

OTC Spring Meeting

June 6, 2017

Saratoga Springs, New York

Mobile Source Committee Update



Committee Charge

- Goal: To identify potential strategies for consideration at the 2017 Fall Meeting
- Strategies Include:
 1. Provide a Report on Aftermarket Replacement Catalysts
 2. Develop a Recommendation on the Top 3 Mobile GN SIP Strategies
 3. Develop Recommendations on Regional Strategies to Reduce Idling
 4. Report on EPA's Progress on National Strategies Including MSTRS Port Recommendations and Heavy-duty Diesel Vehicle NO_x Standards
 5. Report on State Progress on the VW settlement, SmartWay[®], and EPA's Ports Initiative
 6. Additional Transportation Strategies

Aftermarket: Recent Updates

“Green Catalyst” Proposal

- AutoCare updated their program proposal which addresses OTC’s concerns and improves on other areas
- Areas of discussion in Committee
 - Securing EPA support (it wouldn’t be nationally regulated)
 - Will it work with the OTC model rule (would require state regulation or legislation)?
 - Is there enough third party oversight without EPA?

EPA

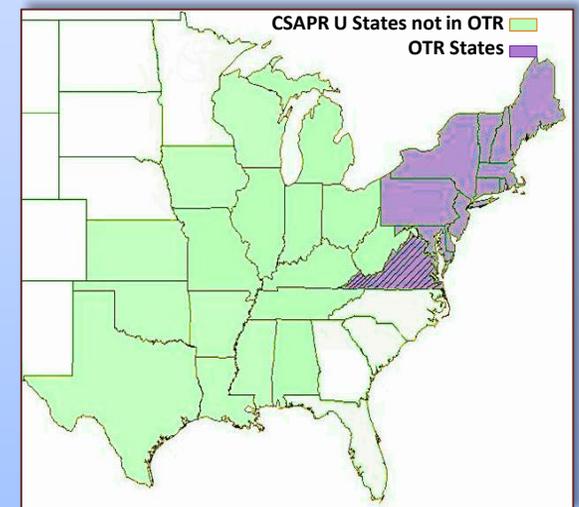
- Unsure what direction EPA is taking at this point
 - How does current administration view voluntary options?
 - Do not know if EPA has/will revoke the 1986 policy

GN Strategies Workgroup

Goal: Develop a Recommendation on the Top 3 Mobile GN SIP Strategies

Progress to Date in Fulfilling Charge:

- Identified three NO_x control strategies to focus on:
 - Heavy Duty Diesel Inspection and Maintenance (I&M)
 - Aftermarket Parts
 - Anti-Idling
- Identified geography to focus on: states within OTC + those in CSAPR Update
- Starting to collect data on
 - Total NO_x emissions,
 - Potential emissions reduction,
 - Control measures (on the books & on the way state and federal regulations; voluntary measures),
 - Emission limits,
 - Cost of implementation,
 - Ease of implementation, etc.



Regional Idling Reduction Recommendations

Reducing unnecessary idling could lead to large emission reductions

OTC has developed several tools for the states

- Nonroad Idling Model Rule
- Idling Best Practices Document

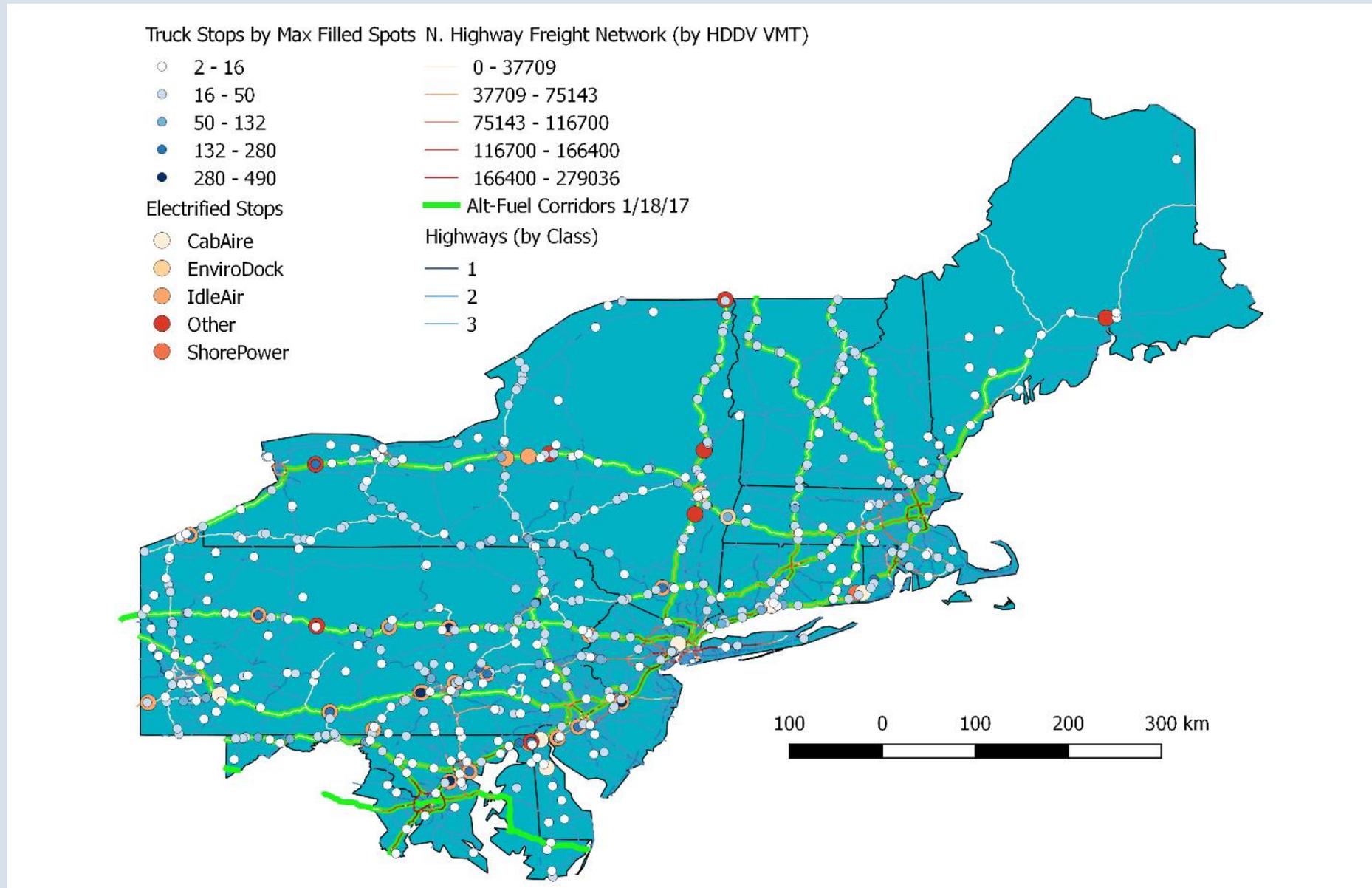
MSC is considering several potential options:

- Truck Stop Electrification (TSE) expansion
- Electrified Reefers (eTRU)
- Freight Idling
- Nonroad Idling
- Idling reduction commitments
- Regional education efforts
- Regional enforcement strategy

Successful strategies will need to borrow from several options



Idling Reduction: Truck Stop Electrification (TSE)



Idling Reduction: Truck Stop Electrification (TSE)

TSE suffers currently from multiple hurdles to adoption

- Small network with lots of gaps
- Existing spaces blocked by idling trucks
- Truckers can't guarantee a space is available
- Issues with who is saving money from fuel reductions vs paying for electricity



Draft Recommendations

- ***Fill in gaps along major corridors & require new truck stops electrify through code***
- ***Enforce only electric use at electrified spaces***
- ***System to reserve electric spaces***
- ***Requiring gas cards be accepted at electrification stops***

Idling Reduction: Electrified Reefer Trucks (eTRU)

- Approximately 65,000 TRUs (reefers) in the OTR
- Many TRUs operate at a home base and make deliveries
- Can idle 1-12 hours daily, though on average ~ 4 hours
- If electrification not available, idling is needed for food safety
- Since most idling occurs at home base easier to overcome hurdles with electrification:
 - Known capacity needed at home base
 - Will not need to deal with outside trucks
 - Company owns the fleet and reaps the savings
- Draft Recommendations
 - ***Spread awareness of savings with fleet owners***
 - ***Ensure consistent technology***
 - ***Stop overnight and peak food demand (e.g., 4th of July, Thanksgiving) idling***
 - ***Follow CARBs regulatory development that would limit TRUs to 5 minutes by 2025***



Idling Reduction: Locomotives

Idling Reduction Rules

- MA & RI have locomotive anti-idling regulations
- Delaware is attempting to regulate idling from locomotives as well
 - Surface Transportation Board (STB) claims preemption and a suit is in process
- ***Potentially recommend waiting until court case resolves itself***

Technology based solutions

- ***Potentially recommend looking at cost sharing options to introduce idling reduction technologies***



Idling Reduction: Regional Enforcement

Education of enforcement officials is important since they often aren't aware of idling requirements

- Simplifying and standardizing exemptions could assist regional education
- Delaware is attempting a process that could serve as a model

CARB has begin using GPS tracking and an electric fence technology to determine if vehicles are idling in specific areas

Draft Recommendations

- ***Host a regional workgroup with various enforcement partners***
- ***Ensure environmental staff can enforce idling regulations***
- ***Enforce idling restrictions at electrified truck stops***
- ***Begin a pilot project to use GPS tracking to reduce idling***

Idling Reduction: Regional Education

Education of owners/operator important as well

- Focusing on cost savings might be more important than air pollution
- For instance educate TRU fleet owners about cost savings of electrifications

Draft Recommendations

- ***Focus education on issues that affect truck drivers***
- ***Rely on existing educational materials that were successful***
- ***Communicate with media truckers use***
- ***Work with trade groups to increase outreach***

Idling Reduction: Other Areas

Port Strategies

- ***Potentially recommend following EPA's recommendations for reducing idling from their ports assessments***

Idling Reduction Commitments

- The challenges with adequately measuring would likely hamper this policy
- ***Potentially recommend not pursuing this option***

Idling Reduction: Stakeholder Conversations

Had Conversations With:

- Idleair (TSE installer)
- Shorepower (eTRU installer)
- CleanFuture (TSE/eTRU consultant)
- M J Bradley (Freight idling)
- I-95 Corridor Coalition
- CARB

Planning Conversations With:

- Owner Operators Independent Drivers Association (OOIDA)
- American Truckers Association (ATA)
- Association of American Railroads (AAR)
- National Association of Truck Stop Operators (NATSO)

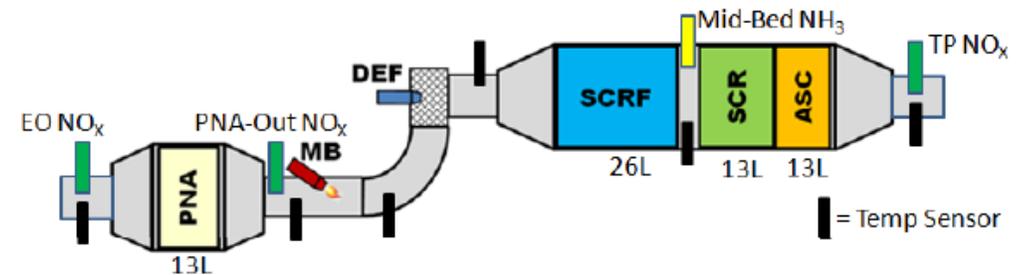
Meeting Ultra-low Heavy-Duty Standards

OTC has been following Southwest Research Institute's testing of Heavy-Duty Diesel Engines

First Test to Demonstrate Ultra-low HDDEs Complete

- 4 primary and 4 vocation test cycles
- European turbo compound engine (Volvo)
- Various emission control technologies

Final System Configuration



Results

- 0.04 g/bhp appears to be achievable
- 0.02 g/bhp needs more research
- Cost in the same range as current systems

Next Steps for Tests

- Test with an American engine (Cummins)
- Onroad tests
- Determine more precise system costs

CARB Locomotive Petition

On April 14, 2017 CARB petitioned EPA to lower emissions from locomotive engines from Tier 4 levels:

NO_x

- 66% reduction

PM_{2.5}

- 85% reduction

Achievable with existing controls currently used by heavy-duty diesel trucks



Success Stories

Goal: Update for OTC states to see successful projects to reduce emissions from mobile sources (and inform use of VW funds)

- First published 2012, updated 2014
- New version available on otcair.org
- Projects involve Marine, Rail, Bus, and Truck categories
- Projects can be PM focused, many projects provide NO_x benefits
- Funding sources used for projects:

DERA (Diesel
Emissions
Reduction Act)

ARRA (American
Recovery &
Reinvestment Act)

CMAQ (Congestion
Mitigation and Air
Quality)

SEP (Supplemental
Environmental
Programs)

Questions and Discussion



Christine Kirby

MassDEP

OTC Mobile Source Committee Chair

christine.kirby@state.ma.us