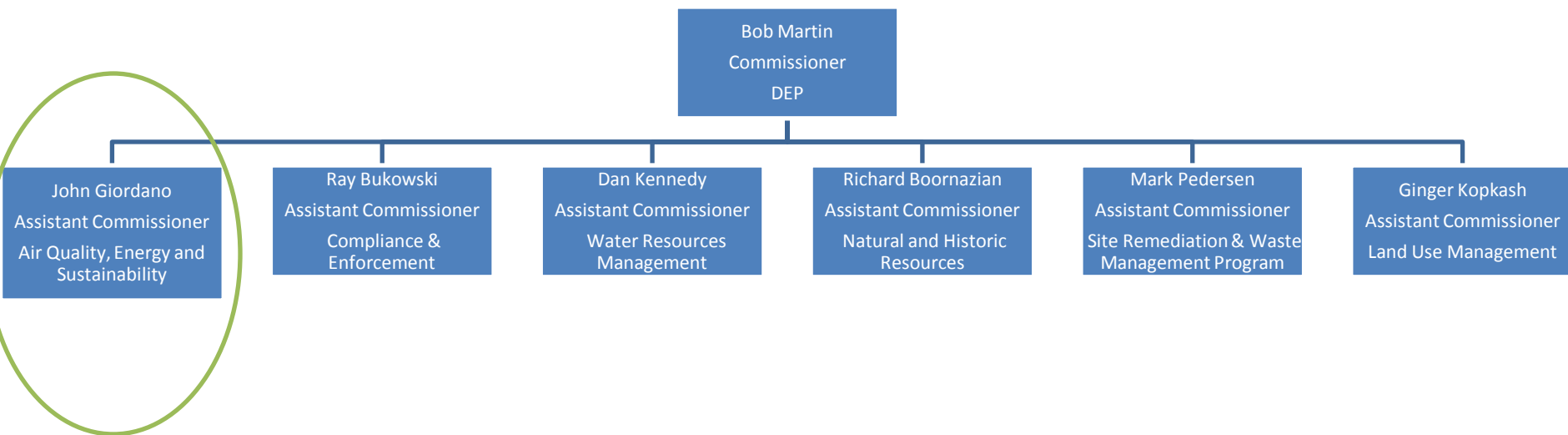


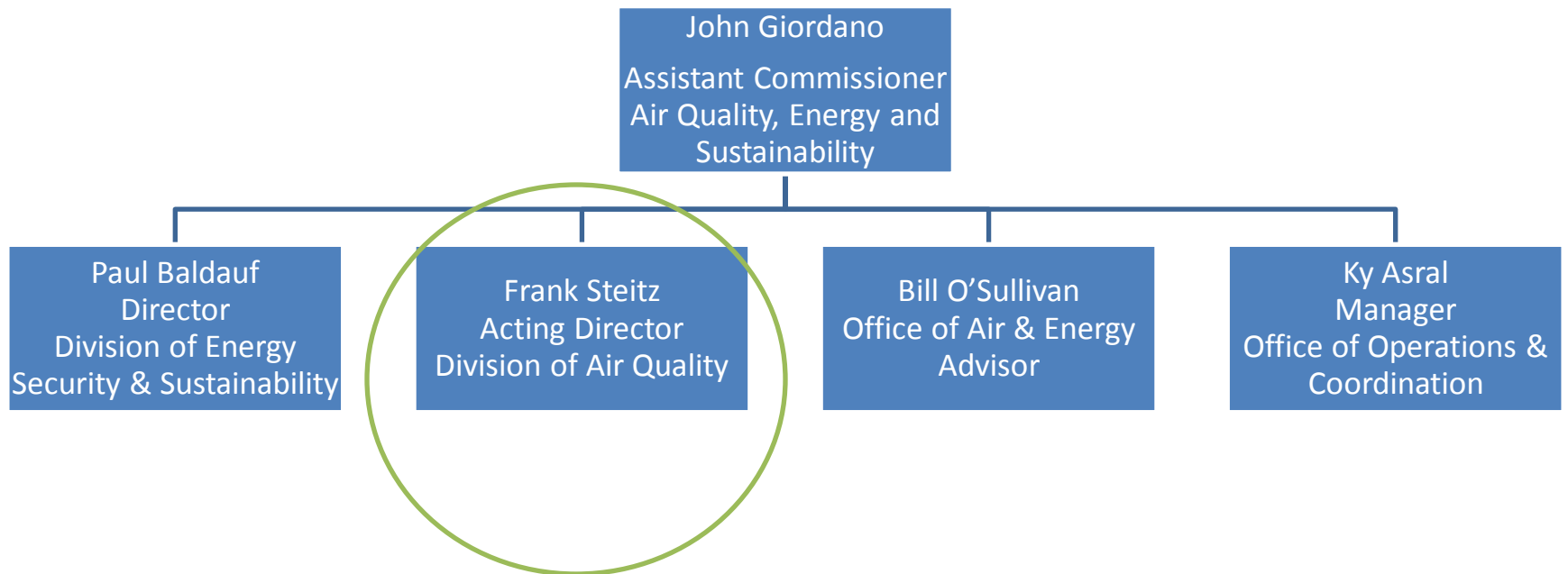


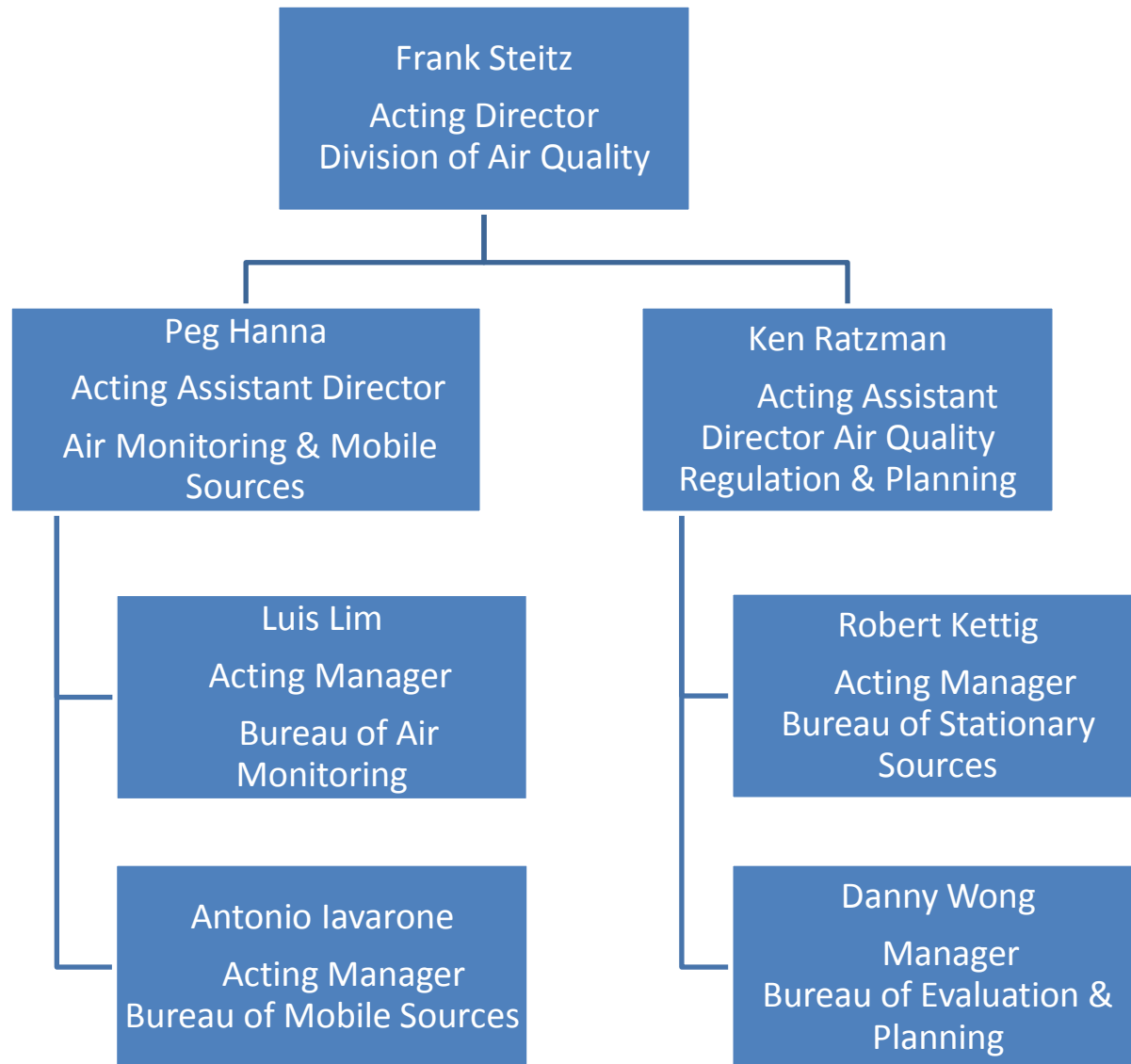
Air Quality: How are we doing? Where are we going?

Air & Waste Management Association Conference
November 20, 2015

Peg Hanna, Assistant Director, Air Monitoring & Mobile Sources
Division of Air Quality
NJ Department of Environmental Protection
peg.hanna@dep.nj.gov







Robert Kettig
Acting Manager
Bureau of Stationary
Sources

```
graph TD; A["Robert Kettig  
Acting Manager  
Bureau of Stationary  
Sources"] --> B["Bachir Bouzid  
Section Chief  
Operating Permits"]; A --> C["Vacant  
Section Chief  
Preconstruction Permits"];
```

Bachir Bouzid
Section Chief
Operating Permits

Vacant
Section Chief
Preconstruction Permits

Danny Wong
Manager
Bureau of Evaluation &
Planning

```
graph TD; A["Danny Wong  
Manager  
Bureau of Evaluation &  
Planning"] --> B["Sharon Davis  
Section Chief  
Air Quality Planning"]; A --> C["Joel Leon  
Section Chief  
Air Quality Evaluation"];
```

Sharon Davis
Section Chief
Air Quality Planning

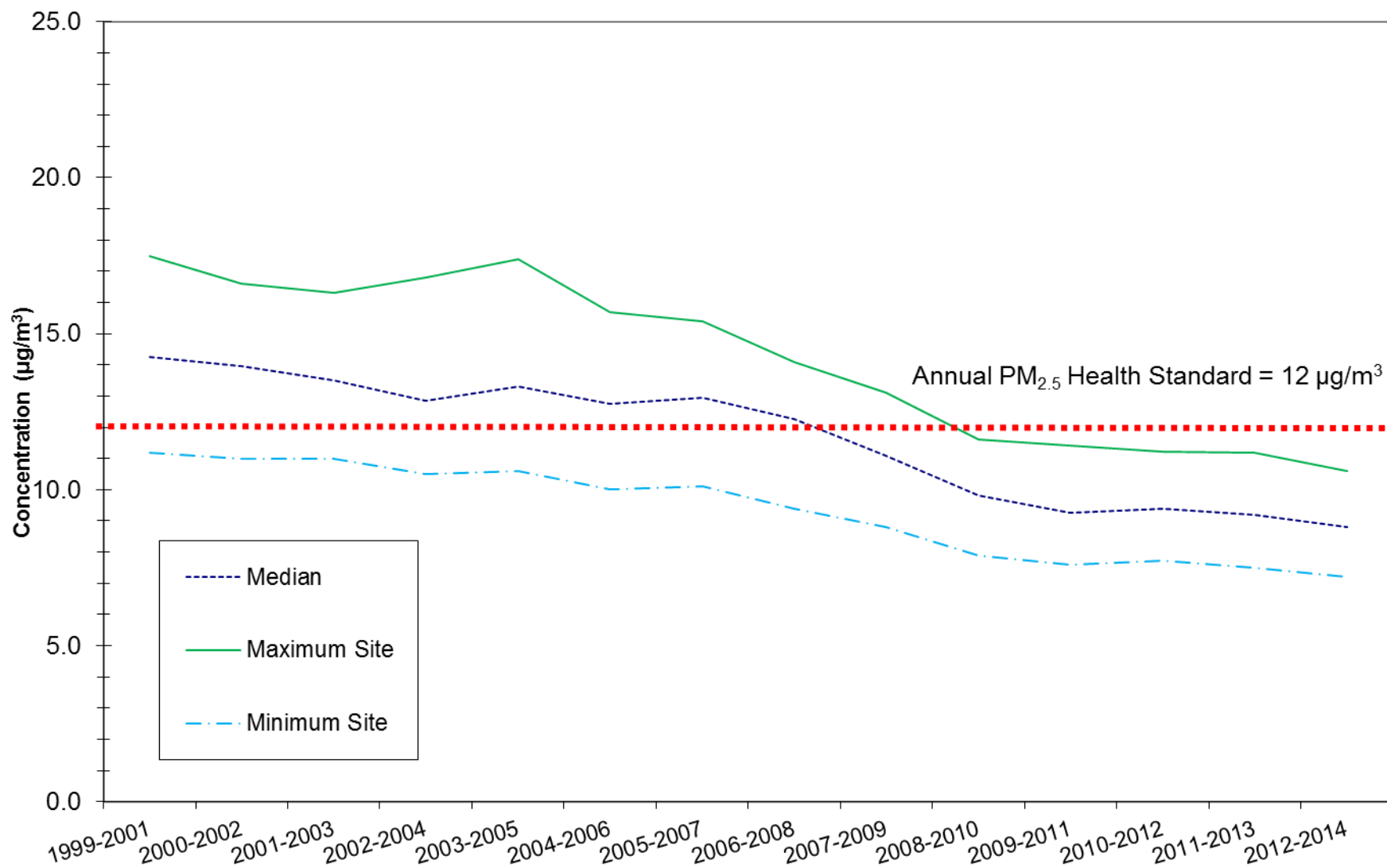
Joel Leon
Section Chief
Air Quality Evaluation

National Ambient Air Quality Standards (NAAQS)

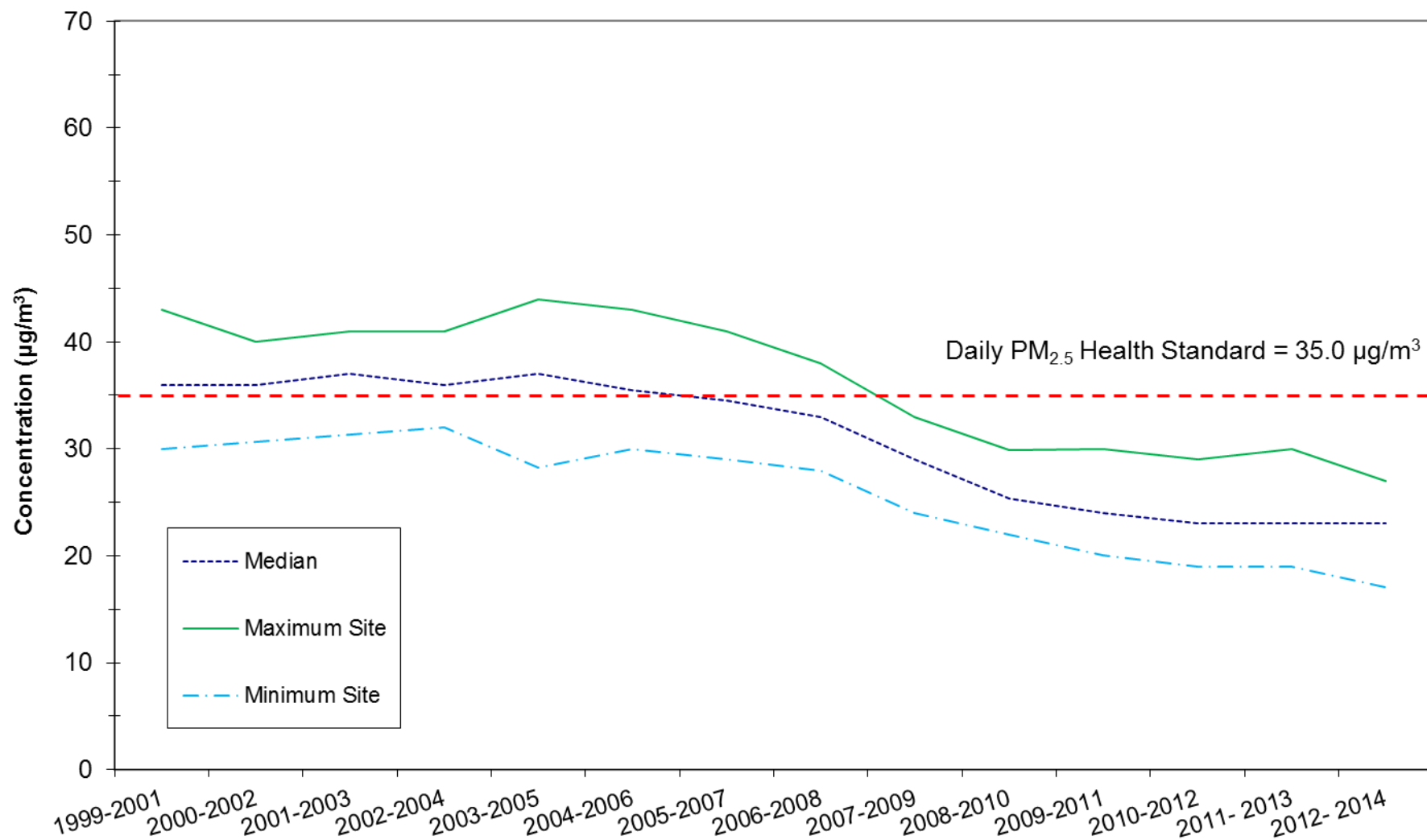
Pollutant	Status
Carbon Monoxide (CO)	✓
Lead (Pb)	✓
Nitrogen Dioxide (NO ₂)	✓
PM ₁₀	✓

Pollutant	Status
PM _{2.5}	✓
Ozone	✗
SO ₂	✗ ✓
Regional Haze	✓

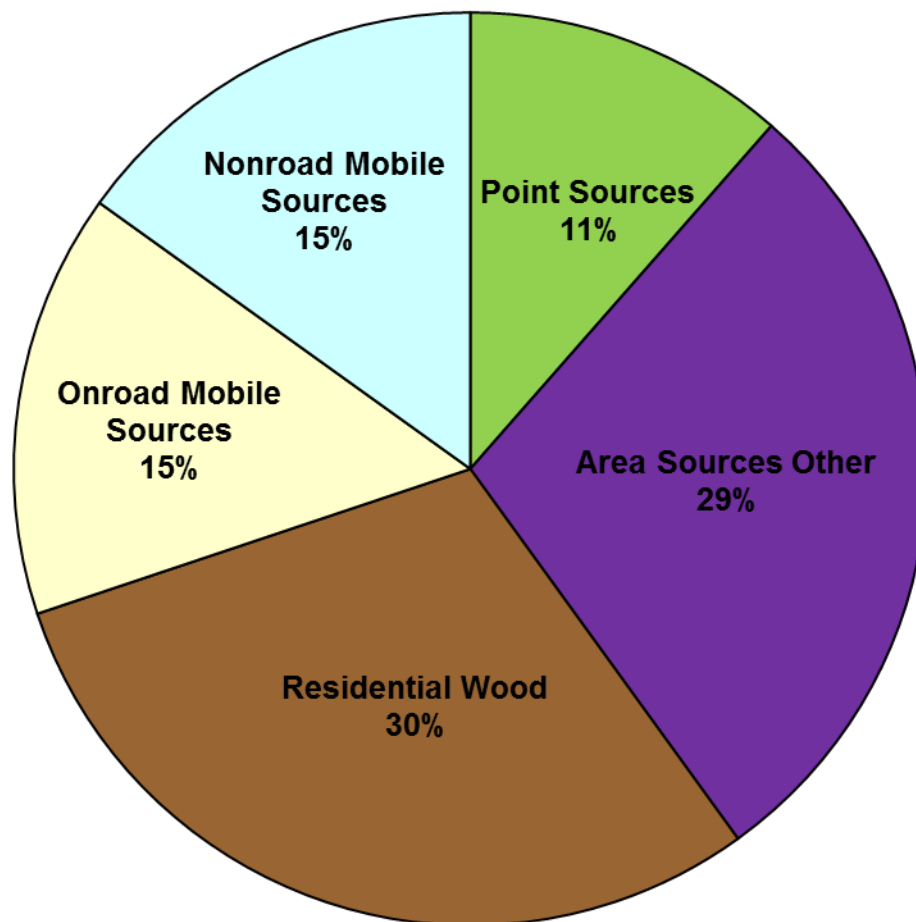
PM_{2.5} Design Value Concentrations, Annual Design Values 1999-2014 New Jersey Statewide



PM_{2.5} Design Value Concentrations, 24-Hour Design Values 1999-2014 New Jersey Statewide



2011 New Jersey Fine Particulate Matter Emissions Tons Per Year

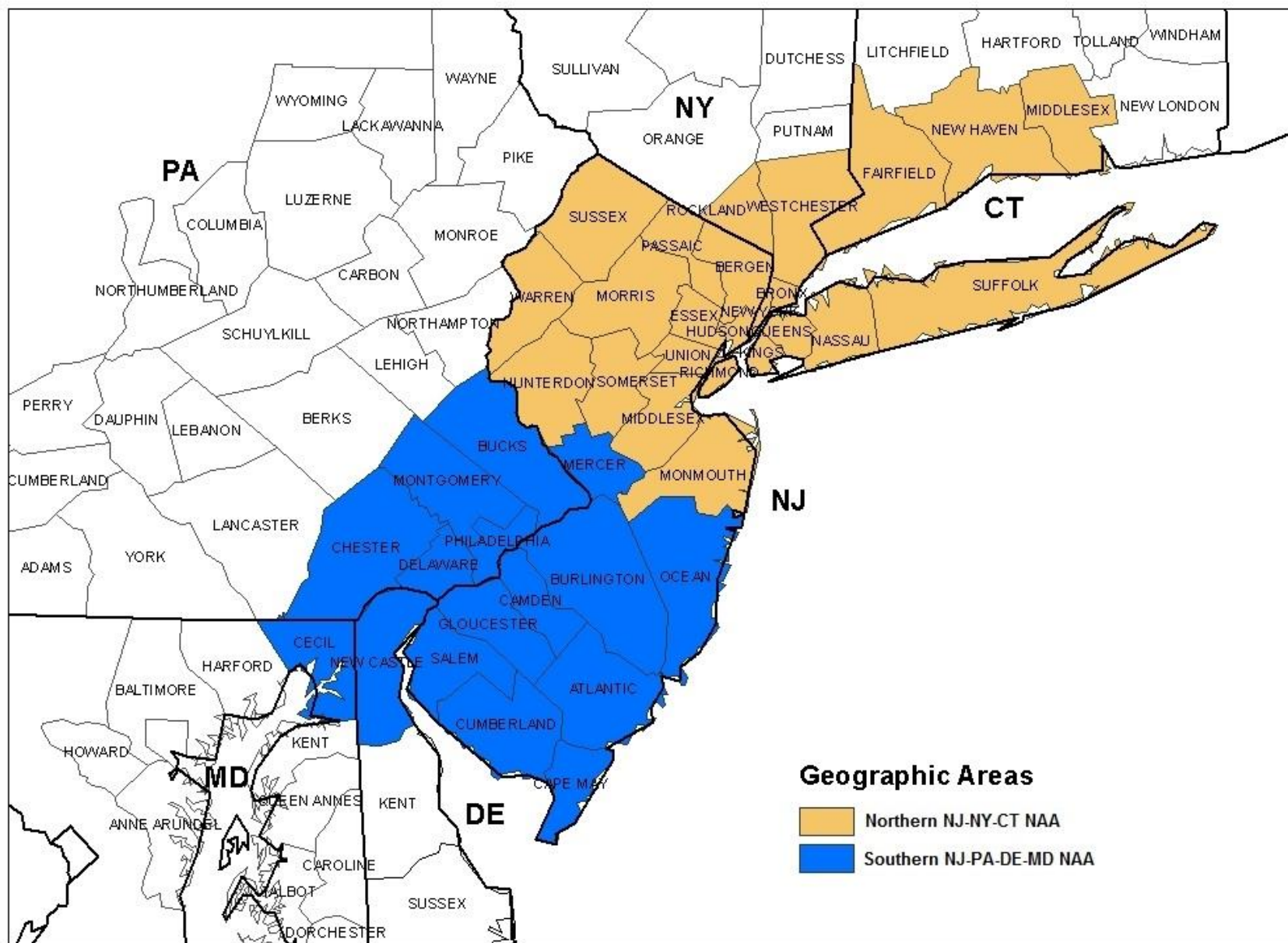


Notes:

Area Source emissions adjusted for fugitive dust

Bureau of Air Quality Planning 10/28/2014

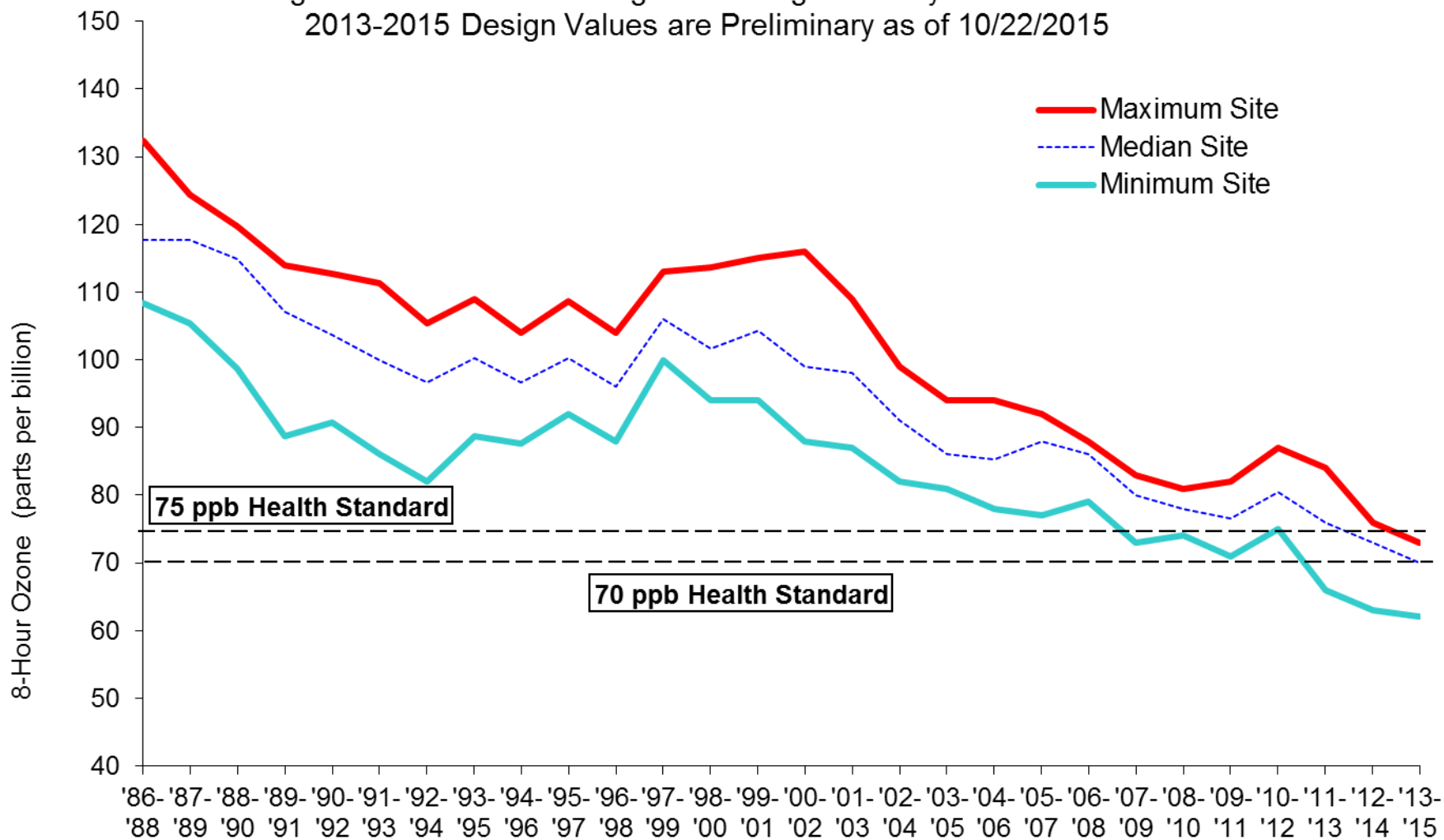
New Jersey 8-Hour Ozone Multi-State Nonattainment Areas



New Jersey 8-Hour Ozone Air Quality 1986 - 2015

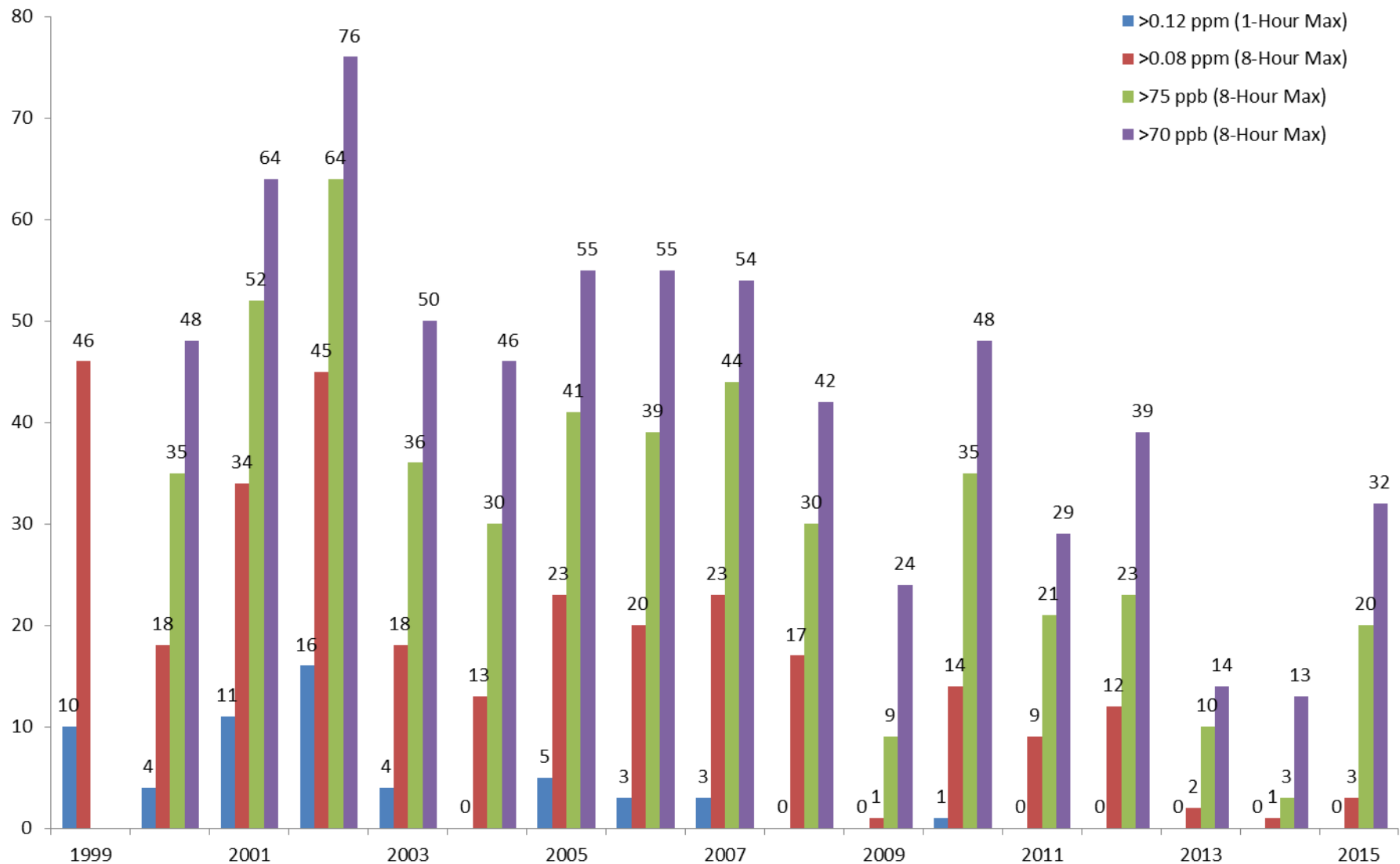
Design Values - 3 Year Average of 4th Highest Daily 8-Hour Maximum

2013-2015 Design Values are Preliminary as of 10/22/2015

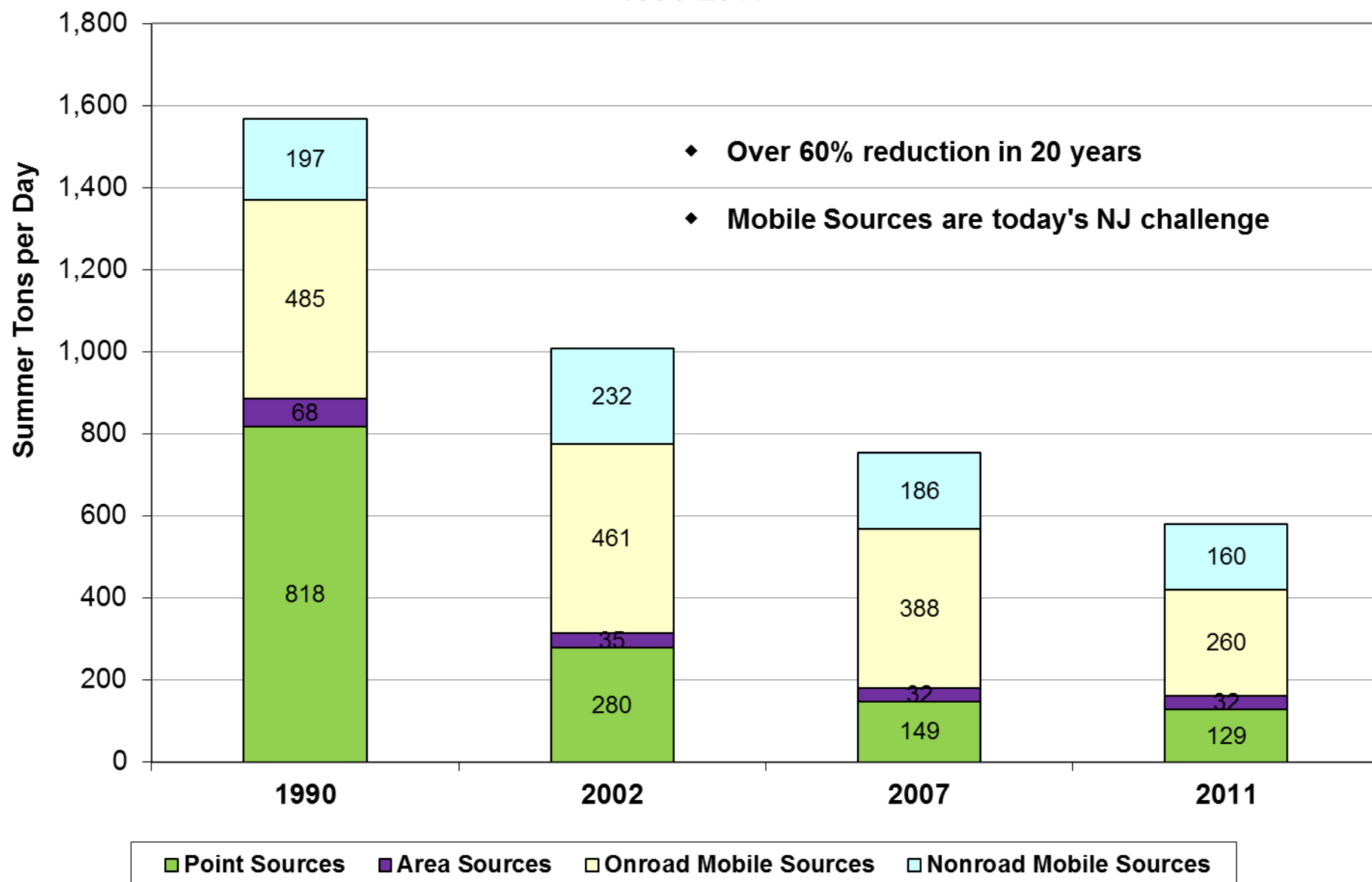


Number of Days Ozone Standards Have Been Exceeded in New Jersey 1999-2015

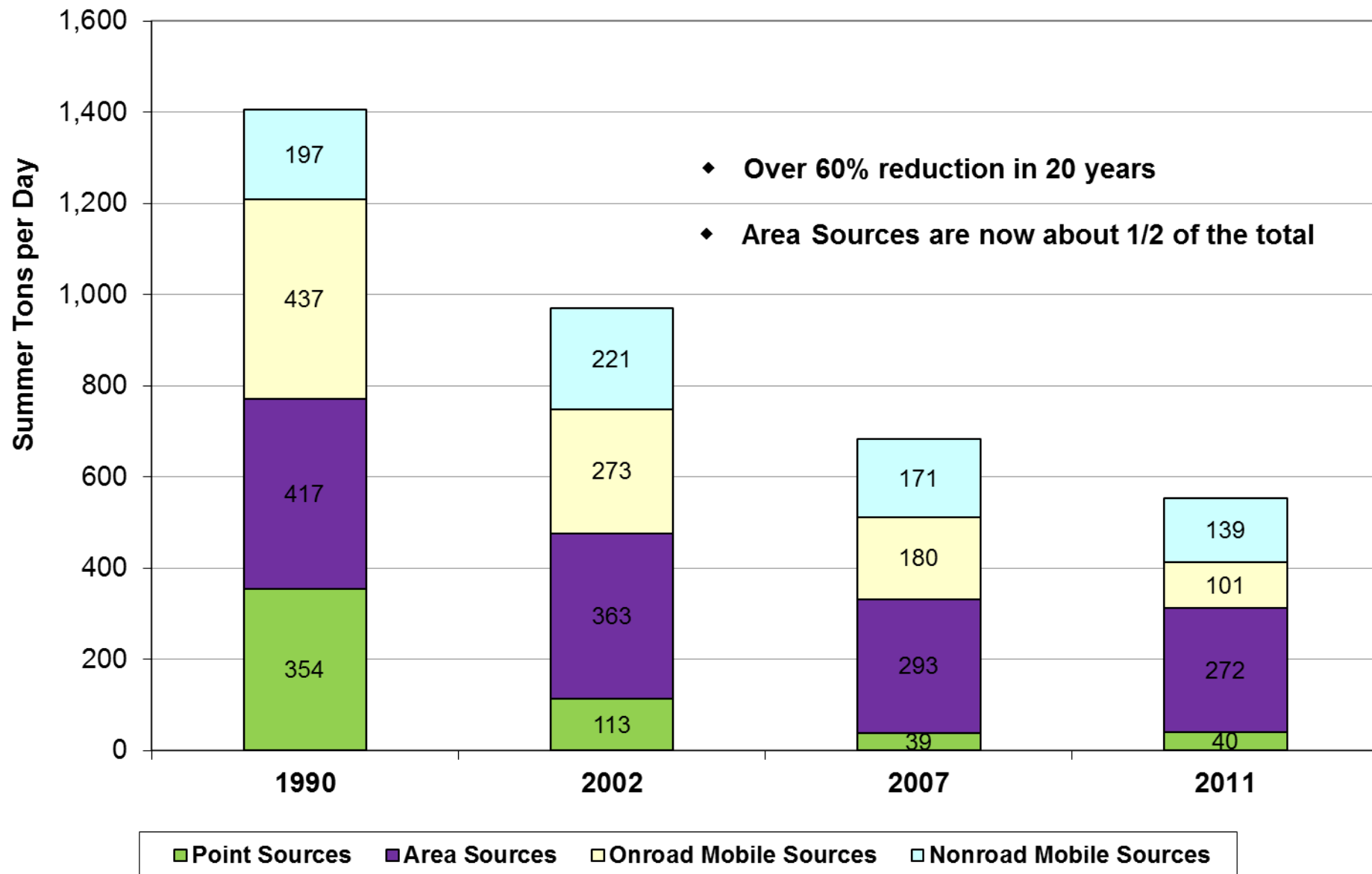
2015 Data is Preliminary as of 10/22/2015



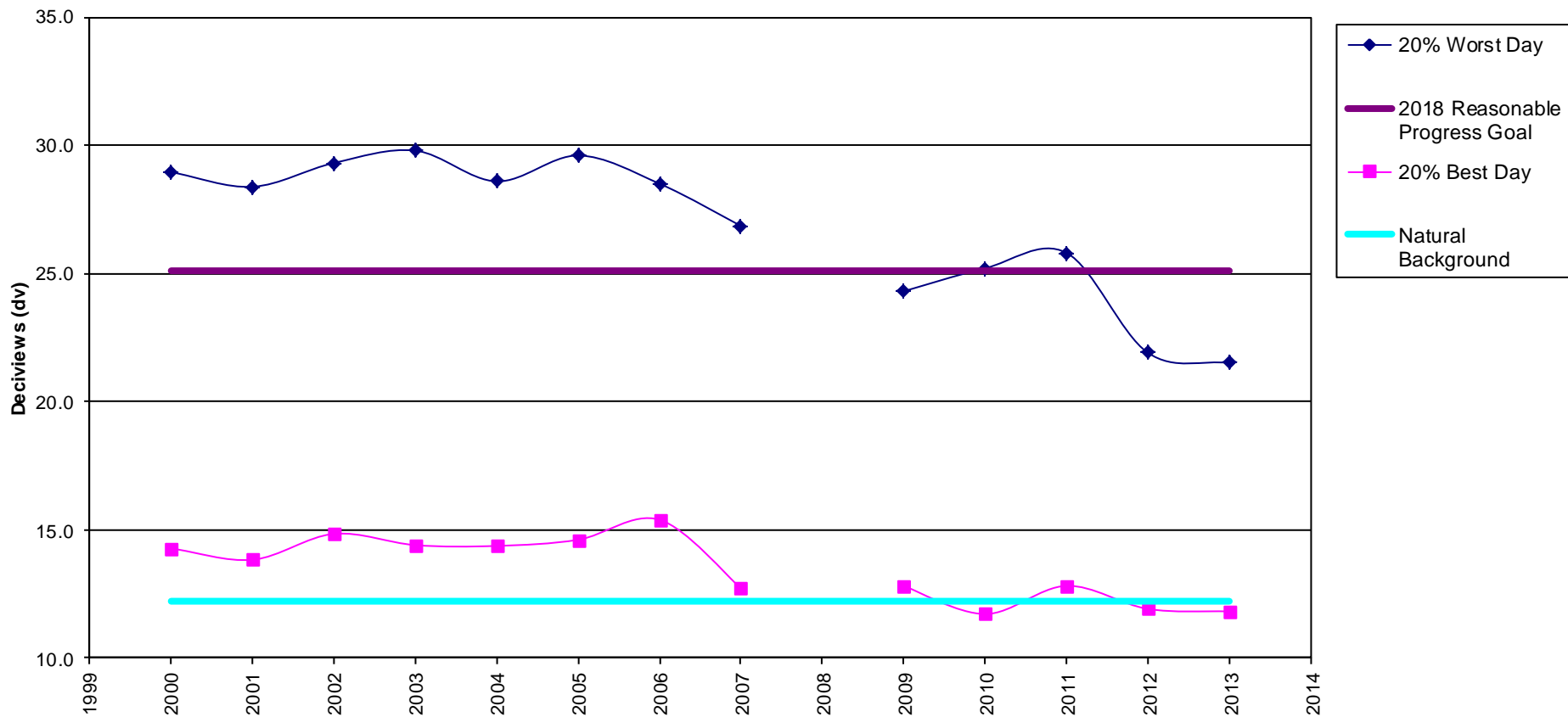
New Jersey Statewide Oxides of Nitrogen Emission Trend 1990-2011



New Jersey Statewide Volatile Organic Compound Emission Trend 1990-2011



Visibility Levels At The Brigantine Wilderness Area 2000 to 2013



Air Monitoring Highlights:

Community Science Air Sampling Projects

2012-2015

Black Carbon (Soot)

- Student Air Monitoring Project Lesson in Elizabeth (**SAMPLE**)
- South Ward Air Monitoring (**SWAM**)
- Student Air Monitoring Project (**SAMP**)

VOCs

- Citizen Air Monitoring Project in Ironbound, Newark (**CAMPIN**)

Ozone

- Student Monitoring for Ozone at Ground-Level (SMOG) – Similar to SAMPLE, but focusing on ozone instead of black carbon

New Community Science Projects

- **Follow-Up Air Sampling Toxics During Odors in Ironbound, Newark (FASTDOIN)** - Community members will again sample for VOCs, this time in response to odors (to be completed by fall 2016)

Ozone Outreach Campaign




www.cleanair.nj.gov

Governor Chris Christie • Lt. Governor Kim Guadagno
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Search

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP Home | About DEP | Index by Topic | Programs/Units | DEP Online




Home
How is Smog Formed?
Health & Environmental Effects
Federal Ozone Air Quality Standards
What's Your Air Quality Today?
What can you do?
Outreach Materials
Need More Information?
E-mail List
Upcoming Events
Contact Us

The CleanAirNJ campaign is intended to educate the public about NJ's most persistent air pollution problem, ground-level ozone (also known as smog); and the role of the public in reducing the emissions that cause smog. The campaign also provides information on making safe choices during days with high ozone concentrations.

Since vehicles contribute to more than half of the smog formed in New Jersey, an important part of this effort is encouraging smog-reducing practices such as reducing emissions from driving (via use of public transportation, car-pooling, and purchase of efficient cars).

How is Smog Created?

Ground-level ozone, also known as smog, is an air pollutant known to cause a number of health effects and negatively impact air quality and the environment in the state of New Jersey. Smog is formed when oxides of nitrogen (NOx) and volatile organic compounds (VOCs) react in the presence of sunlight. Smog can irritate any set of lungs, but those with lung-related deficiencies should take extra precautions on bad ozone days. The [What's Your Air Quality Today?](#) page on this site tells you how to sign up to receive notifications and find out when your local air has reached unhealthy ozone levels.



The Division of Air Quality at the New Jersey Department of Environmental Protection is responsible for monitoring and reducing smog concentrations in New Jersey. This is accomplished with an integrated system of actions:

- Monitor existing air quality via a set of air monitors that measure current and long-term air quality parameters and determine whether NJ meets federal air quality standards. Visit www.njagidnow.net
- Estimate air emissions in the State, identify actions to reduce air pollutants and quantify how these actions will help meet federal air quality standards. Visit www.nj.gov/dep/baqp/
- Develop and implement strategies to reduce emissions from diesel and gasoline fueled vehicles and equipment. Visit www.stopthesoot.org
- Regulate and issue permits to facilities which emit air pollutants to ensure that federal air quality standards are met. Visit www.nj.gov/dep/aqpp/
- Conduct compliance and enforcement activities to ensure that facilities are complying with their air permits, and vehicles comply with idling and inspection requirements. Visit www.nj.gov/dep/enforcement/air.html

- One stop shopping for public information on smog, its impacts and actions
- Listserv for more detailed information and announcements

Kids Corner

S U M G O G U A I R E O
J Q T U V A L K M W I Z
T U R U E S M O G Q G O
N O U E B R E A T H E N
K D C I D V I J T O S E
V X K Q W U Q S T C U V
I I S N M K C L S J N U
M B R C F C D E U C L R
Q H X V A I O G W N I X
Y Q Z R E Z D I B B G O
Y G S C A R P O O L H S
Z R E M M U S C F H T S

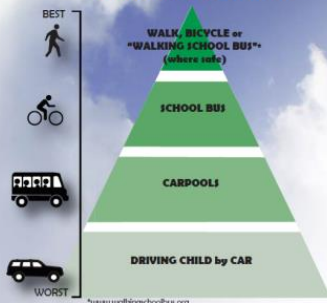
AIR BREATHE WALK
CARPOOL SMOG LUNGS
OZONE REDUCE SUNLIGHT
CARS TRUCKS SUMMER

For more information, visit
www.cleanairstat.gov
www.state.nj.us/health/epht

Clean Air NJ

Get to the top of the Clean Ride Pyramid

Helping you choose the cleanest ride to school and other activities



*www.walking-schoolbus.org

New Jersey Department of Environmental Protection
New Jersey Department of Health



NJ Health
New Jersey Department of Health

Know your options so you can help choose the cleanest way to get to school and other activities.

What can I do to reduce my exposure to ground-level ozone?

- Learn about the Air Quality Index (AQI) and find out the current level of ozone by signing up to receive Air Quality Alerts at www.enviroflash.info.
- Limit outdoor activities on moderate to unhealthy AQI days.
- Plan outdoor activities early in the morning or late in the evening, when ozone levels are lower.
- For children with asthma, follow the instructions on your Asthma Action Plan (see www.pacnj.org).

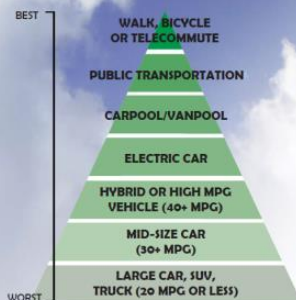
Air Quality Index (AQI) Values	Levels of Health Concerns	Recommended Actions to Take to Protect Your Health
0 - 50	Good	No health impacts are expected when air quality is in the range (green)
51 - 100	Moderate	Unusually sensitive people should consider limiting prolonged outdoor exertion when air quality is in the range (yellow)
101 - 150	Unhealthy for Sensitive Groups	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion when air quality is in the range (orange)
151 - 200	Unhealthy	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion, and everyone else, especially children, should limit prolonged outdoor exertion, when air quality is in the range (red)

For more information, visit
www.cleanairstat.gov
www.state.nj.us/health/epht

Clean Air NJ

Get to the top of the Clean Ride Pyramid

Helping you choose the cleanest way to travel



Choose the smallest, most fuel-efficient vehicle that meets your needs.

New Jersey Department of Environmental Protection
New Jersey Department of Health



NJ Health
New Jersey Department of Health

HEALTH EFFECTS OF OZONE

IMMEDIATE EFFECTS

- Increased difficulty breathing
- Inflammation of lung lining
- Impairment of the lung's natural defenses
- Increased episodes of respiratory infections, including pneumonia
- Temporary reduction of lung function (even in healthy adults)
- Increased hospital admissions and emergency room visits
- Excess mucus production
- Increased potential for premature deaths, specifically in people with cardiovascular and respiratory disease

LONG-TERM EFFECTS

- Irreversible changes in lung structure
- Permanent reduction in lung function
- Increased risk of chronic bronchitis and emphysema

WHO'S AT RISK?

- People with unusual susceptibility to ozone
- People with pre-existing lung disease (such as asthma, emphysema and chronic bronchitis)
- Children and young adults who are active outdoors
- The elderly who are active outdoors or who have pre-existing lung disease

FOR UP-TO-DATE 24 HOUR LOCAL AIR QUALITY INFORMATION CONTACT

The New Jersey Department of Environmental Protection:
www.njaqinow.net/



For more information on CleanAirNJ, visit
www.cleanairstat.gov

New Jersey Department of Health
Environmental Public Health Tracking Program
www.state.nj.us/health/epht



Clean Air NJ



SMOG AND YOUR HEALTH

Do Your Lungs a Favor

New Jersey Department of Environmental Protection
New Jersey Department of Health

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LOCAL AIR QUALITY CONDITIONS AND FORECASTS

Zip Code: State:

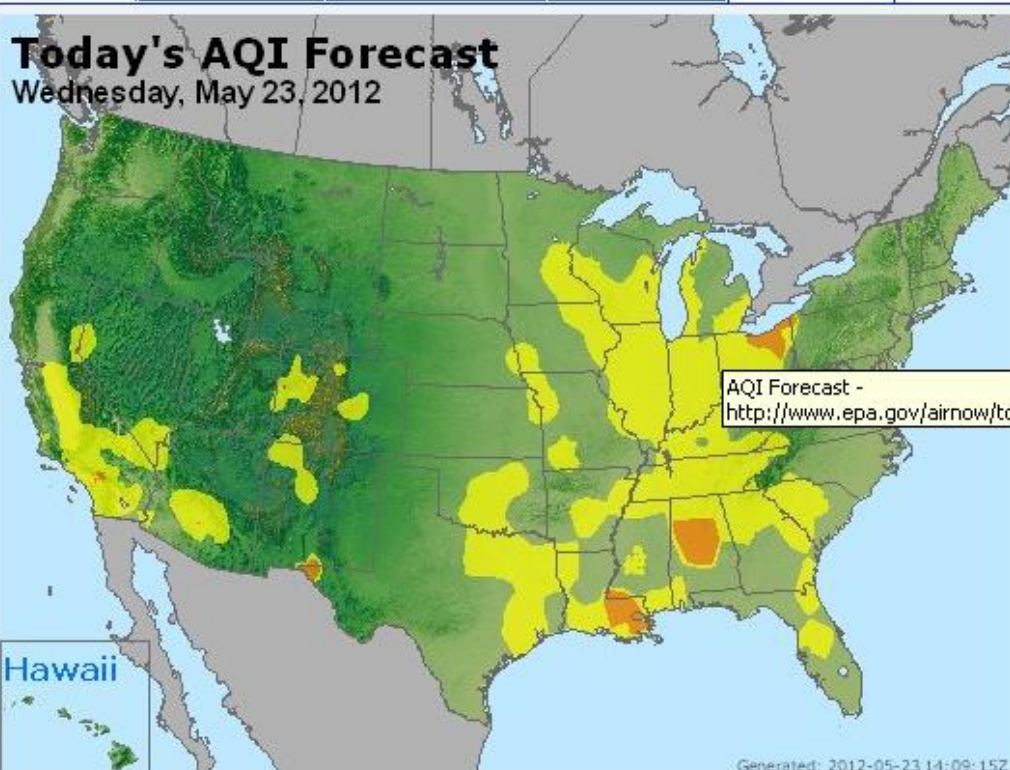
[U.S. Air Quality Summary \(text\)](#)

Click on a state for more information

[Forecast](#) [Current AQI](#) [AQI Animation](#) [Current Ozone](#) [Current PM_{2.5}](#)

Today's AQI Forecast

Wednesday, May 23, 2012



AQI Forecast -
http://www.epa.gov/airnow/today/forecast_aqi_20120523_usa.jpg

Announcements

5/23/12: AIRNow is experiencing technical difficulties.

5/22/12: [Kids' Blog about the School Flag Program](#)

5/8/12: [School Flag Program: Managing Asthma Through Air Quality Awareness](#)

4/25/12: Compete with other EnviroFlash partner agencies in the [ENVIROFLASH CHALLENGE ~ April 30 - May 31, 2012](#)

Free AIRNow EnviroFlash Android and iPhone Apps Now Available. [Download Android App](#) | [Download iPhone App](#)

[more announcements](#)

News Items

Email Notification



EnviroFlash provides air quality information such as forecasts and action day notifications via email for your area of interest. [Sign-Up](#)

[Follow Us on Twitter](#)

[AQI in Google Earth](#)

22

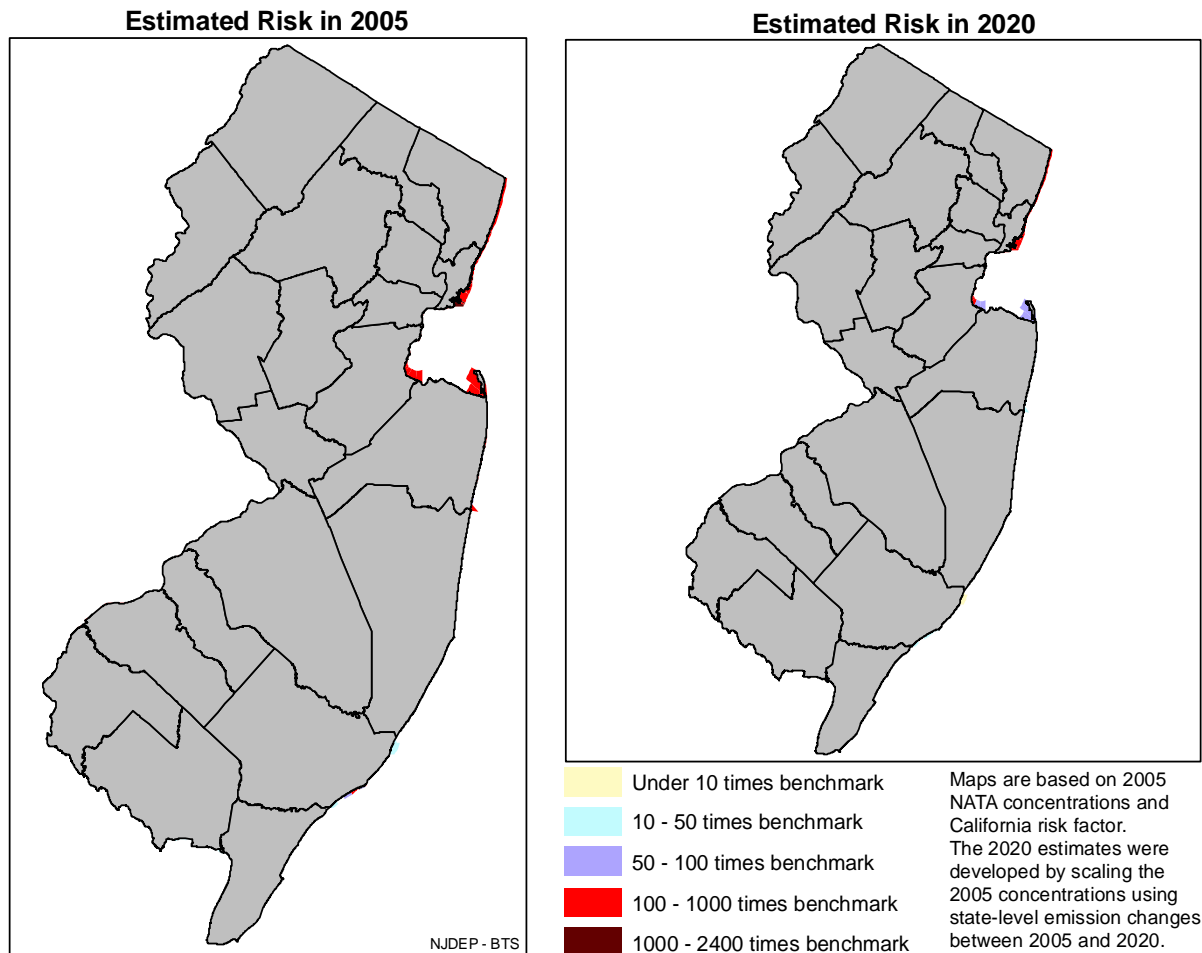
Stop at the Click

- Phase I – State refueling stations and personnel
- Phase II – Private funding for non-retail gasoline facility messaging
- Phase III – Partnering with gasoline retailers to educate gas station attendants.



Bureau of Mobile Sources Highlights

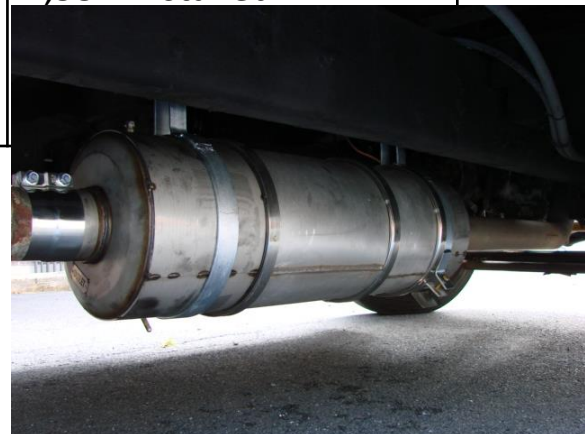
Estimated Diesel Particulate Risk in New Jersey from Mobile Sources



NJDEP, November 2012

Mandatory Diesel Retrofits (September 2015)

Category	Start Date	Est. Pop.	Status
Solid Waste Vehicles	May 2008	1,400	1,334 installed.
Public and private school buses	2008	7,512 (includes 15 year law)	7,428 installed.
NJ Transit buses	2010	800	750 installed.
Private commercial buses	2010	1,148	1,084 installed
Public utility vehicles and equipment	Fall 2011	4,500	1,994 installed



Reducing emissions from construction equipment

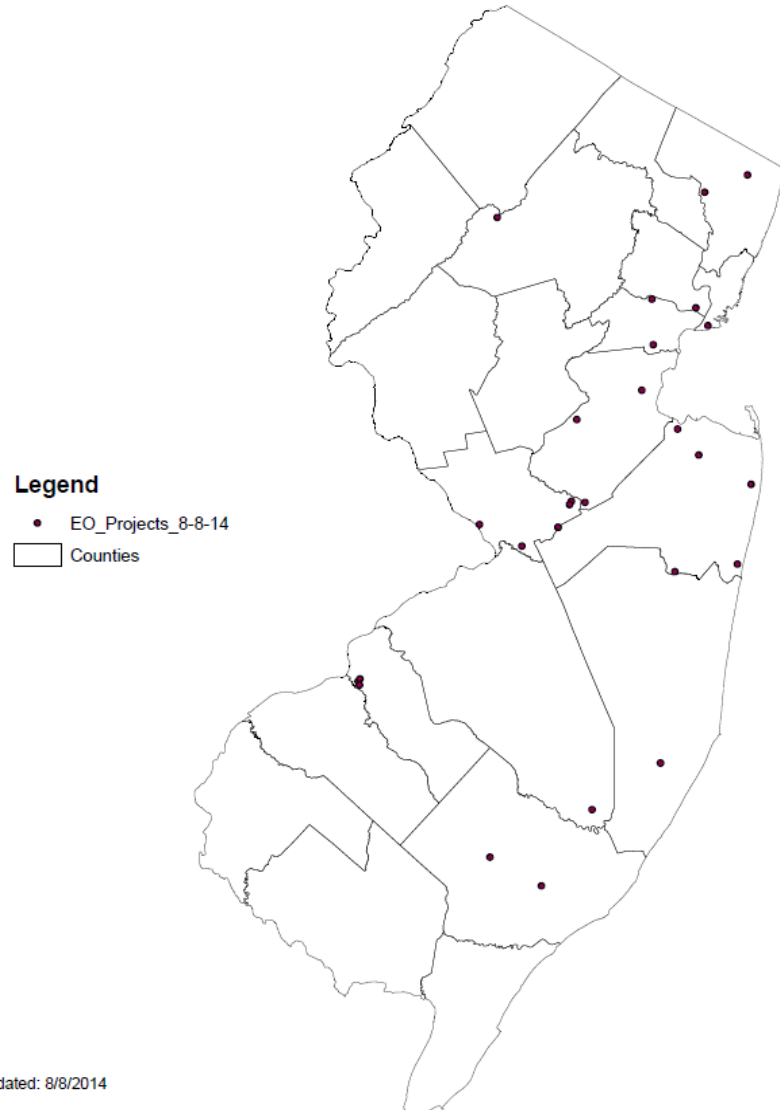
- Governor's Executive Order #60 required nonroad retrofits on DOT construction projects;
- 175 retrofits over 3 years 2011-2014
- Retrofit costs were fully funded
- 5 TPY of PM emission reductions



Location of 175 retrofits

18 EO projects provided direct air quality benefits to:

- 65,000 people
- 36 childcare centers
- 28 schools
- 5 nursing homes
- 1 hospital



Updated: 8/8/2014

Vehicle Inspection and Maintenance Programs

- Current contract ends 2016. RFP and rule changes for new program to be released Fall 2015.



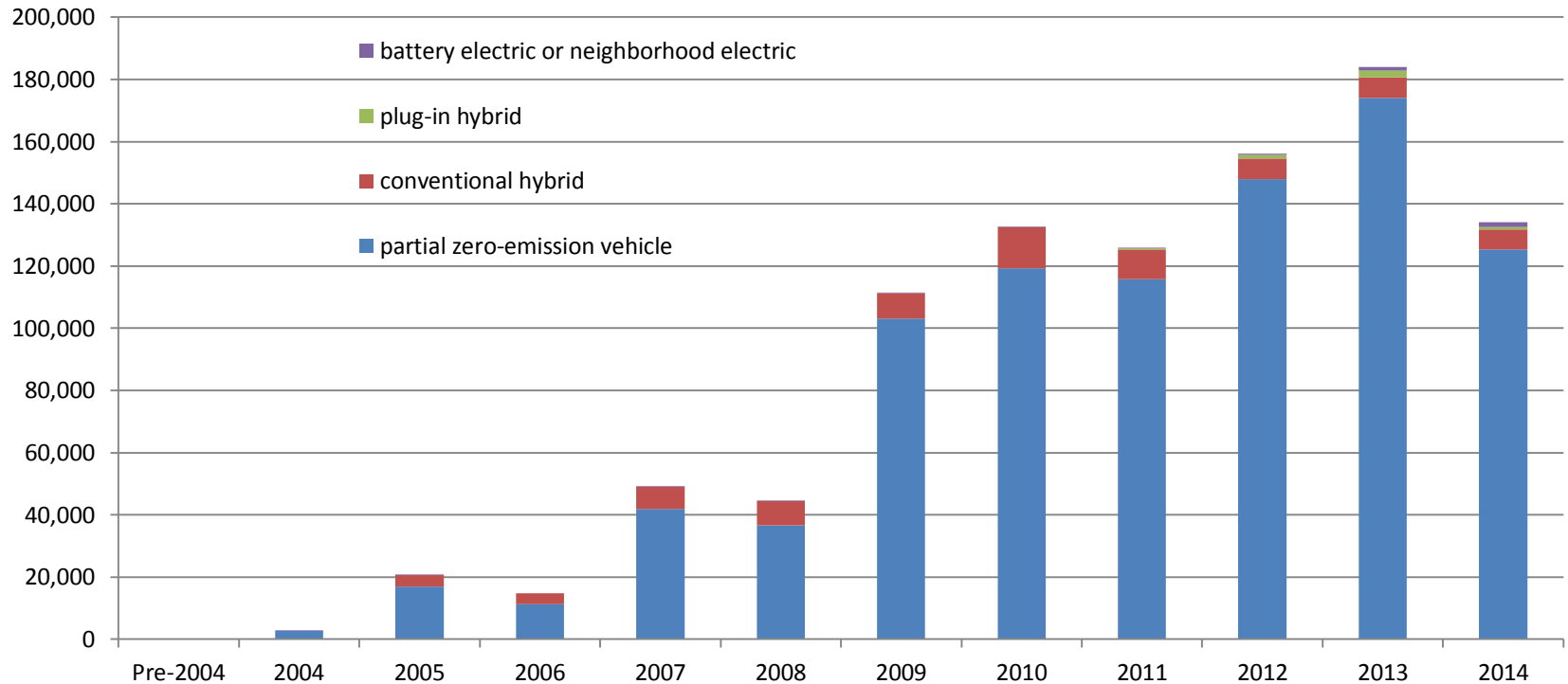
Electric Vehicles

- Zero Emission Vehicle sales tax exemption
- Streamlined permitting for home charging
- 136 public access charging stations in place as of October 2015
- Pursuing incentives to recognize and provide grants to support workplace charging



Courtesy Atlantic County Utilities Authority

Clean vehicles delivered for sale in NJ



Bureau of Stationary Sources Highlights

Stay tuned!



Bureau of Evaluation and Planning Highlights

- Stay tuned!



Challenges

1. Ozone – exceeds current NAAQS
 - 2015 attainment date for 75ppb NAAQS
 - 2023 (?) attainment date for new NAAQS 70ppb
 - Addressing transport

2. Air Toxics – Risks still high
 - Diesel dominates risk
 - New NATA data coming out soon
 - Local strategies important