



# Connecticut Department of Energy and Environmental Protection



# 2020 Air Monitoring Network Plan and 5-Year Network Assessment

June 11, 2020  
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Connecticut Department of Energy and Environmental Protection

# Background

- Network plan and assessment requirements specified in 40 CFR 58.10.
- Plan submitted annually by July 1, with 30 day comment period. Approved by EPA RA.
- Assessment performed every 5 years, starting 2010. Also submitted July 1.



# Network Plan

- Provides a description of the air monitoring network and proposed changes through the following year.
- Indicates compliance with 40 CFR 58 App A-E
  - Quality assurance for NAAQS and PSD monitors
  - Monitoring methodology
  - Monitoring network design
  - Probe and monitoring path siting criteria

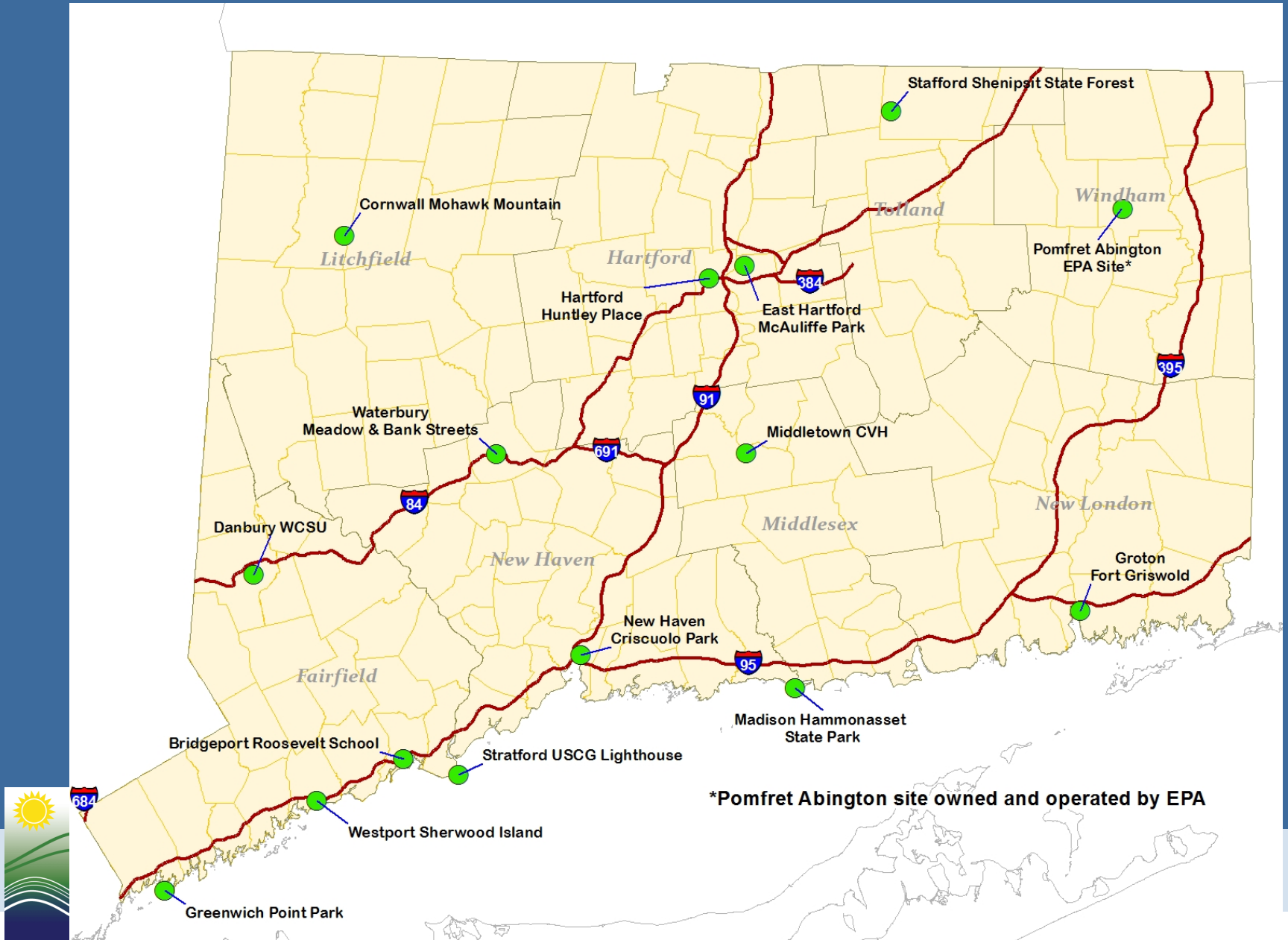


# Network Assessment

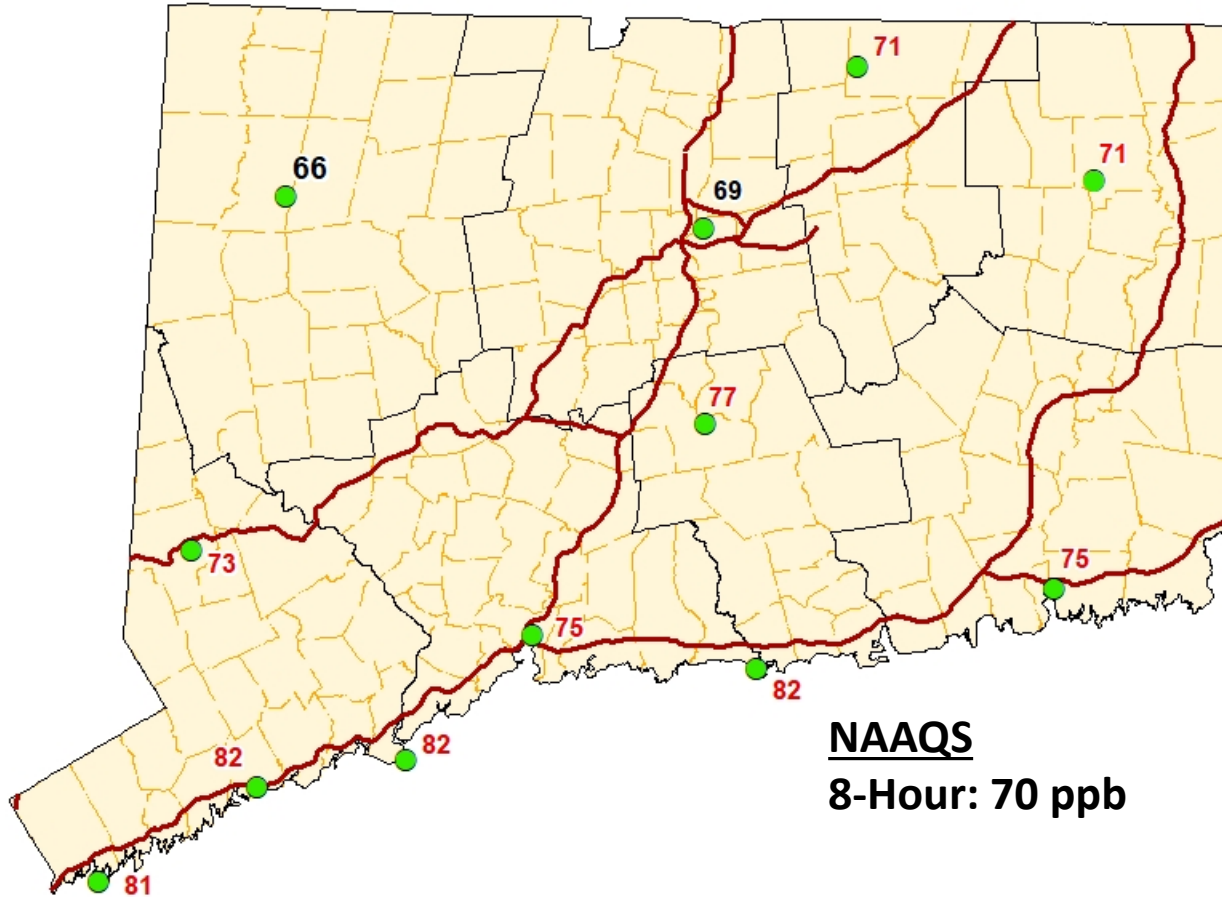
- Assesses network compliance with EPA's network design requirements (Part 58 App D)
  - Determine if new sites/monitors are needed or if existing monitors can be removed.
  - Determine if new technologies should be incorporated.
  - Consider the characterization of air pollution in areas with vulnerable and sensitive populations.
  - Targeted assessments for specific pollutants are made as needed for new monitoring rules.



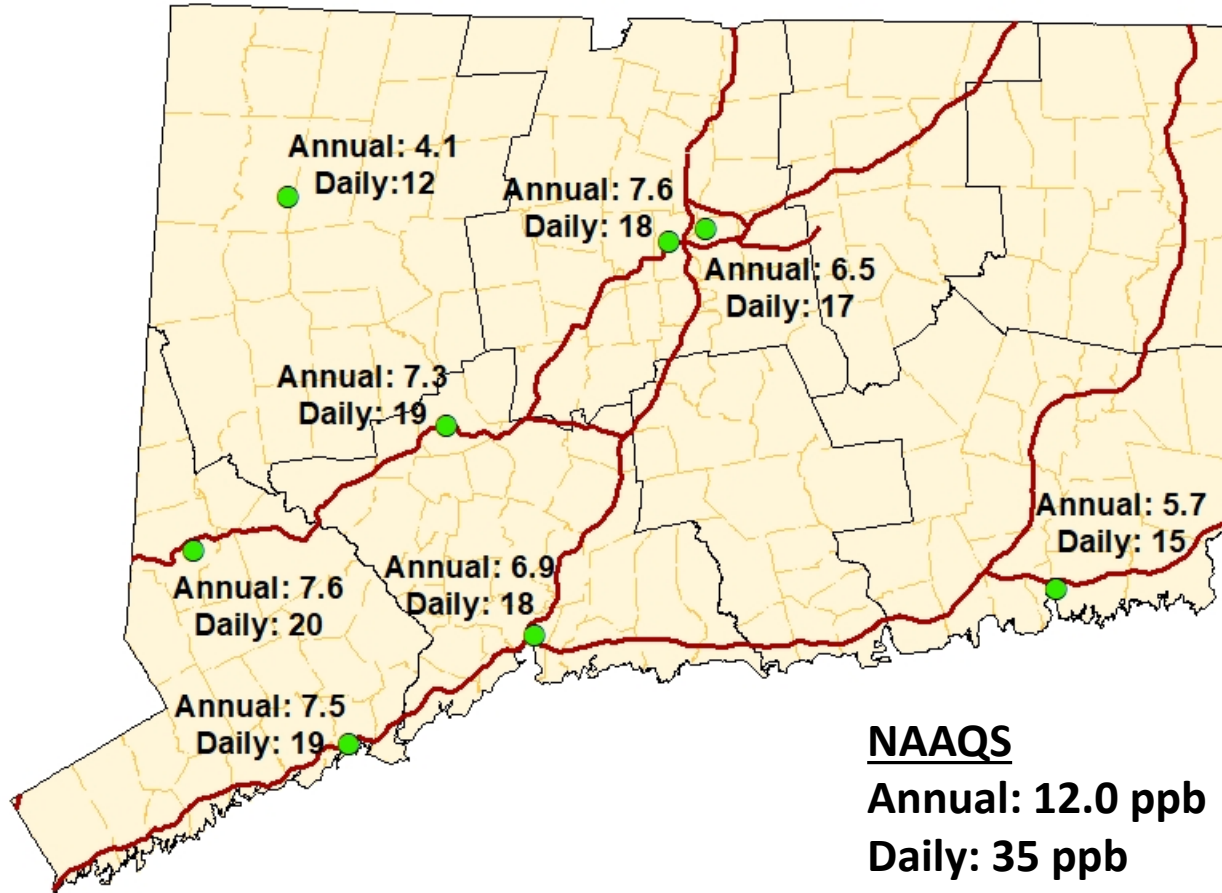
# DEEP Current Monitoring Sites



# 2019 Draft Design Values: Ozone



# 2019 Draft Design Values: Fine Particulates





# Proposed Network Changes for 2020-2021

- Deploy a portable ozone monitor on a ferry operating between Bridgeport and Port Jefferson, NY during the 2021 ozone season. The ferry crosses Long Island Sound several times each day during daytime hours.
- Commence formaldehyde (HCHO) monitoring at Westport, possibly during 2020 or 2021, pending acceptable commercially available models.
- Commence mixing height monitoring at Westport during the period 2020 – 2021.



# CT DEEP Monitoring Parameters

Town	PM	O <sub>3</sub>	NO <sub>2</sub>	SO <sub>2</sub>	CO	NO <sub>y</sub>	BC <sup>1</sup>	PM-SPEC <sup>2</sup>	WIND
Bridgeport	*			*					
Cornwall	*	*		*	*	*	*	*	*
Danbury	*	*					*		*
East Hartford	*	*	*				*		*
Greenwich		*							*
Groton	*	*							
Hartford	*		*		*		*		*
Madison		*							*
Middletown		*							*
New Haven	*	*	*	*	*	*	*	*	*
Stafford		*							*
Stratford		*							
Waterbury	*								*
Westport		*	*						*
Pomfret (EPA)		*							

1. Black carbon    2. Fine particulate speciation



# Ozone Enhanced Monitoring

- Upper air mixing height measurements.
- Continuous HCHO.
- Additional O<sub>3</sub> and NO<sub>2</sub> monitoring.
- Portable O<sub>3</sub> monitor on Long Island Sound (Bridgeport-Port Jefferson ferry)
- Long Island Sound Tropospheric Ozone Study (LISTOS) continuation – column NO<sub>2</sub> and HCHO.
- Support EPA's Pandora network (column NO<sub>2</sub> & HCHO)

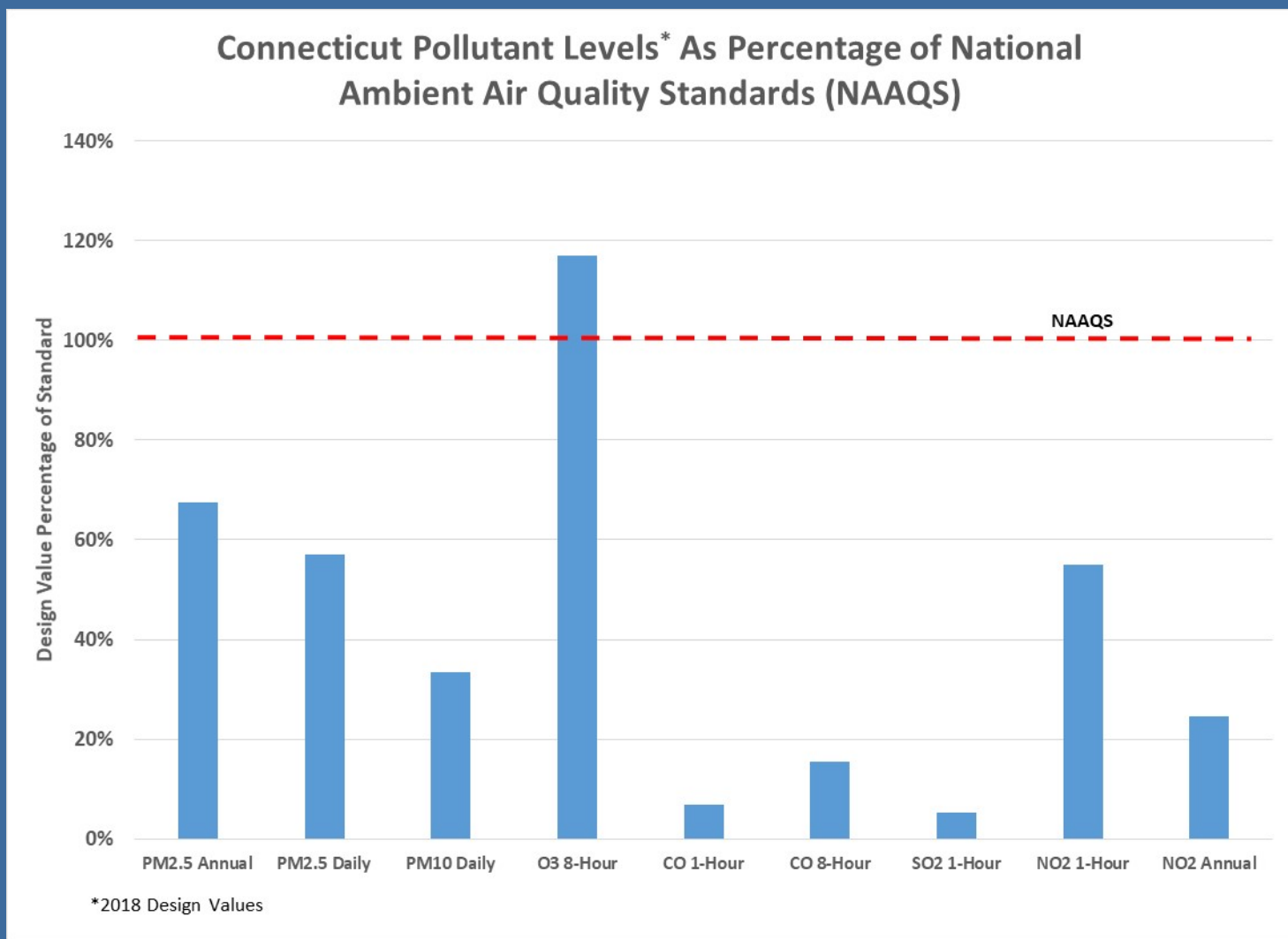


# Network Assessment - Design Requirements

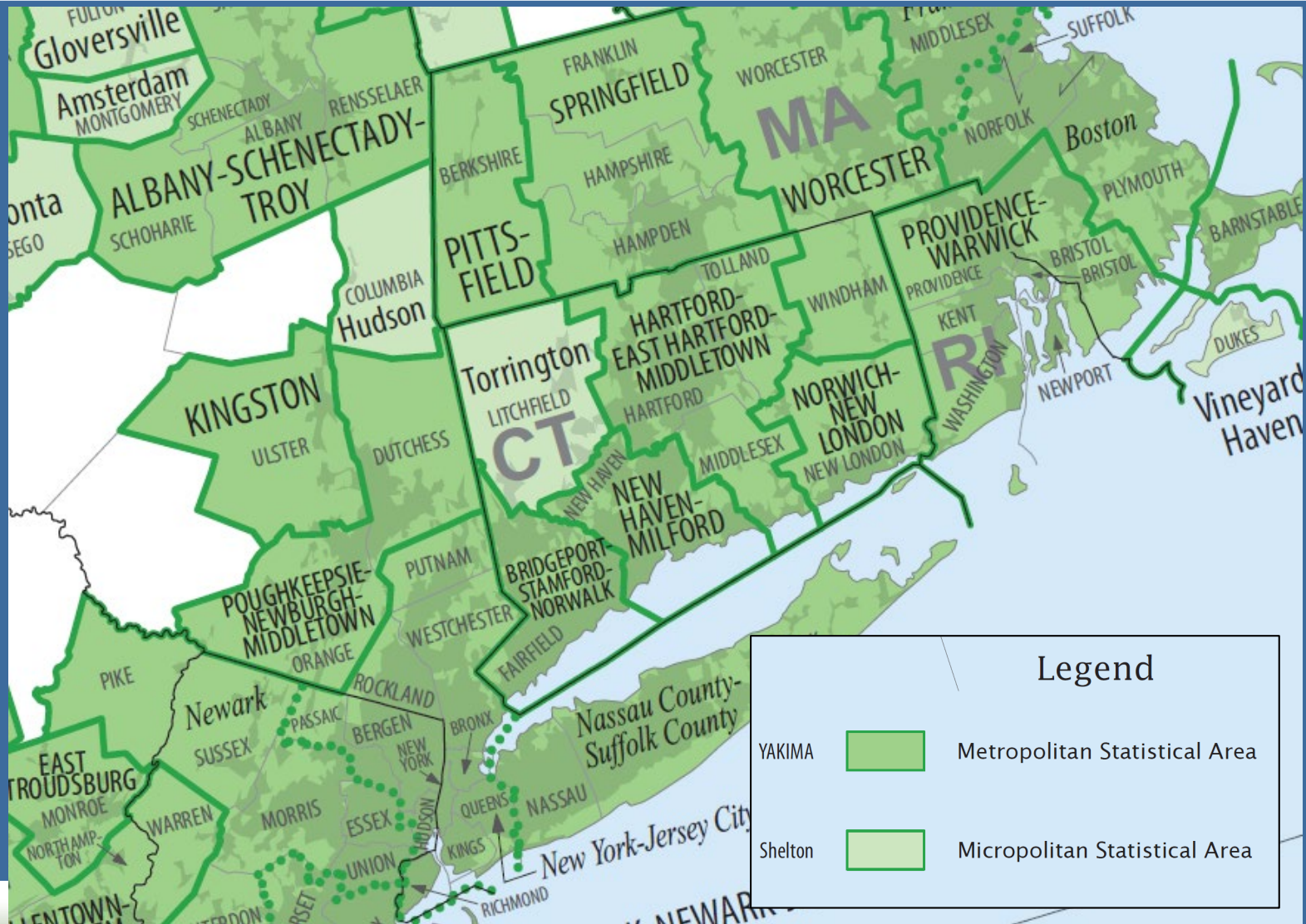
- National Core (NCore) multipollutant sites, minimum 1 per state (CT has 2)
  - O<sub>3</sub>, NO, NO<sub>y</sub>, SO<sub>2</sub> (trace level), CO (trace level), PM<sub>10</sub>, PM<sub>2.5</sub>, PM(coarse), PMspec.
- Pollutant-specific requirements based on:
  - Ambient levels or design values
  - Population
  - Emissions



# Criteria Pollutant Levels



# Core-based Statistical Areas (CBSAs)



# Connecticut CBSAs

<b>CBSA Code</b>	<b>CBSA Name</b>	<b>Counties included in CBSA</b>	<b>Population (2019 Estimate)</b>
14860	Bridgeport-Stamford-Norwalk	Fairfield	943,332.00
25540	Hartford-East Hartford-Middletown	Hartford, Middlesex, Tolland	1,204,877.00
35300	New Haven-Milford	New Haven	854,757.00
35980	Norwich-New London	New London	265,206.00
49340	Worcester	Worcester, MA, Windham, CT	947,404.00
45860	Torrington (Micropolitan Statistical Area)	Litchfield	180,333.00



# Monitoring Objectives

- Highest concentration
- Population oriented
- Source impact
- General background or regional transport
- Welfare-related impacts





# Monitoring Spatial Scales

- Microscale: <100 m
- Middle scale: 100 m – 0.5 km
- Neighborhood scale: 0.4 – 4 km
- Urban scale: 4 – 50 km
- Regional scale: to 100s of km



# Example: Ozone

<b>CBSA</b>	<b>2019 Population (estimated)</b>	<b>Maximum 2018 design value</b>	<b>No. of required SLAMS monitors</b>	<b>Current no. of SLAMS monitors</b>
Bridgeport-Stamford-Norwalk	943,332	82	2	4
Hartford-East Hartford-Middletown	1,204,877	78	2	3
New Haven-Milford	854,757	81	2	2
Norwich-New London	265,206	75	1	1
Worcester	947,404	71	2	3
Torrington	180,333	70	1	1



# Questions?

- Draft Network Plan will be posted on DEEP website for public review until June 28
- [http://www.ct.gov/deep/cwp/view.asp?a=2684&Q=321798&deepNav\\_GID=1744Submit](http://www.ct.gov/deep/cwp/view.asp?a=2684&Q=321798&deepNav_GID=1744Submit)
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