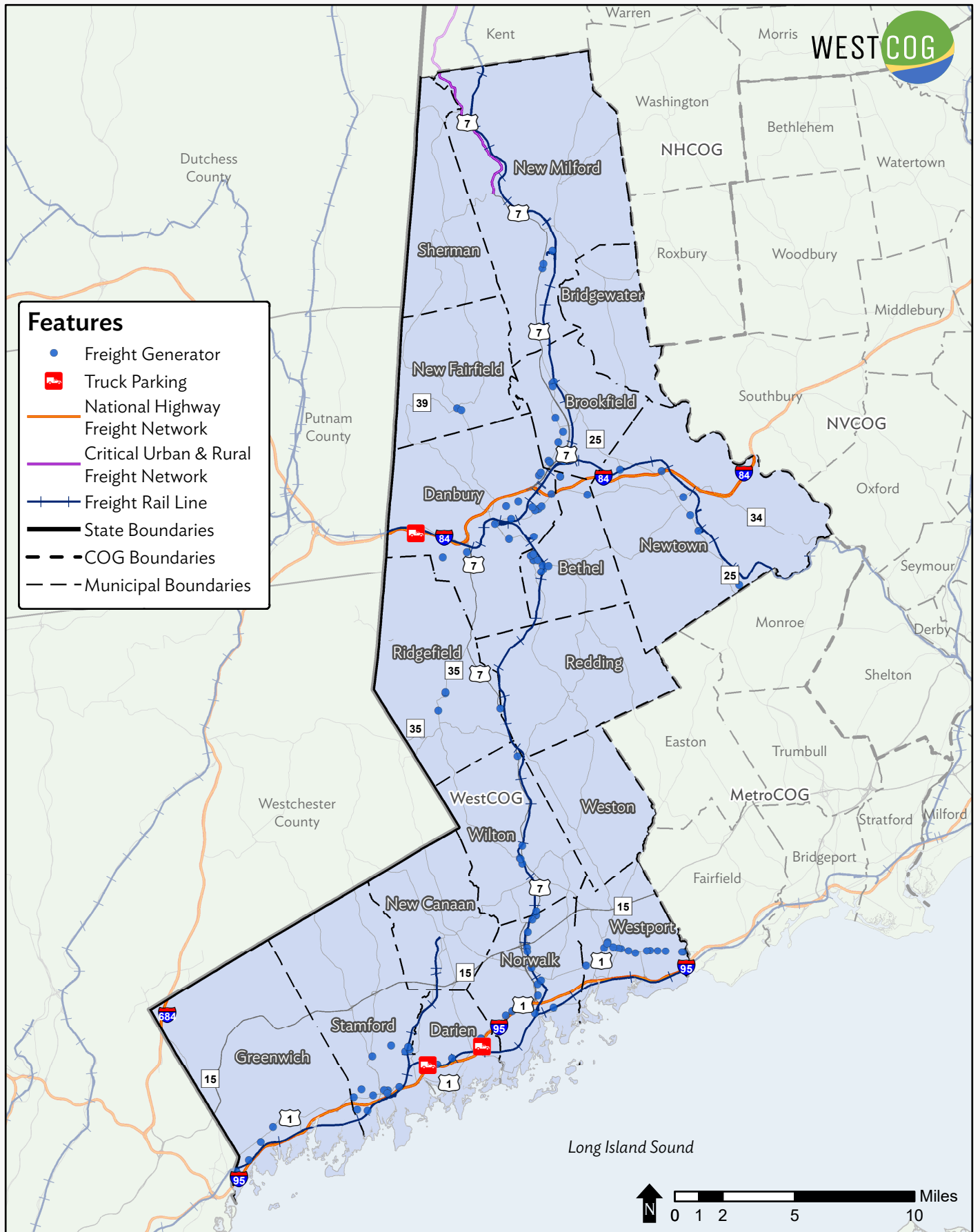
# Freight Network

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

- Freight Generator
- Truck Parking
- National Highway
- Freight Network
- Critical Urban & Rural Freight Network
- Freight Rail Line
- State Boundaries
- COG Boundaries
- Municipal Boundaries





# Regional Cycling Network

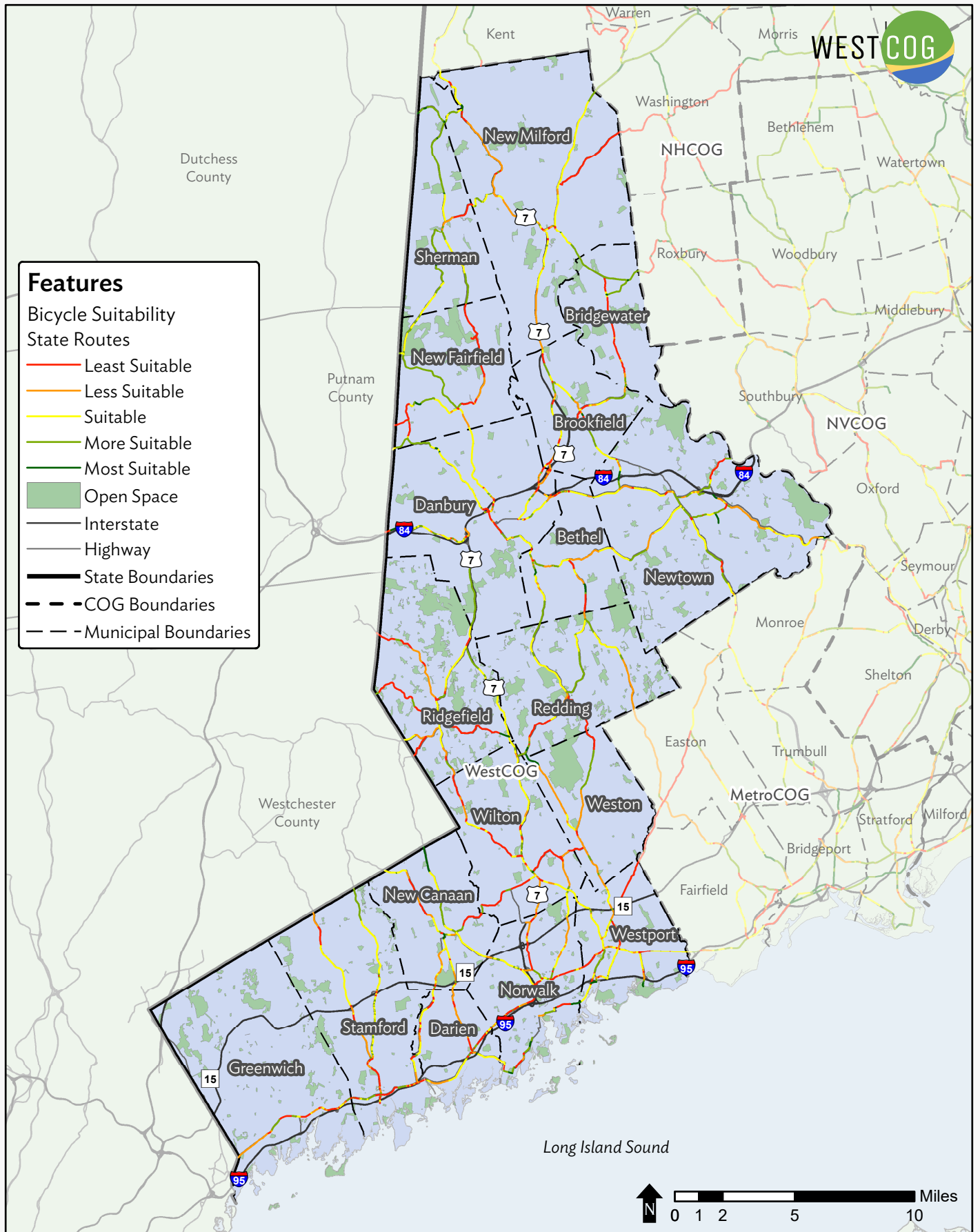
Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



## Features

Bicycle Suitability  
State Routes

- Least Suitable
- Less Suitable
- Suitable
- More Suitable
- Most Suitable
- Open Space
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries



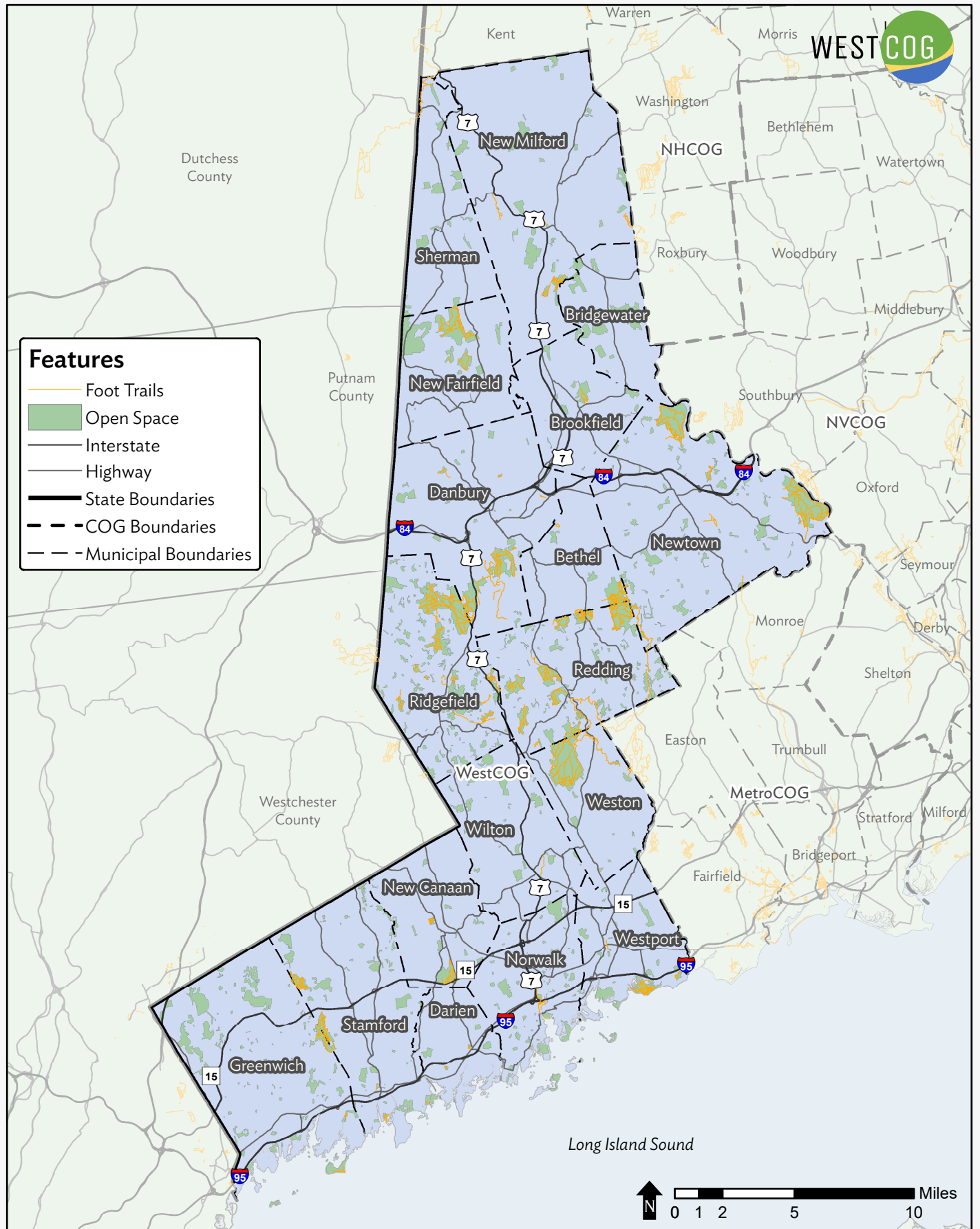
# Regional Trails Network

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



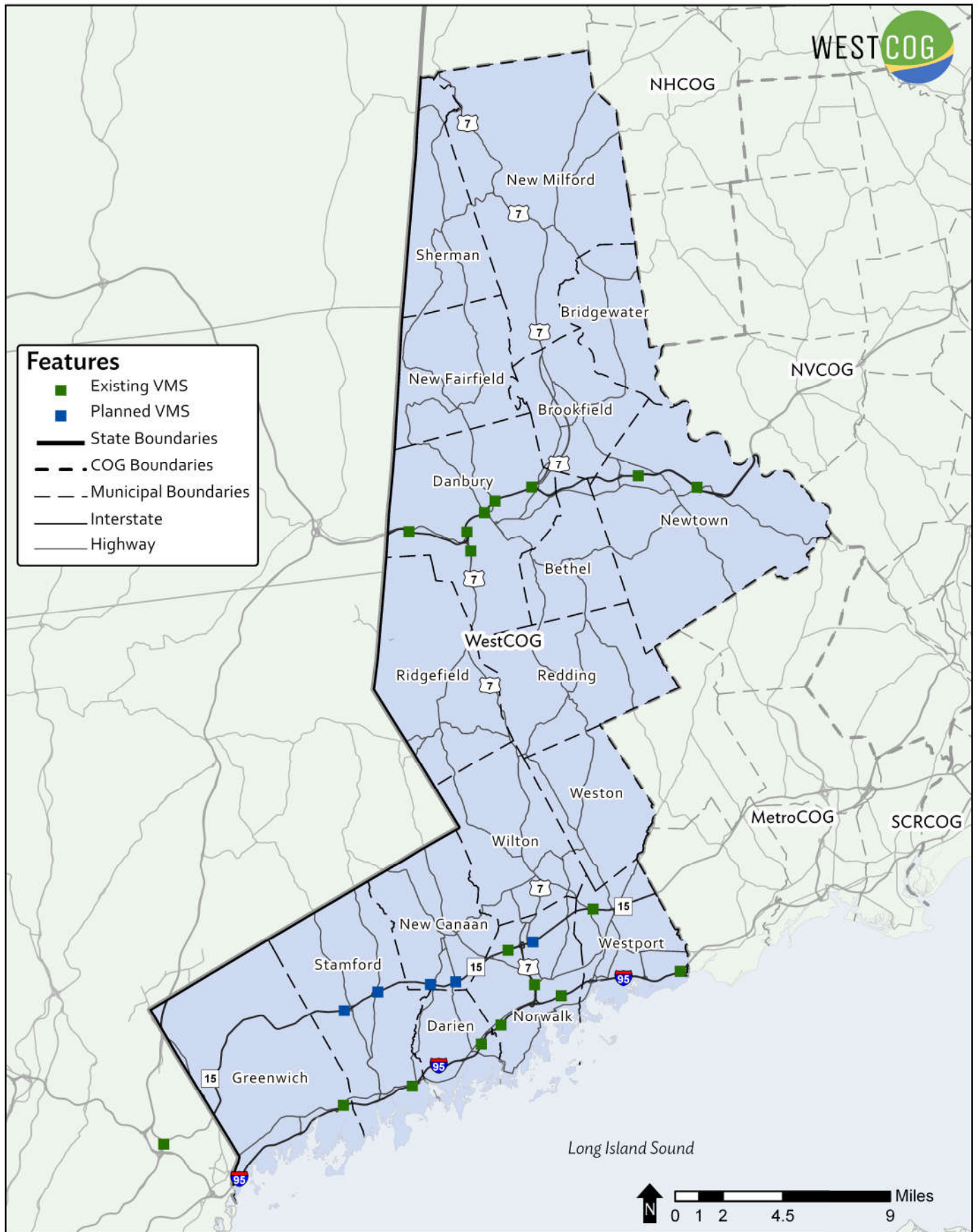
## Features

- Foot Trails
- Open Space
- Interstate
- Highway
- State Boundaries
- COG Boundaries
- Municipal Boundaries



# Variable Message Signs

Western Connecticut Council of Governments  
www.westcog.org | 475.323.2060



# Appendix D

## Resolutions



**SOUTH WESTERN REGION  
METROPOLITAN PLANNING ORGANIZATION**

DARIEN•GREENWICH•NEW CANAAN•NORWALK•STAMFORD•WESTON•WESTPORT•WILTON

**RESOLUTION #2019-002 Approval of SWRMPO Metropolitan Transportation  
Plan 2019-2045**

WHEREAS,

the South Western Region Metropolitan Planning Organization (SWRMPO) has developed an update of the SWRMPO Metropolitan Transportation Plan, also known as the Long-Range Transportation Plan, to cover the period of 2019-2045; and

WHEREAS,

the SWRMPO Metropolitan Transportation Plan 2019-2045 is a vision for the development of the transportation system and identifies investments in the region; and

WHEREAS,

the SWRMPO Metropolitan Transportation Plan 2019-2045 was developed and reviewed in accordance with the SWRMPO's Public Participation Plan (December 2016) and fulfills the requirements of public involvement of federal regulations; and

WHEREAS,

the comments received have been addressed in the final draft Plan; and

WHEREAS,

the SWRMPO Metropolitan Transportation Plan 2019-2045 review process has conformed to relevant U.S. Department of Transportation regulations including those 23 CFR 450;

NOW THEREFORE BE IT RESOLVED THAT THE SWRMPO:

Adopts the SWRMPO Metropolitan Transportation Plan 2019-2045.

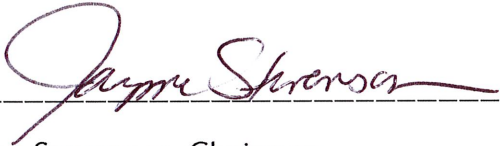


## CERTIFICATE

The undersigned duly qualified and acting Chairman of the SWRMPO certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting of the SWRMPO on April 18, 2019.

This resolution is effective **April 18, 2019**.

Date: April 18, 2019.

A handwritten signature in dark ink, reading "Jayme Stevenson", written over a horizontal line.

Jayme Stevenson, Chairman  
First Selectman, Darien



**SOUTH WESTERN REGION  
METROPOLITAN PLANNING ORGANIZATION**

DARIEN•GREENWICH•NEW CANAAN•NORWALK•STAMFORD•WESTON•WESTPORT•WILTON

**RESOLUTION #2019-003 Resolution on Conformity with the Clean Air Act Ozone**

WHEREAS,

The South Western Region Metropolitan Planning Organization (SWRMPO) is required to submit an Air Quality Conformity Statement to the US Federal Highway Administration (FHWA) and to the US Environmental Protection Agency (EPA) in accordance with the final conformity rule promulgated by EPA (40 CFR 51 and 93) when adopting an annual Transportation Improvement Program (TIP) or when effecting a significant revision of the Metropolitan Transportation Plan (MTP); and

WHEREAS,

Title 42, Section 7506 (3) (A) states that conformity of transportation plans and programs will be demonstrated if:

1. the plans and programs are consistent with recent estimates of mobile source emissions;
2. the plans and programs provide for the expeditious implementation of certain transportation control measures;
3. the plans and programs contribute to annual emissions reductions consistent with the Clean Air Act of 1977, as amended; and

WHEREAS,

it is the opinion of the SWRMPO that the plans and programs approved today, April 18, 2019 and submitted to FHWA and EPA conform to the requirements of Title 42, Section 7506 (3) (A) as interpreted by EPA (40 CFR 51 and 93); and

WHEREAS,

The State of Connecticut has elected to assess conformity in the Connecticut portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT Ozone Moderate Nonattainment area (Fairfield, New Haven and Middlesex Counties) and the Connecticut Department of Transportation has jointly assessed the impact of all transportation plans

and programs in this Nonattainment areas (Ozone and PM2.5 Air Quality Conformity Determination February 2019); and

WHEREAS,

The Connecticut Department of Transportation's assessment (above) has found that plans and programs jointly meet mobile source emission's guidelines advanced by EPA pursuant to Section 7506 (3) (A).

Now, THEREFORE BE IT RESOLVED by the SWRMPO

That the SWRMPO finds that the 2019-2045 MTP and the FFY 2018-2021 TIP and all Amendments conform to air quality requirements of the U.S. Environmental Protection Administration (40 CFR 51 and 93), related U.S. Department of Transportation guidelines (23 CFR 450) and with Title 42, Section 7506 (3) (A) and hereby approves the existing Ozone and PM2.5 Air Quality Conformity Determination, dated February 2019, contingent upon no major adverse comments are received during said period.

#### CERTIFICATE

The undersigned duly qualified and acting Chairman of the SWRMPO certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting of the SWRMPO on April 18, 2019.

This resolution is effective April 18, 2019.

Date: April 18, 2019.

A handwritten signature in blue ink, reading "Jayme Stevenson", is written over a horizontal dashed line.

Jayme Stevenson, Chairman  
First Selectman, Darien





**SOUTH WESTERN REGION  
METROPOLITAN PLANNING ORGANIZATION**

DARIEN•GREENWICH•NEW CANAAN•NORWALK•STAMFORD•WESTON•WESTPORT•WILTON

**RESOLUTION #2019-004 Resolution on Conformity with the Clean Air Act PM  
2.5**

WHEREAS,

the South Western Region Metropolitan Planning Organization (SWRMPO) is required to submit an Air Quality Conformity Statement to the US Federal Highway Administration (FHWA) and to the US Environmental Protection Agency (EPA) in accordance with the final conformity rule promulgated by EPA (40 CFR 51 and 93) when adopting an annual Transportation Improvement Program (TIP) or when effecting a significant revision of the Metropolitan Transportation Plan (MTP); and

WHEREAS,

Title 42, Section 7506 (3) (A) states that conformity of transportation plans and programs will be demonstrated if:

1. the plans and programs are consistent with recent estimates of mobile source emissions;
2. the plans and programs provide for the expeditious implementation of certain transportation control measures;
3. the plans and programs contribute to annual emissions reductions consistent with the Clean Air Act of 1977, as amended; and

WHEREAS,

It is the opinion of the SWRMPO that the plans and programs approved on April 18, 2019 and submitted to FHWA and EPA conform to the requirements of Title 42, Section 7506 (3) (A) as interpreted by EPA (40 CFR 51 and 93); and

WHEREAS,

The Connecticut portion of the New York – Northern New Jersey – Long Island, NY-NJ-CT area is designated a PM 2.5 attainment/maintenance area; and

WHEREAS,

The State of Connecticut has elected to jointly assess conformity in all PM 2.5 attainment/maintenance areas in Connecticut (Fairfield County and New Haven County) and

WHEREAS,

The results of the required emissions analysis performed by the Connecticut Department of Transportation on the 2019-2045 MTP and the FFY 2018-2021 TIP and Amendments show that the implementation of the projects contained therein will result in emissions of PM2.5 in each analysis year that are less than the emissions of the baseline year; and

Now, THEREFORE BE IT RESOLVED,

That the SWRMPO finds that the 2019-2045 MTP and the FFY 2018-2021 TIP and Amendments conform to air quality requirements of the U.S. Environmental Protection Administration (40 CFR 51 and 93), related U.S. Department of Transportation guidelines (23 CFR 450) and with Title 42, Section 7506 (3) (A) and hereby approves the existing Ozone and PM2.5 Conformity Determination, April 18, 2019 on the Ozone and PM2.5 Air Quality Conformity Determination dated February 2019 contingent upon no major adverse comments are received during said period.

#### CERTIFICATE

The undersigned duly qualified and acting Chairman of the SWRMPO certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting of the SWRMPO on April 18, 2019.

This resolution is effective April 18, 2019.

Date: April 18, 2019.

A handwritten signature in purple ink, reading "Jayme Stevenson", written over a horizontal dashed line.

Jayme Stevenson, Chairman  
First Selectman, Darien

