OTC/MANE-VU Fall Meeting

November 15th, 2012

Washington, DC

Mobile Source Committee Update





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Overview

1. Mobile Sources Cause 40-60% of the Ozone in the Eastern US
2. State Authority: Focus on In-Use Fleet
3. Low Sulfur Gasoline
4. Committee Work
    1. Success Stories
    2. Aftermarket Catalytic Converters
    3. Diesel Inspections and Maintenance
5. Federal Measures

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USEPA Analysis: Approach

2011 USEPA Analysis

Used the CAMx Model

Modeling projected from a 2002 base to 2016

- Includes benefits from the “proposed transport rule”

Contributions were calculated for monitors > 70 ppb

Caveats:

- Modeling does not reflect latest base year and projected emissions inventories

Conclusion

- Modeling is dated, but informative

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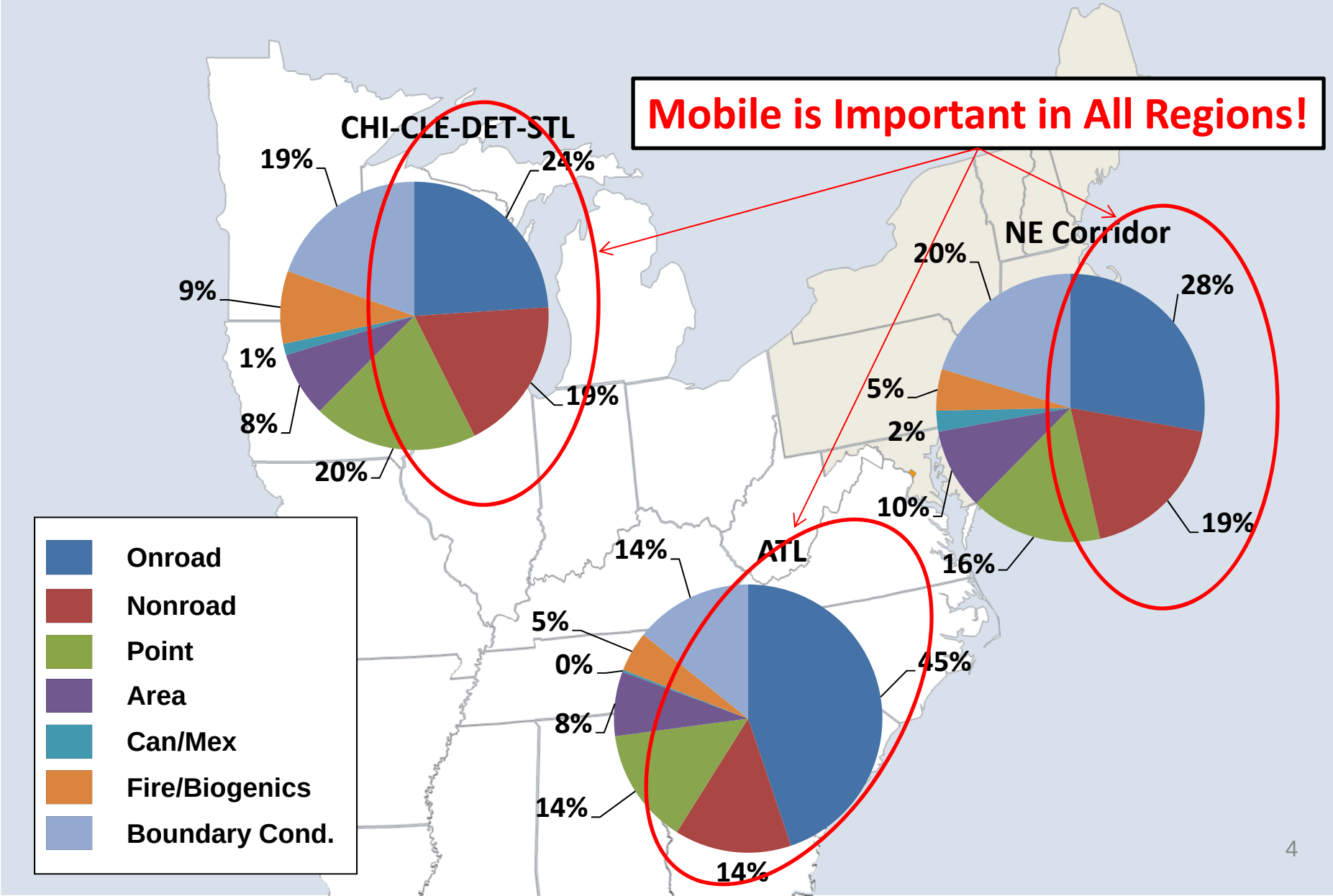
2011 USEPA Analysis: Percent Contribution Based on US Emissions



What Can OTC States Do?

	EPA	CA	OTC States
New Onroad Vehicle Standards	✓	✓	**CALEV and ZEV**
Fuels for Onroad vehicles	✓	✓	**Limited**
In-Use Onroad Vehicles		✓	▪I/M ▪Aftermarket Parts ▪Idling ▪Fleet Turnover ▪VMT

What Can OTC States Do?

	EPA	CA	OTC States
New Nonroad Equipment / Engine Standards			**Adopt the CA Program e.g. Spark Ignition Engines >= 50 hp**
Fuels for Nonroad Use			**Limited**
In-Use Nonroad Equipment / Engines			▪I/M ▪Idling ▪Fleet Turnover ▪Repowering

Lower Sulfur Gasoline

Lowering sulfur in gasoline allows pollution controls on cars and trucks to operate more effectively

Will significantly reduce NO_X and other emissions from all gasoline-powered vehicles by limiting "NO_X creep" associated with sulfur buildups in catalyst

Emission reductions from the in-use fleet would be achieved concurrent with the introduction of the cleaner fuel, without the need for fleet turnover

Cost effective way to achieve large reductions inside and outside of the OTR

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NESCAUM

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Success Stories

Goal: A source for OTC states of successful projects to reduce emissions from mobile sources

Though PM focused, many projects provide NO_X benefits

- Projects with biggest NO_X benefits:
  - Tugboat repowering
  - Locomotive repowering and Idling reduction
  - Vehicle Idling

Funding Sources:

- DERA (Diesel Emissions Reduction Act)
- ARRA (American Recovery & Reinvestment Act)

Voluntary or Required Actions

- General Conformity
- VALE (Voluntary Airport Low Emissions)
- Port Plan

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Aftermarket Catalyst Recommendation

EPA's policy was set in 1986 and has not been updated to reflect improvements in technologies & emission standards

OTC submitted a finalized recommendation for an updated catalyst program to EPA in April, 2011

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Aftermarket Catalyst White Paper

Goal: To improve the emission benefit analysis of the catalyst program in the OTR.

Process:

- I/M program data from 6 OTR States
- Developed model to estimate for entire OTR
- Used test data from MECA to estimate emission benefits

Calculated Emission Reductions:

	NO_X	NMHC	CO
Annual (tpy)	10,000	2,000	27,000
Daily (tpd)	30	6	74

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Diesel I/M

Lead: NESCAUM Heavy Duty Workgroup

Goal: Proposal to USEPA for SIP Credit for I/M Programs

Results in Emission Reductions of:

- Oxides of Nitrogen (NO_X)
- Fine Particulate Matter ($PM_{2.5}$)

Methodology:

- MOVES includes deterioration
- Deterioration mitigated through maintenance and deterrence through I/M
- Translates to emissions benefits

Activities:

- Gathered & analyzed studies that quantify effect of repairs
- Developed white paper
- Working with OTAQ
- Determining if additional data is needed

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Status of OTC Federal Measure Asks

OTC Request	Action	Status
Mar 2009	Ships - Emission Control Area	✓
June 2009	Catalyst Replacements (April 2011 – OTC Program Design Recommendation)	✗
Nov 2009	Onroad Mobile Gasoline and Diesel Sources (November 2010 Statement on Tier 3)	✗
	Locomotive Engines	½
	Marine Engines	½

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Status of Federal Measure Commitments

Date	Action	Status
Dec 2010	RFS2 Anti-Backsliding	✗
2011	E15 Partial Waiver Decision MY 2001-2006 Motor Vehicles	✓
2012	Heavy Duty Truck Greenhouse Gas Standards	✓
2014	Clean Vehicles 75 ppb Ozone NAAQS Regulatory Impact Analysis	✗

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Emission Control Areas (ECA)

USEPA & International Maritime Organization (IMO) Action

NO_X and SO_2 requirements on ship near shore

- 2015: 1000 ppm Maximum Sulfur Fuel
- 2016: New Engine Standards – Tier 3 (80% reduction)
- 2010: Existing Engines – 15-20% NO_X reductions

Cruise line industry is seeking exemption to the ECA regulation

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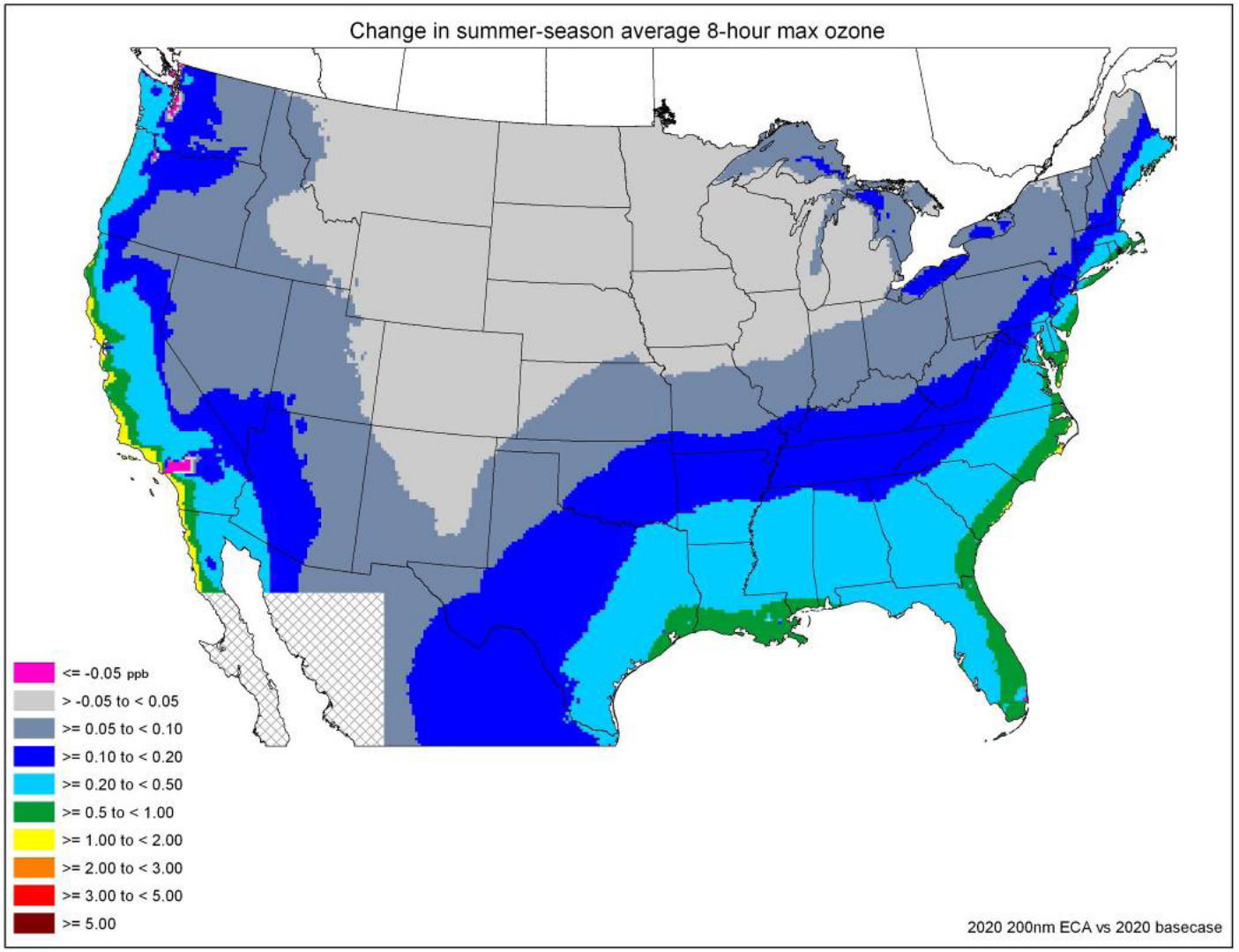
Improvement in Summertime Average 8-hour Average Ozone Concentrations in 2020 Resulting from the Proposed Emission Control Area



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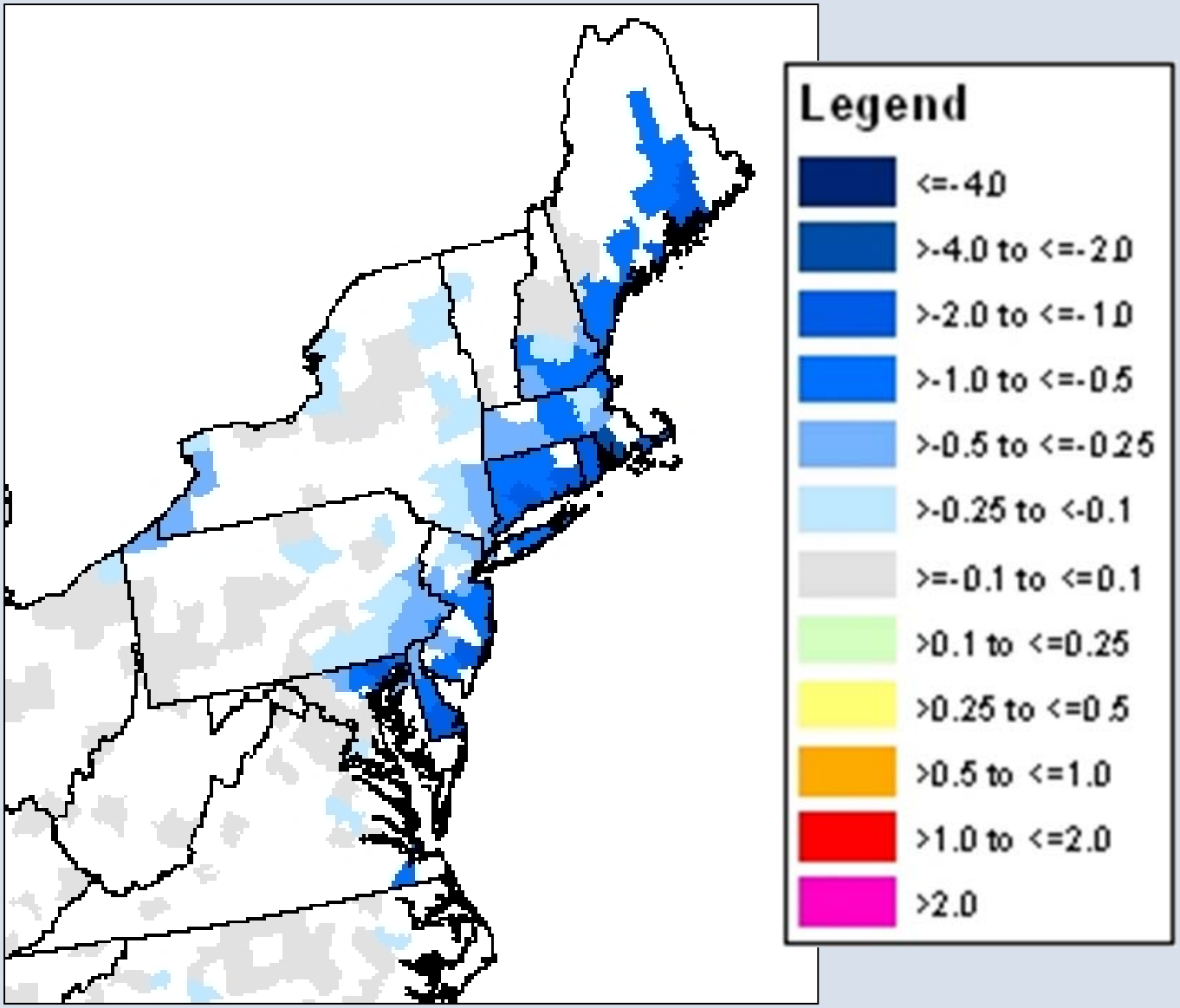
Emission Control Area – Ozone Benefits in 2020



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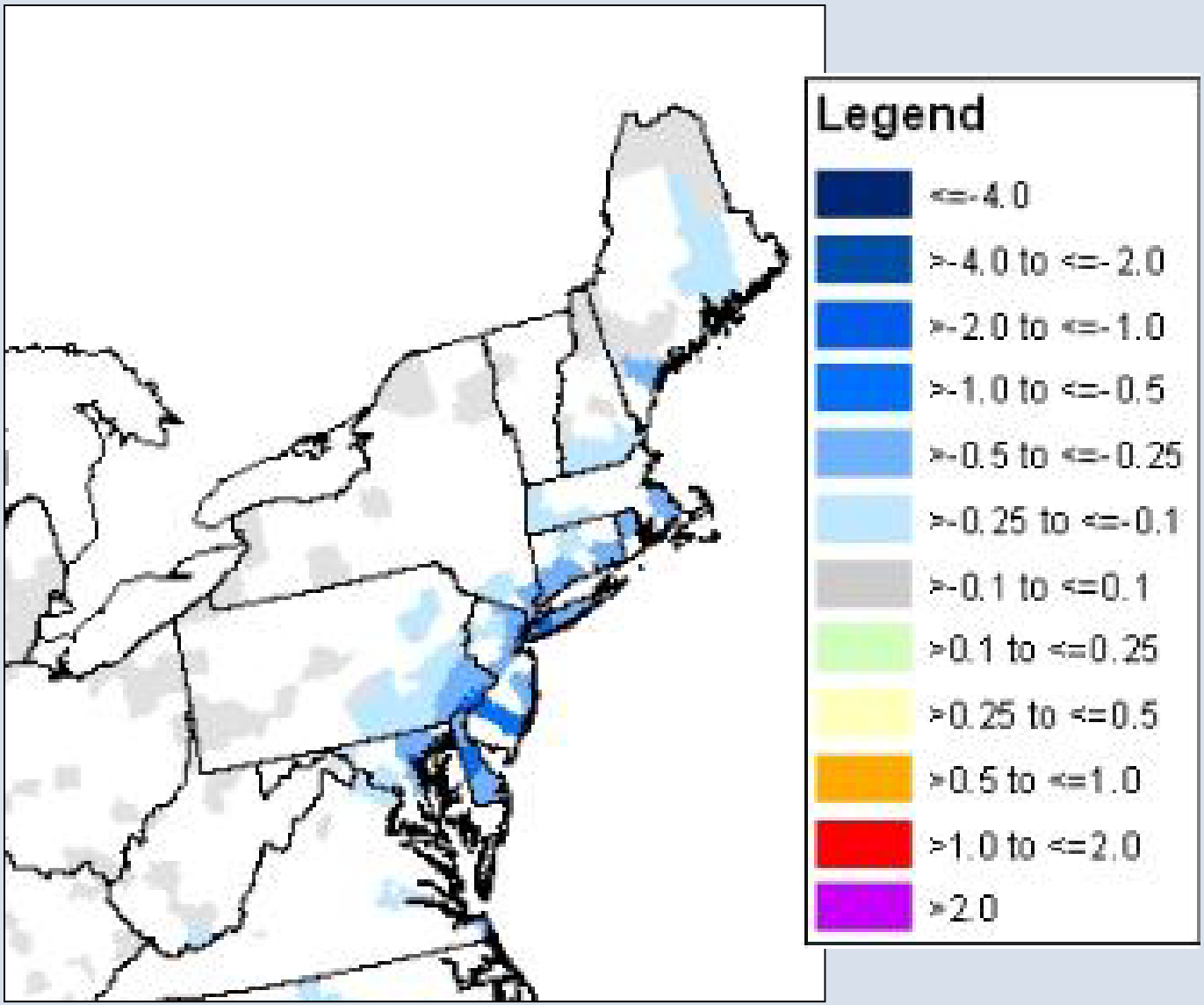
Emission Control Area – PM Benefits in 2020



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Summary

Mobile Sources will contribute to a large portion of the air pollution problem in the OTR

OTC States are limited by statute as to how they can address mobile source pollutions

Several actions have the potential to decrease emissions substantially

- Low Sulfur Gasoline
- Aftermarket Catalytic Converter Program Improvements

We must push forward to look for reductions through other improved Federal programs

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