PLEASE NOTE: SUGGESTED CITATION OF THIS PRESENTATION IS:

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NEW BRUNSWICK, NJ, OCTOBER 12TH, 2017.

State of New Jersey
Department of Environmental Protection

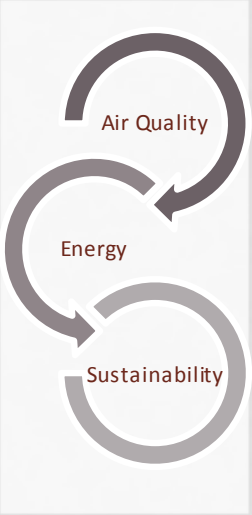
DIVISION OF AIR QUALITY

AIR QUALITY, ENERGY, AND SUSTAINABILITY

STATE PERSPECTIVES, CHALLENGES, STRATEGIES

(MASS-A&WMA OZONE WORKSHOP)

SHARON DAVIS
BUREAU OF EVALUATION AND PLANNING
OCTOBER 12, 2017



State Perspective

Challenges

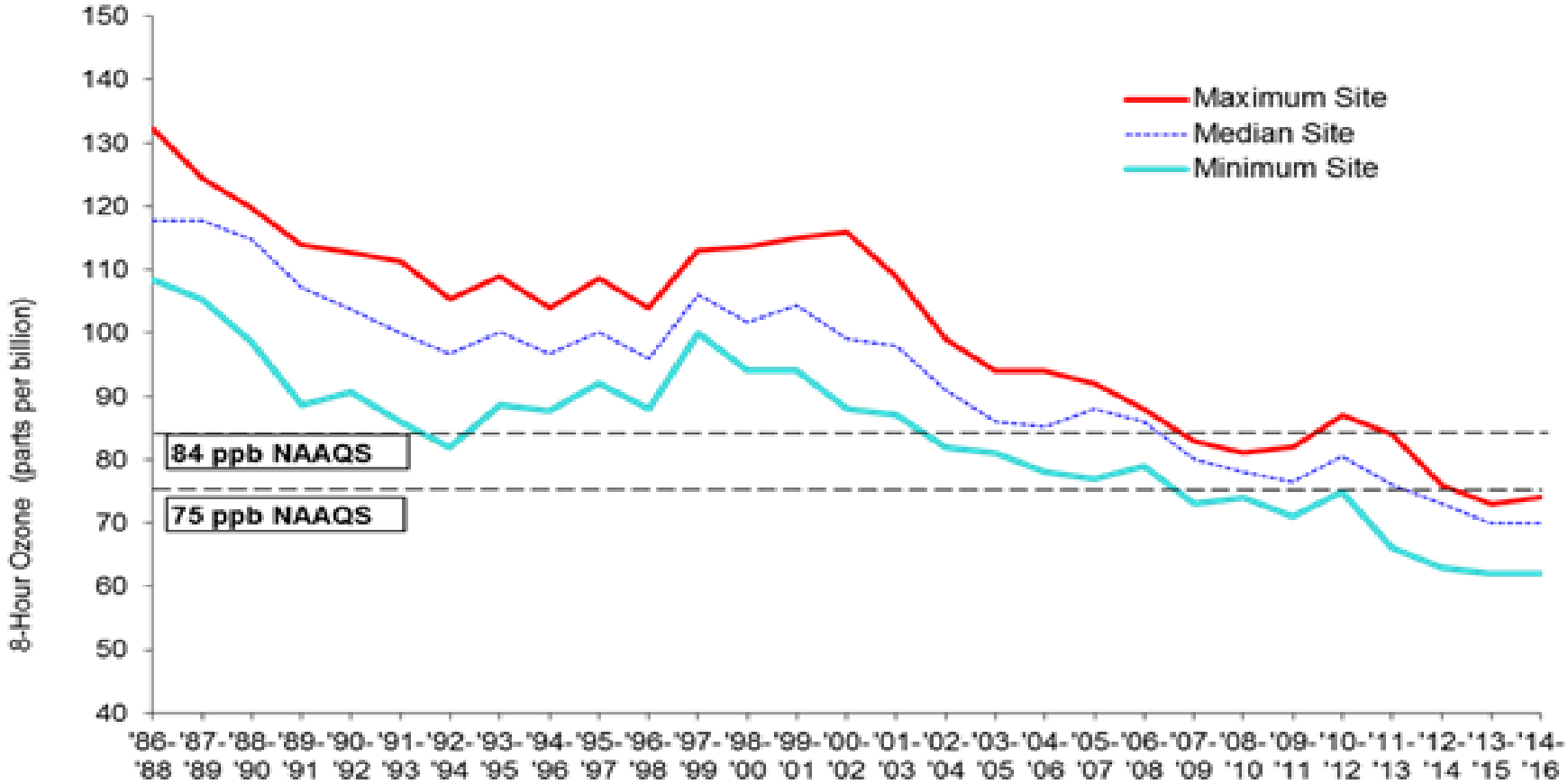
Strategies

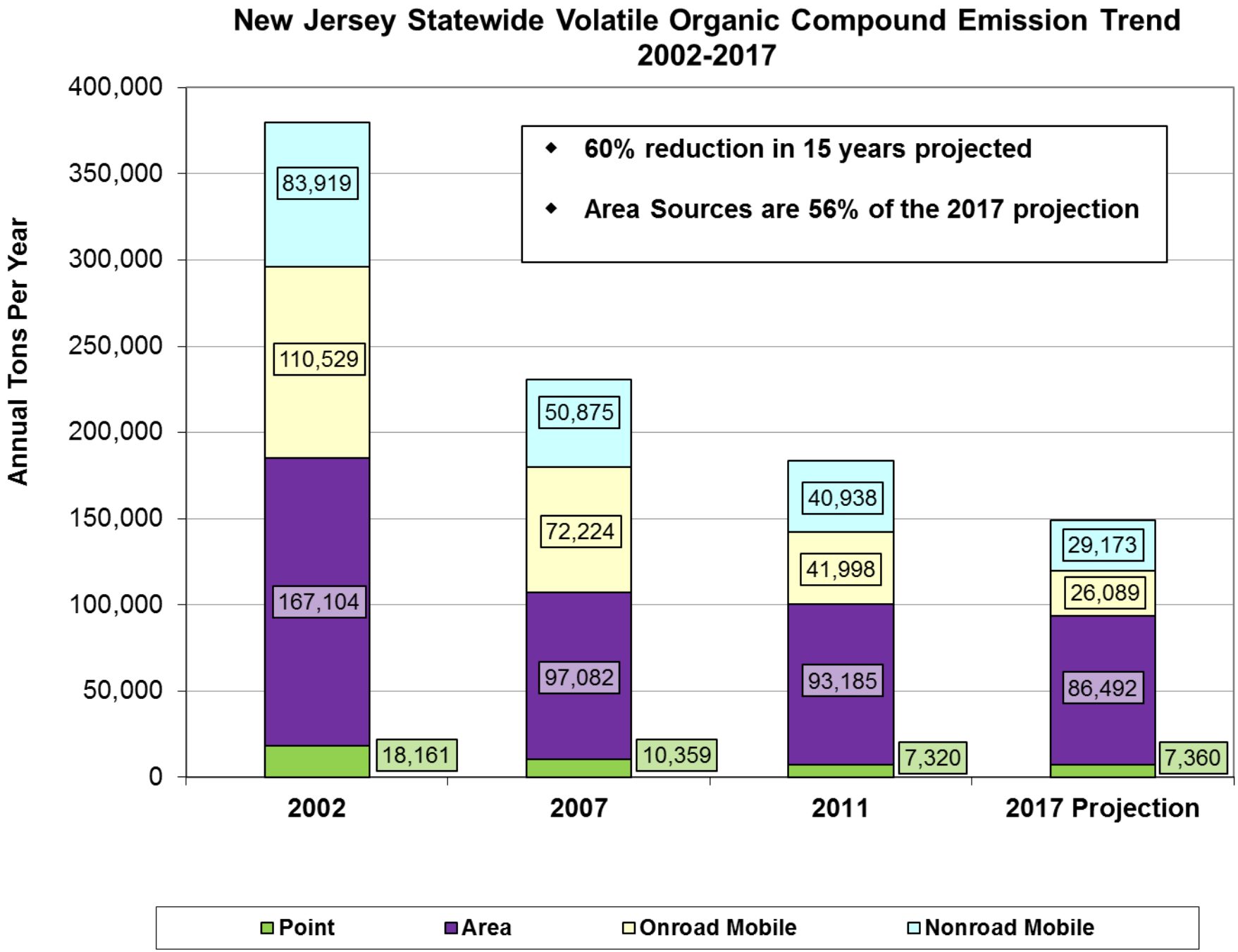
Existing NAAQS and New Jersey Status

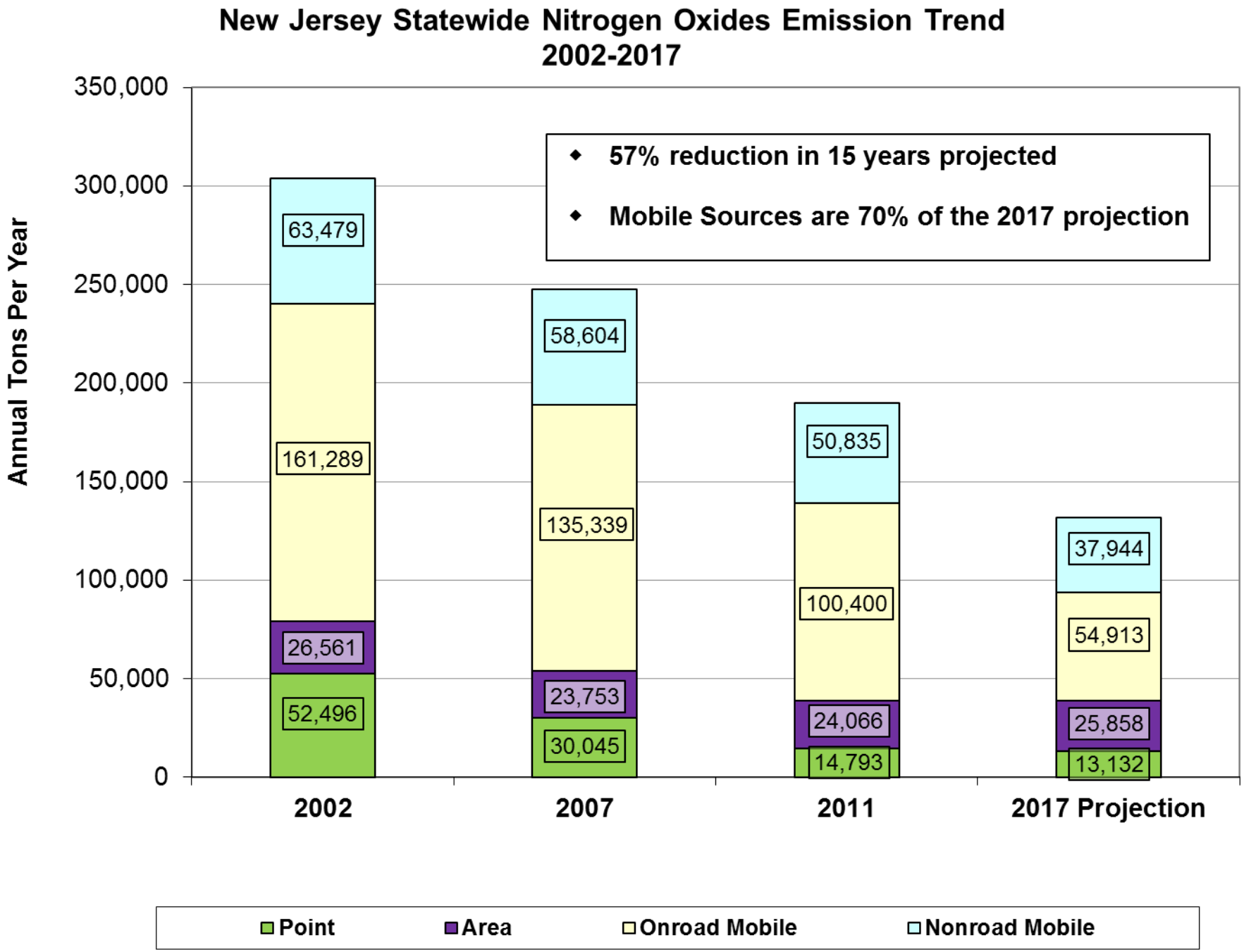
Pollutant	Primary Standards			Monitoring Data Status (Multi-State NAAs)	Designation/SIP Status
	Level	Date	Averaging Time		
Ozone	0.12 ppm	1979	1-hour	Attaining	Standard revoked
	85 ppb	1997	8-hour		Nonattainment-Standard Revoked
	75 ppb	2008	8-hour	Not Attaining (other states)	Nonattainment
	70 ppb	2015	8-hour	Not Attaining	Not Yet Designated
Regional Haze	Visibility	1999	NA	2018 Goal Achieved	5-Yr Progress Report (June 2016)
PM2.5	15.0 µg/m3	1997	Annual	Attaining	Attainment
	35 µg/m3	2006	24-hour		
	12 µg/m3	2012	Annual		Unclassifiable-Attainment
PM10	150 µg/m3	1987	24-hour	Attaining	Attainment
SO2	0.03 ppm	1971	Annual	Attaining	Attainment
	0.14 ppm	1971	24-hour		
	75 ppb	2010	1-hour		Unclassifiable-Attainment
NO2	53 ppb	1971	Annual	Attaining	Attainment
	100 ppb and New monitor	2010	1-hour	Attaining	Unclassifiable-Attainment
Lead	1.5 µg/m3	1978	Quarterly Average	Attaining	Attainment
	0.15 µg/m3	2008	Rolling 3-Month Average		Unclassifiable-Attainment
CO	9 ppm	1971	8-hour	Attaining	Attainment/Last Maintenance Plan Approved
	35 ppm	1971	1-hour		
	New monitor	2011	Retained		No New Requirements

New Jersey 8-hour Ozone Air Quality 1999-2016

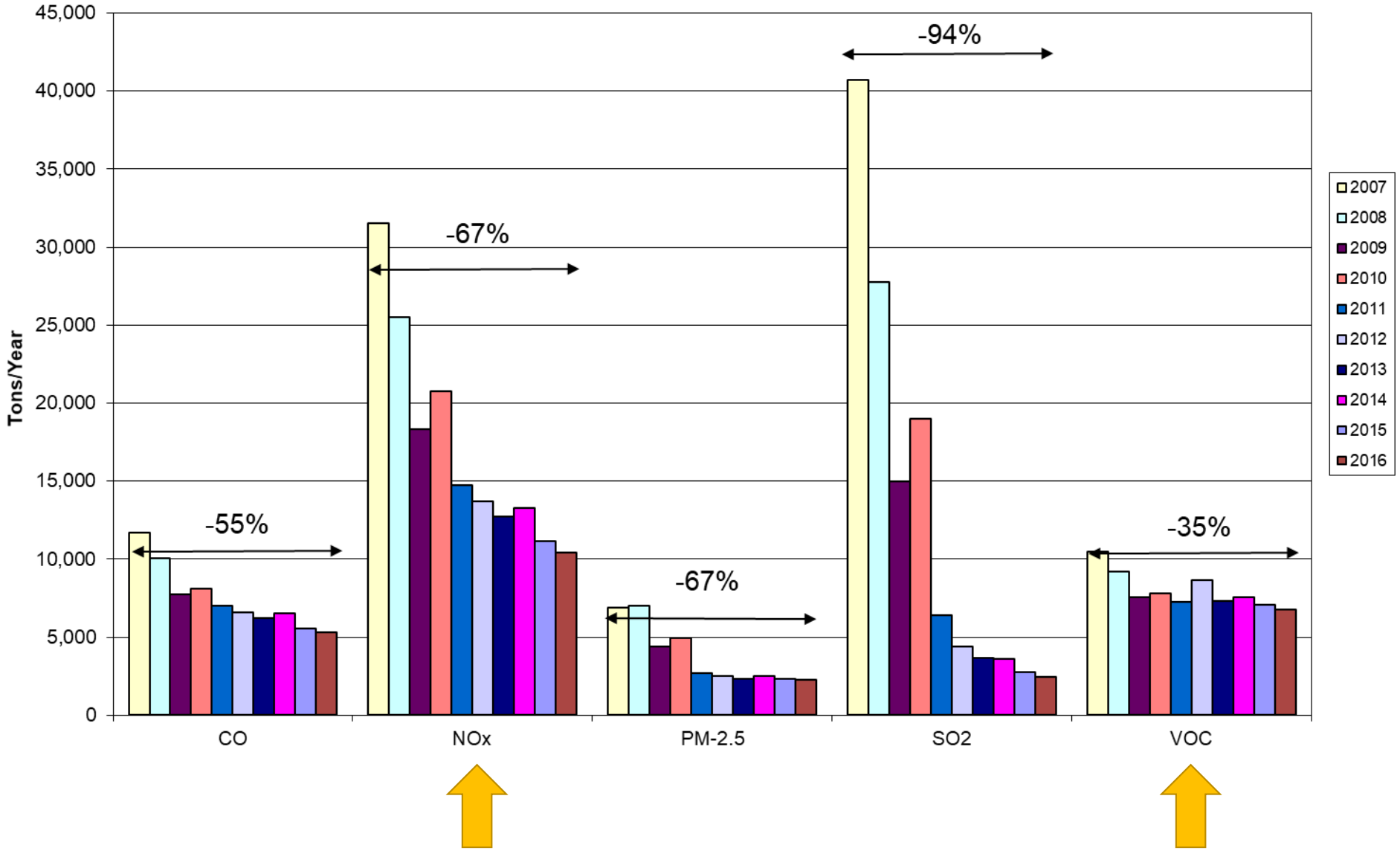
Design Values – 3-year Average of 4th Highest Daily 8-hour Maximum




New Jersey Statewide Volatile Organic Compound Emission Trend
2002-2017
Annual Tons Per Year
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
60% reduction in 15 years projected
Area Sources are 56% of the 2017 projection
83,919
110,529
167,104
18,161
50,875
72,224
97,082
10,359
40,938
41,998
93,185
7,320
29,173
26,089
86,492
7,360
2002
2007
2011
2017 Projection
Point
Area
Onroad Mobile
Nonroad Mobile


New Jersey Statewide Nitrogen Oxides Emission Trend
2002-2017
Annual Tons Per Year
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
57% reduction in 15 years projected
Mobile Sources are 70% of the 2017 projection
63,479
161,289
26,561
52,496
58,604
135,339
23,753
30,045
50,835
100,400
24,066
14,793
37,944
54,913
25,858
13,132
2002
2007
2011
2017 Projection
Point
Area
Onroad Mobile
Nonroad Mobile

Ten Year Trend on Emissions Reported to the Emission Statement Program



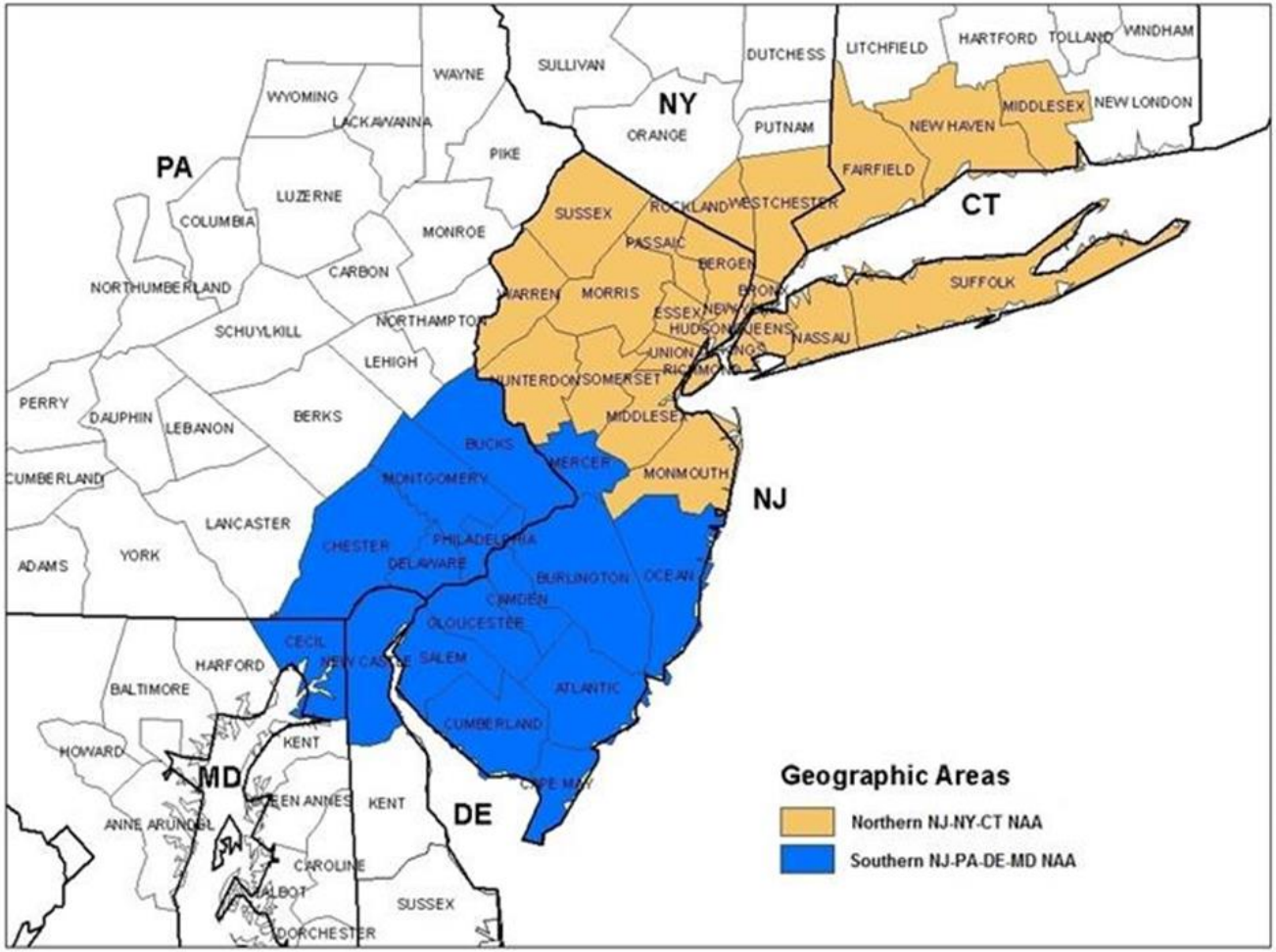
MASS-A&WMA OZONE WORKSHOP

State Perspective

Challenges

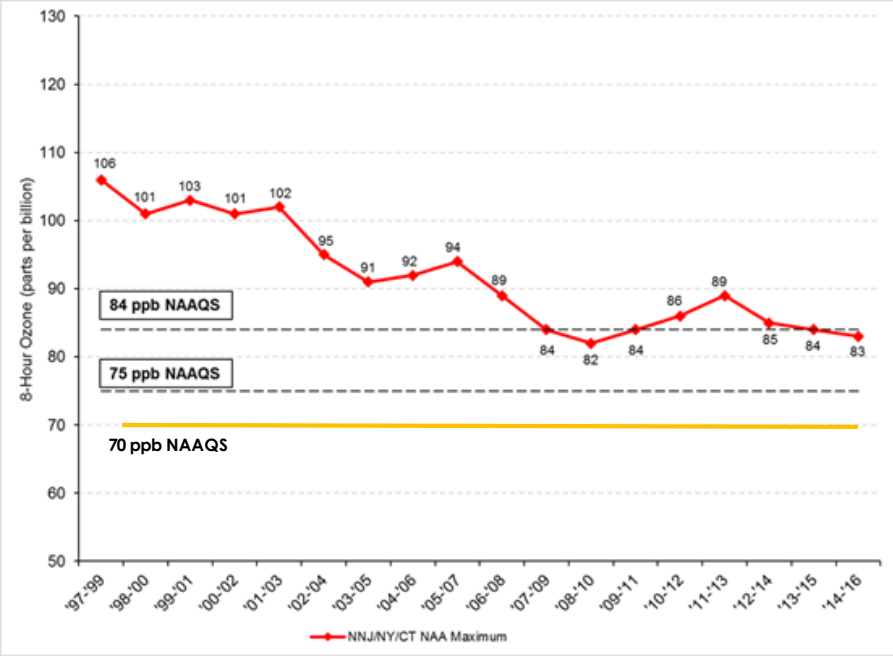
Strategies

New Jersey Nonattainment Areas
(75 ppb Ozone NAAQS)

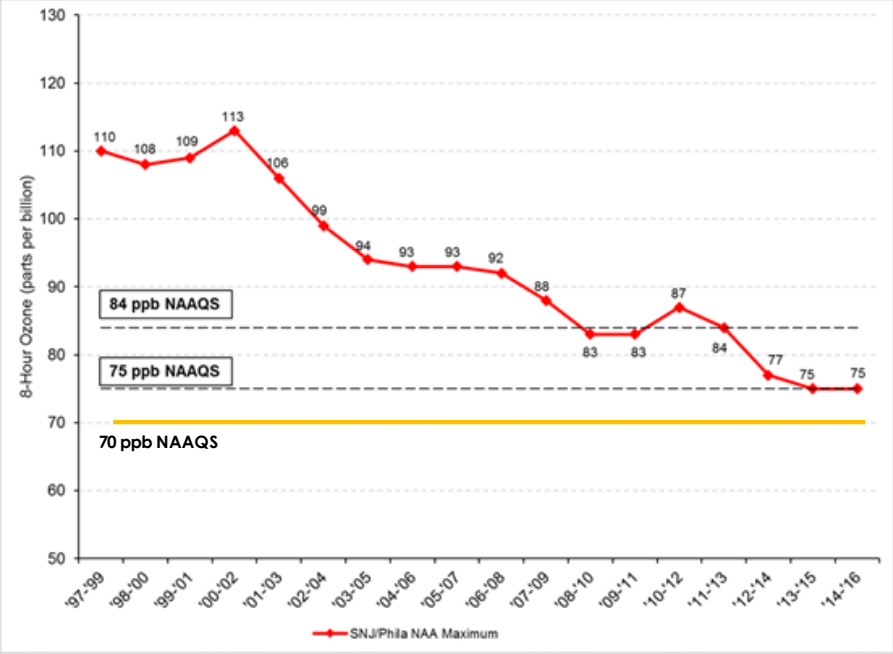


New Jersey Nonattainment Area (NJ NAA) Air Quality Trends

Northern NJ NAA (NNJ-NY-CT)

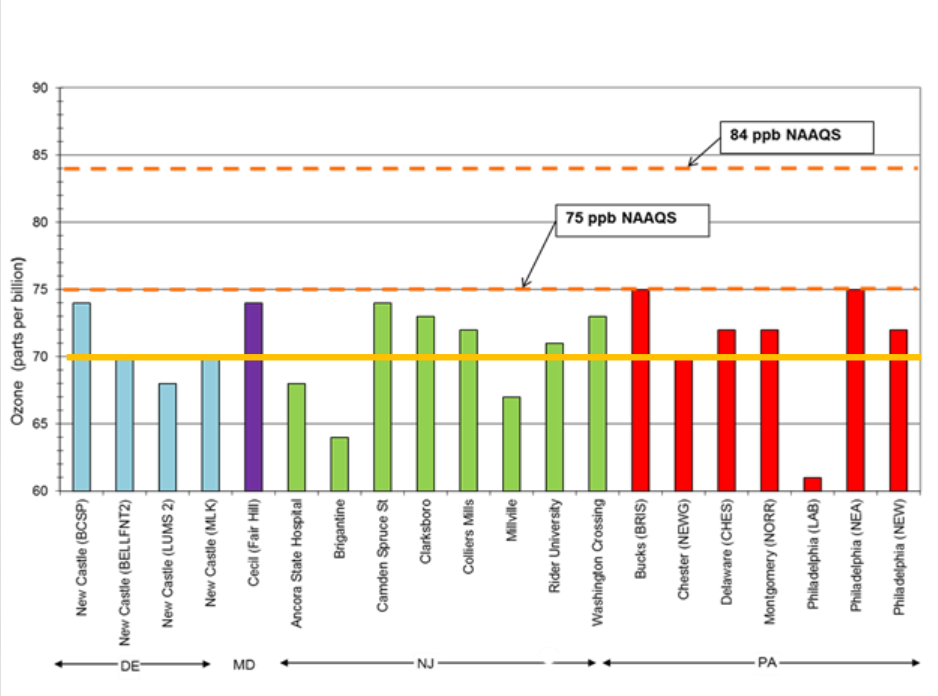


Southern NJ NAA (SNJ-PA-DE-MD)

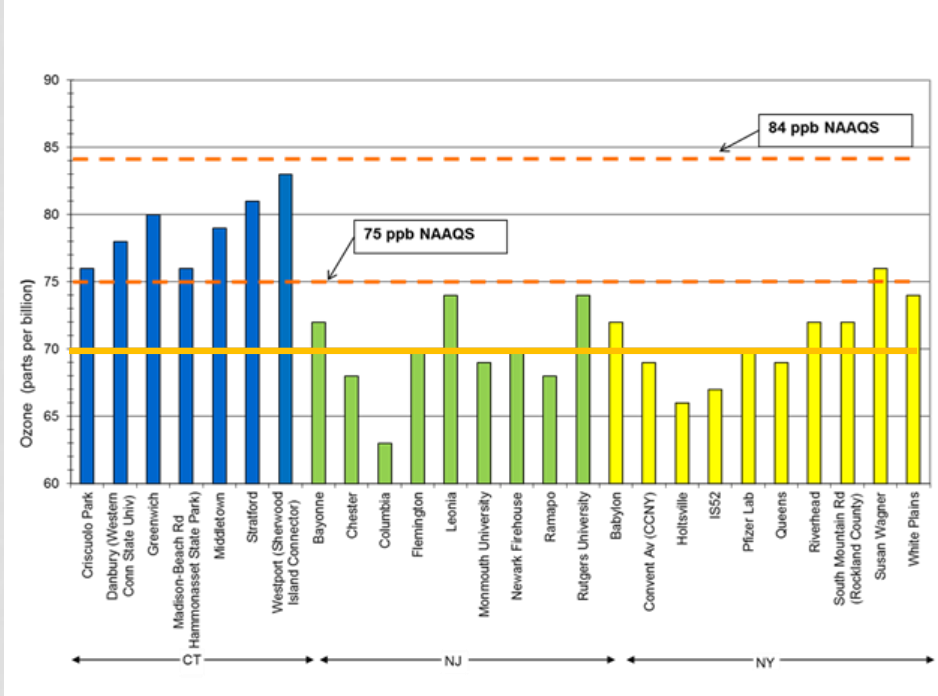


2016 8-Hour Ozone Design Values (DVs)

Southern NJ NAA (SNJ-PA-DE-MD)



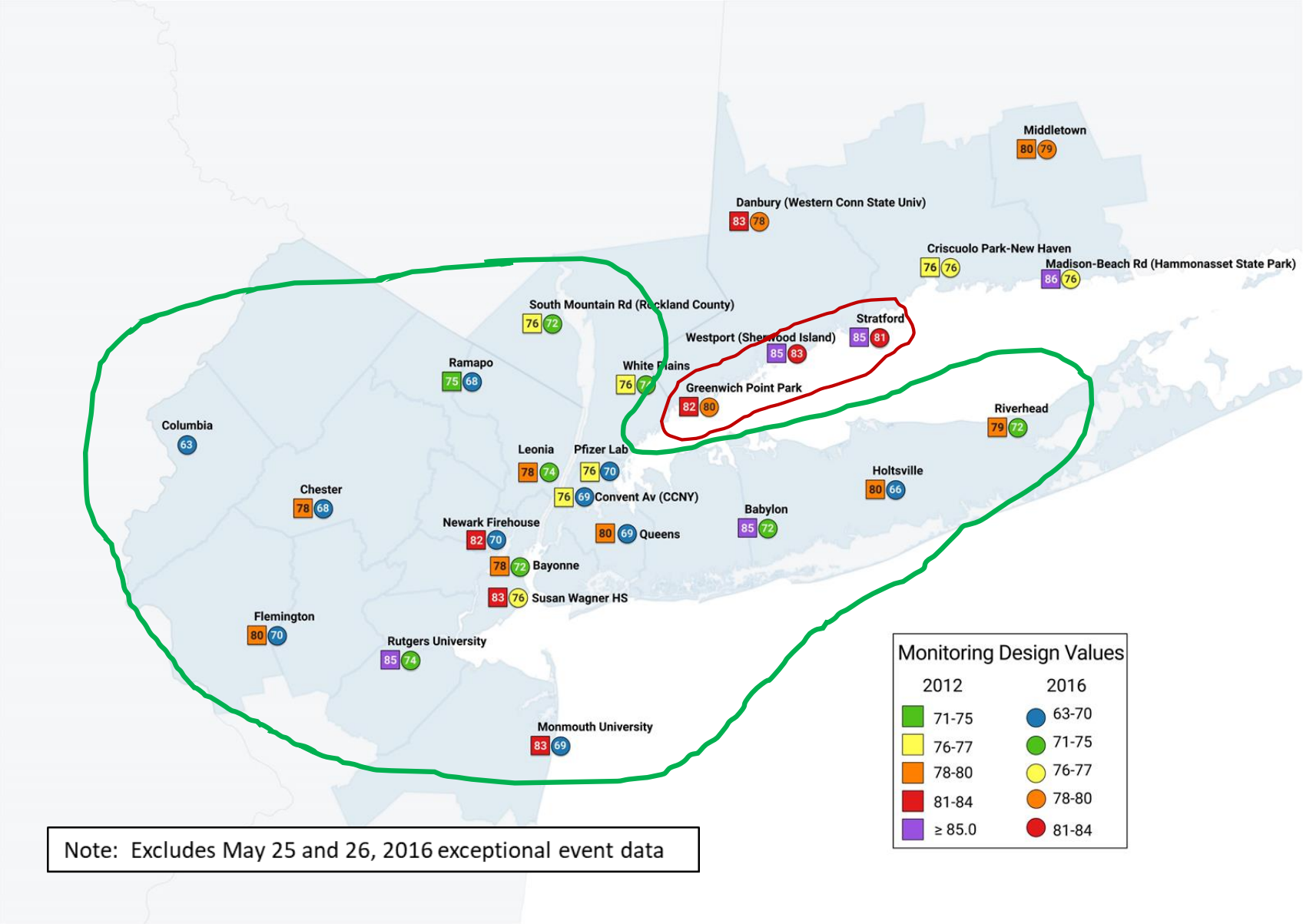
Northern NJ NAA (NNJ-NY-CT)



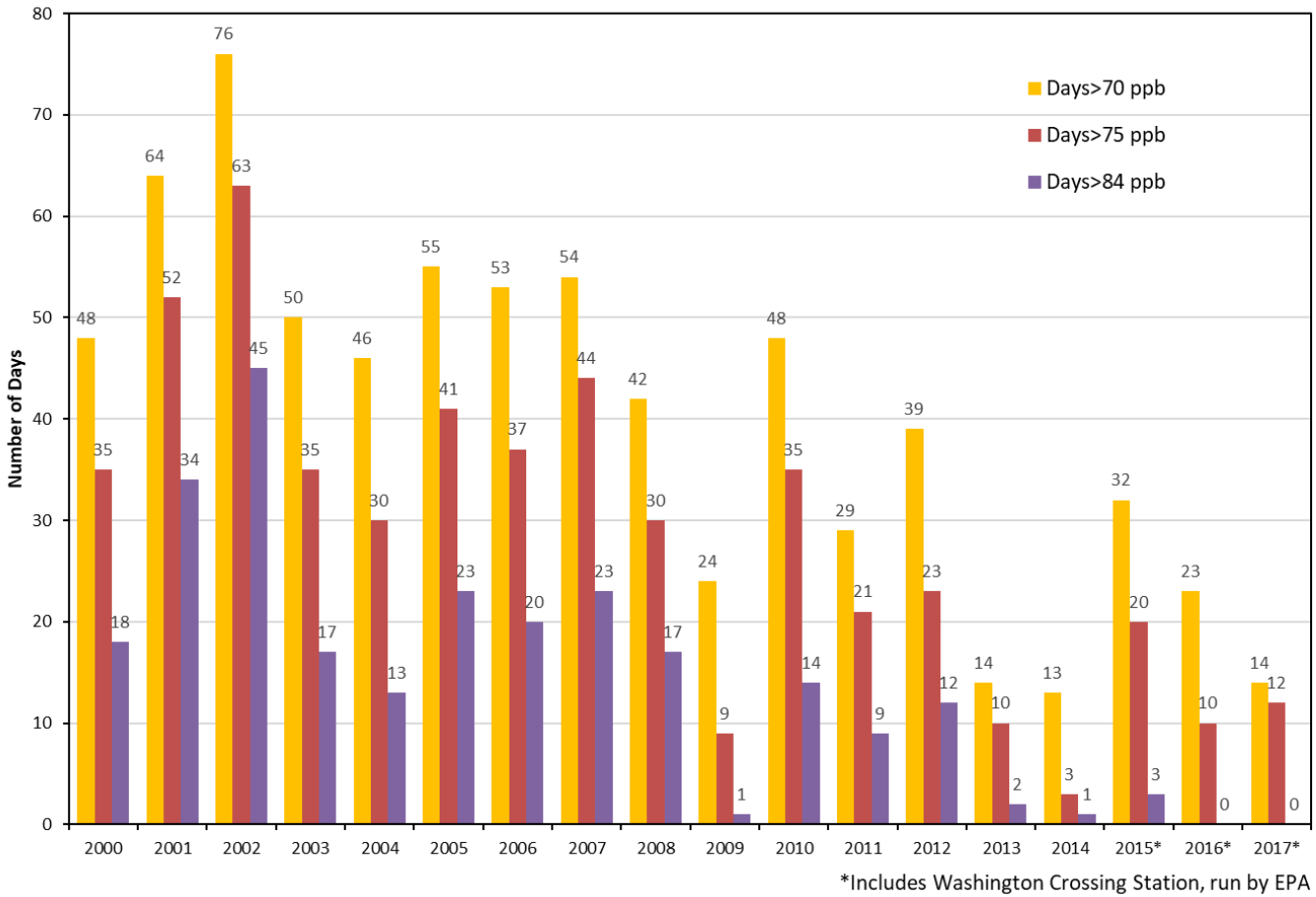
Northern New Jersey NAA (NNJ-NY-CT)

8-hour Ozone Design Values (ppb)				
Site Name	AQS Code	County	State	Monitoring 2016
Westport (Sherwood Island Connector)	90019003	Fairfield	CT	83
Stratford	90013007	Fairfield	CT	81
Greenwich Point Park	90010017	Fairfield	CT	80
Middletown	90070007	Middlesex	CT	79
Danbury (Western Conn State Univ)	90011123	Fairfield	CT	78
Criscuolo Park-New Haven	90090027	New Haven	CT	76
Madison-Beach Rd (Hammonasset State Park)	90099002	New Haven	CT	76
Susan Wagner HS	360850067	Richmond	NY	76
Leonia	340030006	Bergen	NJ	74
Rutgers University	340230011	Middlesex	NJ	74
White Plains	361192004	Westchester	NY	74
Babylon	361030002	Suffolk	NY	72
Bayonne	340170006	Hudson	NJ	72
Riverhead	361030004	Suffolk	NY	72
South Mountain Rd (Rockland County)	360870005	Rockland	NY	72
Flemington	340190001	Hunterdon	NJ	70
Newark Firehouse	340130003	Essex	NJ	70
Pfizer Lab	360050133	Bronx	NY	70
Convent Av (CCNY)	360610135	New York	NY	69
Monmouth University	340250005	Monmouth	NJ	69
Queens	360810124	Queens	NY	69
Chester	340273001	Morris	NJ	68
Ramapo	340315001	Passaic	NJ	68
Holtsville	361030009	Suffolk	NY	66
Columbia	340410007	Warren	NJ	63

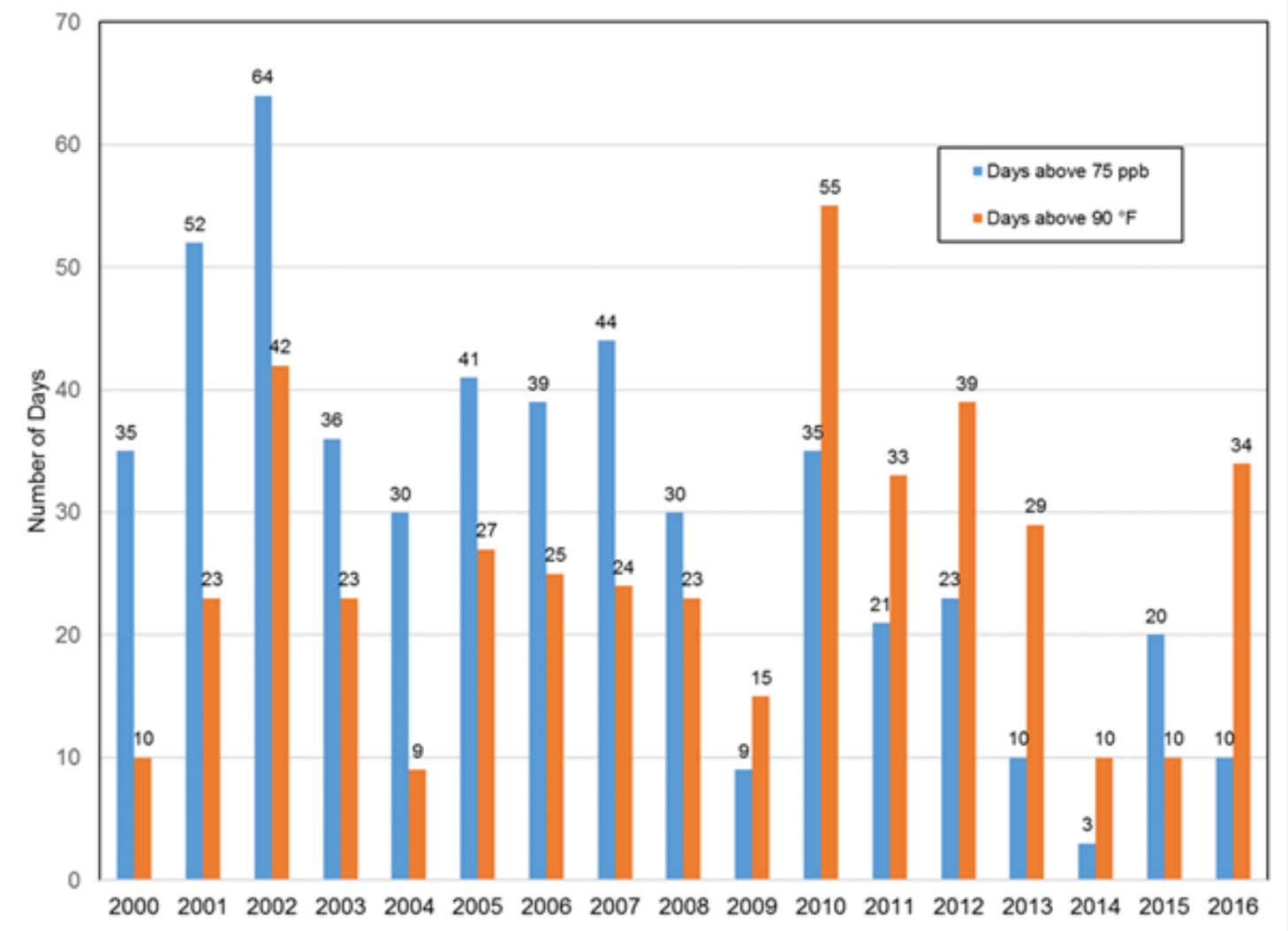
2012 and 2016 8-Hour Ozone Design Values Northern NJ-NY-CT Nonattainment Area



New Jersey Ozone Exceedance Days 2000 - Prelim. 2017

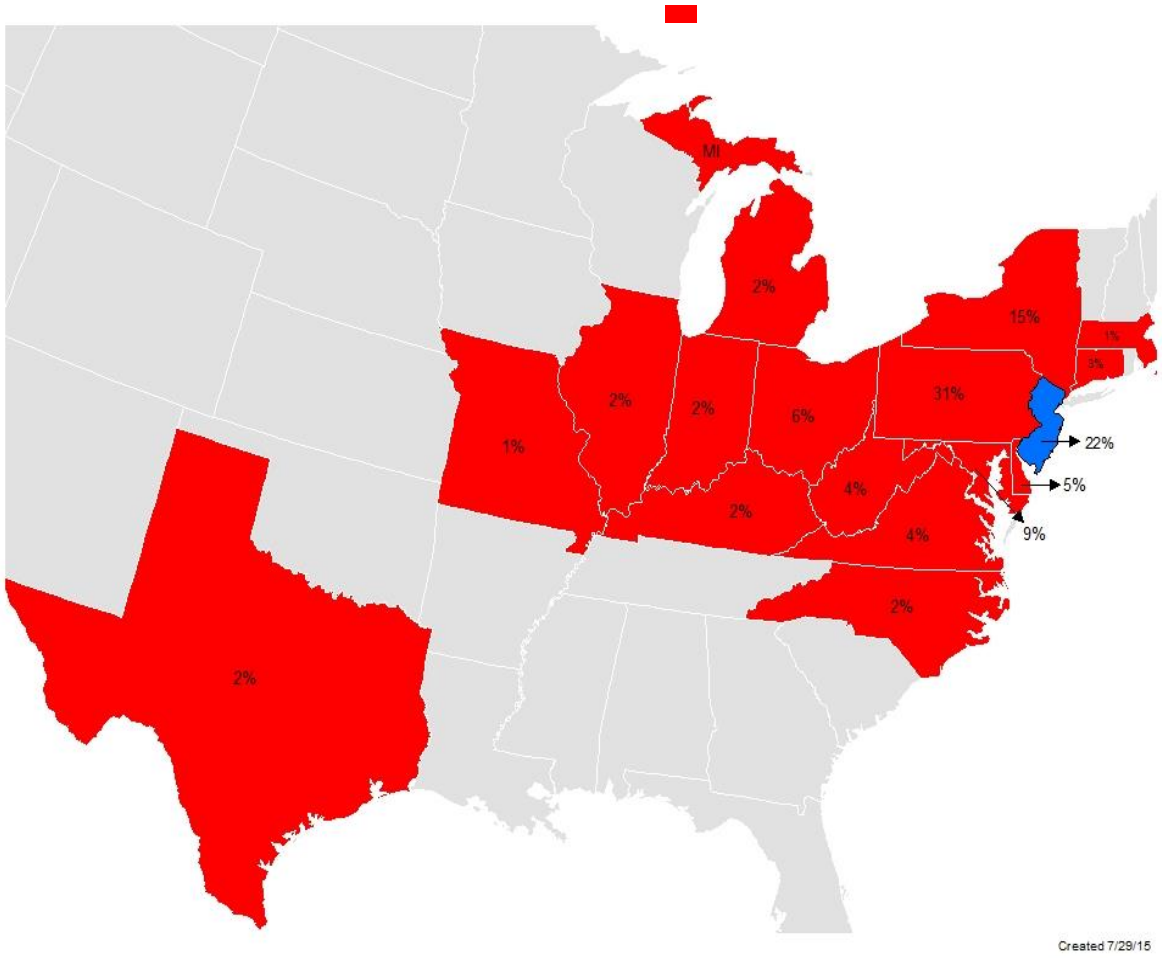


Exceedance Days vs. Days Above 90 Degrees Fahrenheit 2000-2016 New Jersey Statewide



2017 SIGNIFICANT CONTRIBUTORS TO POOR OZONE AIR QUALITY IN NEW JERSEY

Maximum Contribution to Any One Monitor in New Jersey



- Significant Contributors are States contributing ≥1% (0.75 ppb) of the Ozone NAAQS
- Based on USEPA Transport Modeling for the 75 ppb Ozone Standard (July 2015)

Ozone Challenge

- Ozone Challenge for NJ's Shared Nonattainment Areas
  - 70 ppb and 75 ppb (CT and NY)
- No low hanging fruit
  - Mobile sources largest NOx contributor – limited authority
- Coastal Monitors in CT (Sea Breeze)
- Significant Transport Contribution

MASS-A&WMA OZONE WORKSHOP

State Perspective

Challenges

Strategies

NEW JERSEY CONTROL MEASURES

- NOx RACT (NJAC 7:27- 19)
  - HEDD Performance Standards
  - Distributed Generators
  - Natural Gas Compressor Engines and Turbines
  - Municipal Waste Combustors
- Control Technique Guidelines (VOCs)
  - Paper, Film, and Foil Coatings (PFFC)
  - Fiberglass Boat Manufacturing Materials (FBMM)
  - Miscellaneous Metal and Plastic Parts Coating (MMPPC)
  - Industrial Cleaning Solvents (ICS)

2017 AIR RULE PACKAGES

Schedule	1. CTG & NOx RACT	2. PM2.5 & SSM	3. Stage I/II & TBAC	4. Resiliency & Air Toxics
Proposal (NJR)	1/3/17	3/20/17	7/3/17	8/7/17
Public hearing	2/13/17	5/9/17	8/24/17	9/6/17
End of comment period	3/4/17	5/19/17	9/1/17	10/6/17
Adoption (NJR)	November 2017	November 2017	December 2017	December 2017
Operative date	60 days after NJR publication (unless specified)			

VOLUNTARY MOBILE SOURCES

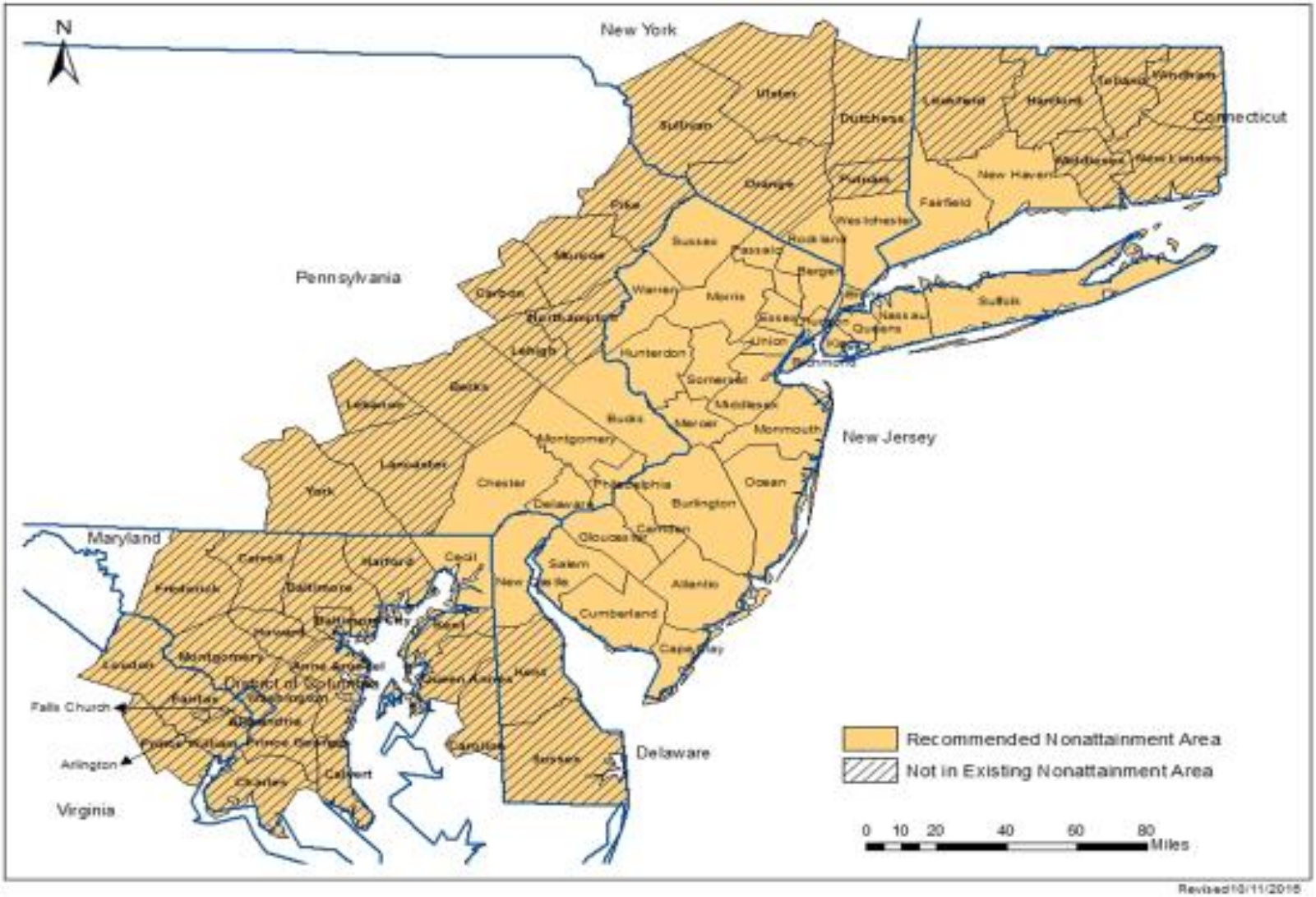
- DriveGreen NJ – EV Charging Grants and Incentives (www.drivegreen.nj.gov)
- PANYNJ 10-Year Clean Air Strategy
  - Fleet Modernization and Replacement Program for Cargo Handling Equipment
- NJ Clean Construction Program
  - Publicly Funded Projects
  - Engine Replacements and Retrofits
- Ferry Repower (NY Harbor)
- Forklift Replacements (SJ Port)

OTC REGIONAL CONTROL STRATEGIES (2009-2014)

NOx Sources	VOC Sources
Model Rules 1. Power Plants–Oil and Gas-fired Boilers* 2. Power Plants–High Electric Demand Day (HEDD) Turbines* 3. Power Plants–Stationary Engines* 4. New Small Gas Heating Boilers 5. Non-Road Diesel Idling* 6. Aftermarket Catalytic Converters	**Model Rules** 1. Large VOC Stationary Storage Tanks* 2. Autobody Refinishing 3. Consumer Products Update 4. Architectural/Industrial Coatings 5. Solvent Cleaning (Industrial/Commercial) 6. Paint Thinners (Consumer)
Categories Under Review 7. Power Plants–Coal-fired Boilers 8. Distributed and Emergency Generators (Demand Response) 9. Industrial/Commercial /Institutional (ICI) Boilers	**Categories Under Review** 7. Gasoline Station Vapor Recovery

*Existing NJ Rule Equivalent to Model Already Adopted

New Jersey's Recommended Nonattainment Area for the 2015 Ozone National Ambient Air Quality Standard



Revised 10/11/2016

FUTURE FOCUS

- EPA has to resolve transport
- States have limited authority to address mobile sources
  - HDDV NOx emissions
  - Update Federal Aftermarket Catalytic Converter (AMCC) Policy
  - Diesel I/M Program
  - Stronger Idling Programs
- Equivalent RACT for all states, including performance standards at EGUs
  - High Electric Demand Day Rule (EGUs)
  - Distributed Generation/ Demand Response
  - Municipal Waste Combustors

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