

NIRPC's Roles in Emissions Testing

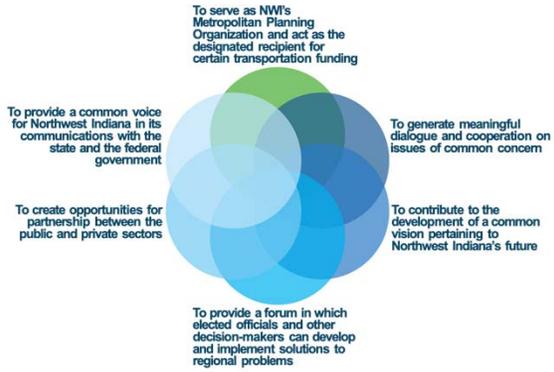


Overview of NIRPC's Roles in Emissions Testing

COUNCIL OF GOVERNMENTS

METROPOLITAN PLANNING ORGANIZATION

NIRPC's Role in the Region



Overview of NIRPC's Roles in Emissions Testing

Council of Governments

1. Convener of Issues of Regional Importance



Role 5: Convener on Issues of Regional Importance

Diverse Issues of regional importance
NIRPC Commissioners have recently
convened around include:

- Shoreline issues
- Railroad at-grade crossing blockages
- Environmental justice impacts due to the Cline Avenue Bridge closure
- Vehicle Emissions Testing (why you are here today!)



Overview of NIRPC's Roles in Emissions Testing

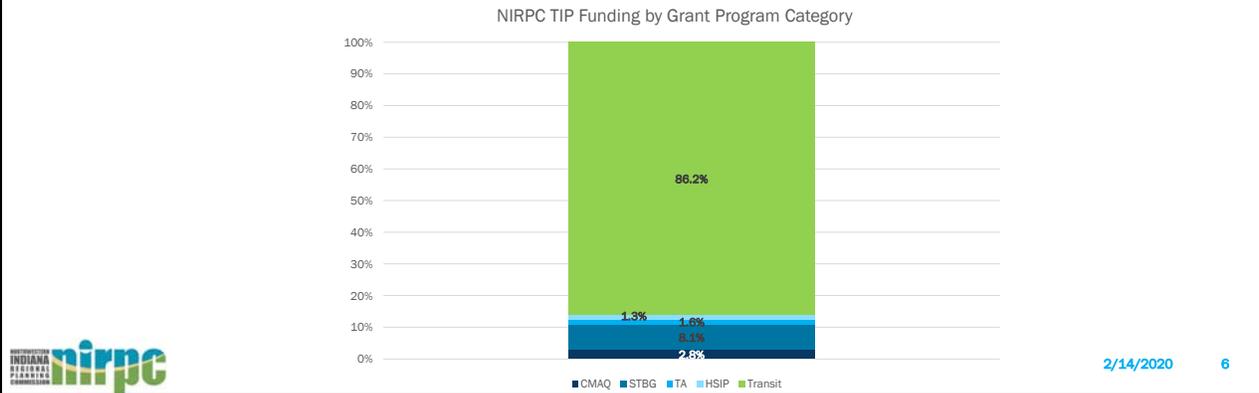
Metropolitan Planning Organization

1. Plan and Program Transportation Projects in the Region
2. Leader in Demonstrating Transportation Conformity in the Region
3. Key Stakeholder in Interagency Consultation Group (ICG) on Air Quality
4. Key Coordinator of IDEM Advisory Committee on NWI Transportation Control Measures (TCMs) and other State Implementation Plan (SIP) Control Measures

Role 1: Plan and Program Projects in the Region

NIRPC administers over \$1.5 billion in funding for transportation projects in the 2020-2024 period through the 2020-2024 Transportation Improvement Program (TIP)

TIP Includes just over \$40 million in funding for the Congestion Mitigation Air Quality (CMAQ) program, a program expressly for projects that quantitatively reduce air emissions



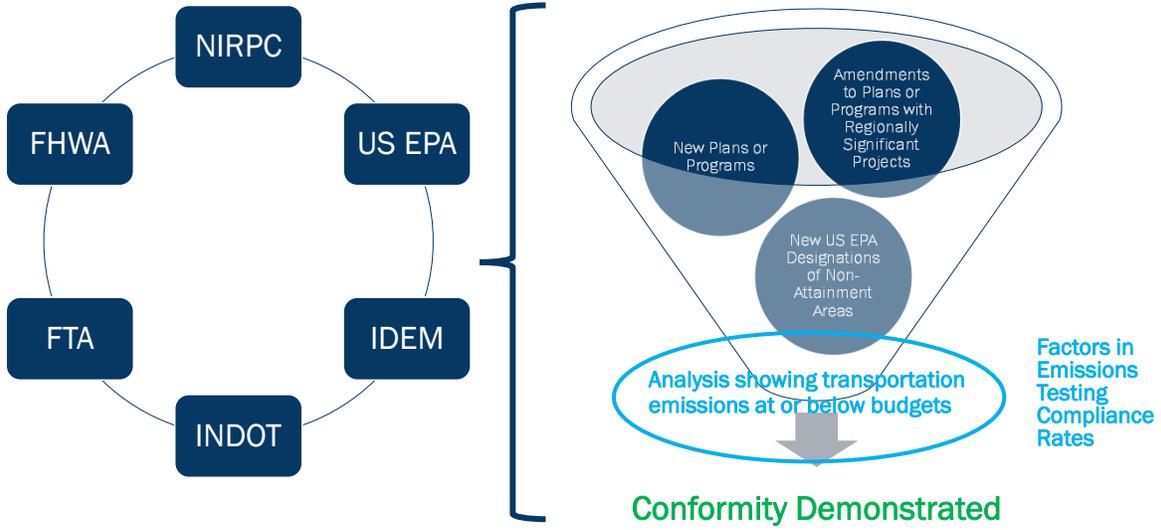
Rtip.nirpc.org for details

Lake and Porter annual obligation authority per year

Highway \$31 M

Transit Non-Rail \$850K

Role 2: Leader in Demonstration Transportation Conformity



What Does Transportation Conformity Mean?

Transportation Conformity means that NIRPC must show, by using approved computer models, that investments in the transportation system do not exceed the emission “budgets” calculated in the State Implementation Plan.

The MOVES model takes into account

- **NWI vehicle mix using registration data from the BMV**
 - VEHICLE EMISSION TESTING means that our model gets to assume that all the vehicles in the region are meeting their manufacturer certified emission rates.
- **NWI traffic and travel patterns**
 - Travel patterns collected by surveys of region residents
 - Traffic counts are measured
 - Travel time data to identify congested roadways
 - A simulation of our travel network



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CAA Amends 1990, Transportation Conformity regulations 1993 with many amendments

Conformity to the purpose of the SIP means Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funding and approvals are given to highway and transit activities that will not cause new air quality violations, worsen existing air quality violations, or delay timely attainment of the relevant air quality standard, or any interim milestone.

What Does Transportation Conformity Mean?

Transportation Conformity REQUIREMENT means that NIRPC must show, by using approved computer models, that our transportation system in total does not exceed the emission budgets assigned to on-road mobile sources

- NIRPC also must show that we will continue to meet emission “budgets” assigned to Lake and Porter county in future years, projecting population and traffic changes and new transportation projects impacting congestion or emissions.
- IF the model does not show CONFORMITY with these budgets, our transportation projects are frozen.
- The gas taxes we all pay at the pump will not be able to fund local road, active transportation, train, and bus projects our local governments rely on .



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The Emission Budget is like a pollution diet for the region. This diet proportions how much of each critical pollutant is allowed from different sectors of emitters

- Manufacturing
- Energy
- On-Road Vehicles (That's Us!)
- Off-Road
- Area Sources

What Does Transportation Conformity Mean?

What Happens in a Conformity Freeze?

- Only obligated projects in the first 4 years of the NWI 2050 Plan /current TIP can proceed.
- No new amendments to existing plans or new plans approved
- After 18 months some sanctions start
- After 2 years, the freeze becomes a lapse and highway sanctions occur
- INDOT can only approval funds for projects that are exempt from conformity and SIP approved TCMs



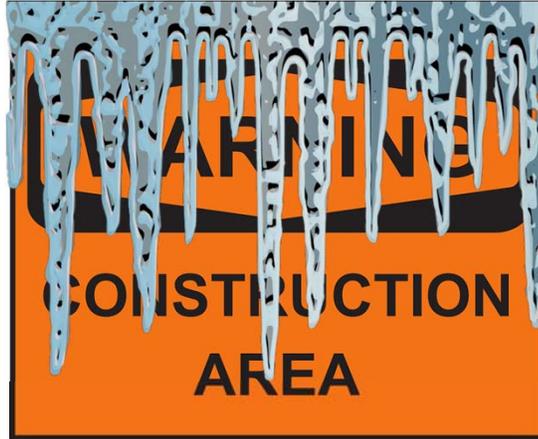
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Projects that could be frozen

Types of Projects

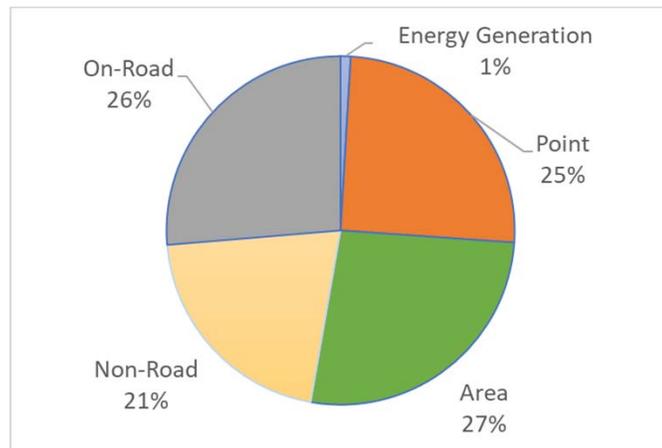
- New Roads and Connections
 - Cline Ave. Bridge
- Added Travel Lanes or Turn Lanes
- Intersection Improvements
- Grade Separations
- Roundabouts
- NICTD Expansion
- GPTC Broadway Express



What Does Transportation Conformity Mean?



All of us driving together adds up!



Illinois/Chicago Inspection and Maintenance: The current Illinois I/M program, in effect since February 1, 2012, requires biennial On-Board Diagnostics II testing on all model year 1996 and newer light-duty gasoline vehicles (cars and light-duty trucks), and 2007 and newer heavy-duty gasoline vehicles with a gross vehicle weight rating between 8,501 and 14,000 pounds, registered in the I/M testable area. Motorcycles and diesel vehicles are not subject to I/M. The program includes a four-year grace period for new vehicles. The post-2012 I/M program was established when the Illinois legislature amended the Illinois Vehicle Inspection law in 2005 and 2011 as follows:

- End dynamometer testing of vehicles.
- Require an on-board diagnostic-based (OBD) program beginning in February 2007.

- Remove the requirement for testing compliant pre-model year 1996 vehicles.

- End the steady-state idle exhaust and evaporative system integrity (gas cap pressure) tests.

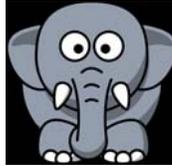
- Exempt pre-2007 model year heavy duty vehicles with a Gross Vehicle Weight Rating (GVWR) between 8,501 and 14,000 pounds.
- Exempt all heavy-duty vehicles with GVWR greater than 14,000.
- Add a visual inspection test for vehicles that are equipped with OBD technology, but for which OBD testing is not possible due to the vehicle's design.

What Does Transportation Conformity Mean?

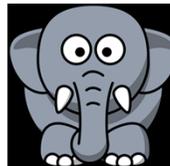
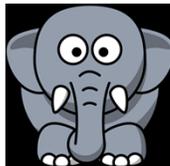
You Need A Budget.

- If you are in a Non-Attainment Area
- Budgets for Lake and Porter County are:

- Volatile Organic Compounds = 6.85 tons per day.



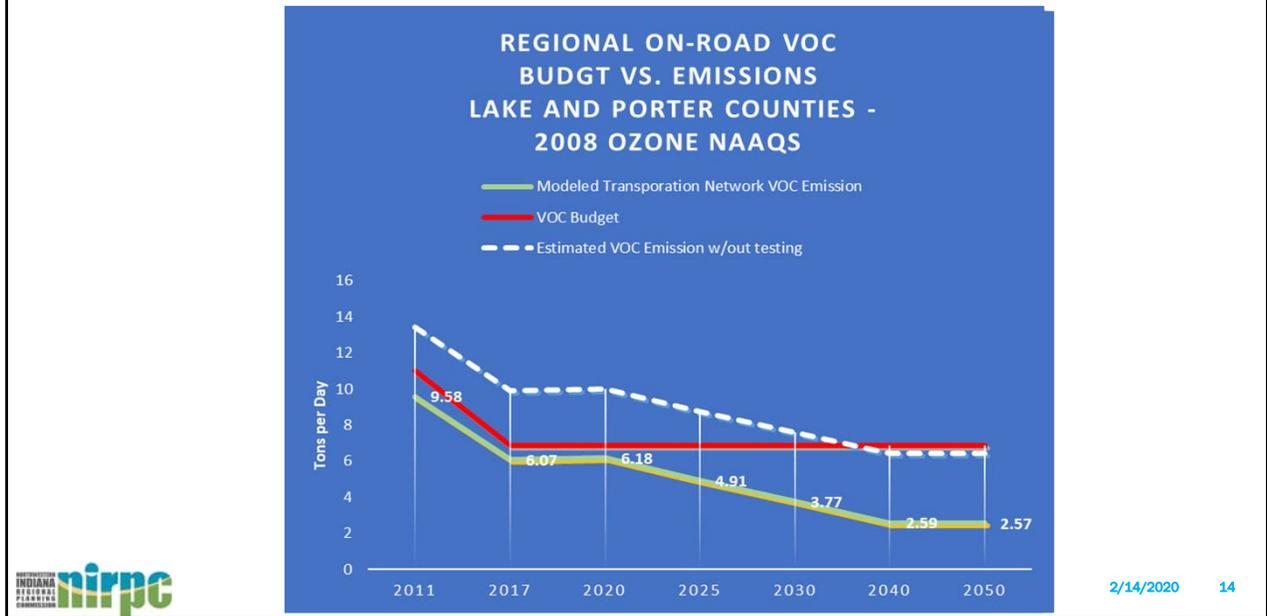
- Nitrous Oxides = 16.68 tons per day.



I did some math:

Scott just told us that the Vehicle Inspection and Maintenance program provides 1400 tons of VOC emission reductions per year.

What Does Transportation Conformity Mean?



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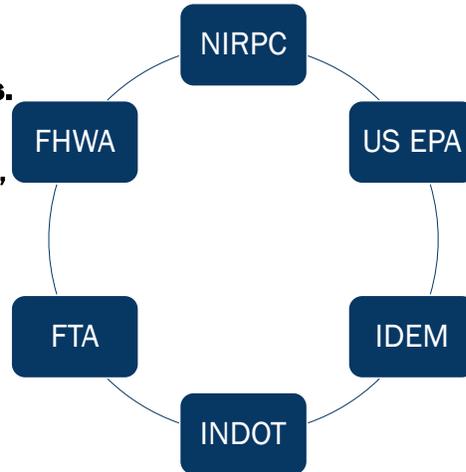
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Role 3: Key Stakeholder in Interagency Consultation Group

Interagency Consultation Group (ICG) on Air Quality:

Collaborates on Air Quality Issues Related To:

- **Transportation Conformity and Exempt vs. Non-Exempt Projects**
- State Implementation Plan (SIP) adoptions, amendments, and attainment demonstrations
- National Ambient Air Quality Standards (NAAQS) Redesignation Requests



Role 4: Determining Transportation Control Measures (TCMs)

Definition of TCM:

“any measure that is specifically identified and committed to in the applicable implementation plan, including a substitute or additional TCM that is incorporated into the applicable SIP through the process established in the CAA Section 176(c)(8), that is either one of the types listed in CAA section 108, or any other measure for the purpose of reducing vehicle use or changing traffic flow or congestion conditions”

Examples:

- Transit improvements
- Bicycling/pedestrian improvements
- Traffic flow improvement programs
- High-occupancy vehicle lanes
- Congestion pricing on Toll Roads
- Shared ride services
- Programs to control extended idling of vehicles
- Flexible work schedules
- Diesel emission reduction programs
- Trip reduction ordinances
- Alternatively fueled vehicles



Role 4: Determining Transportation Control Measures (TCMs)

IDEM NWI Air Quality Advisory Forum Convened by NIRPC 2004-2007 as a subcommittee of the Environmental Management

NIRPC Commissioners

Municipal Staff – Planners and Environmental

Major Regional Industries – Steel Mills, BP

NISOURSE

Regional hospitals and health departments

Regional universities

Save the Dunes

Hoosier Environmental Council

South Shore Clean Cities

League of Women Voters

Lee Botts

Mark Reshkin

Indiana Petroleum Council

Indiana Manufacturing Assoc

NWI Forum



Role 4: Determining Transportation Control Measures (TCMs)

Transportation related Control Measures Already in Place in the Lake and Porter State Implementation Plan Include:

- Enhanced Vehicle Inspection and Maintenance Program (Emissions Testing)
- Vapor Recovery
- Reformulated Gasoline Program

TCMs in the State Implementation Plan (SIP) get priority funding for demonstrating conformity – but also become legally enforceable. We don't have any . . .



Role 4: Determining Transportation Control Measures (TCMs)

Locally driven “win-win” policy decisions

- Growth management (smart growth)
 - Shorter commute distances (balance of jobs)
 - Better bicycle/pedestrian access
 - Transit accessibility (lane width, turning radius, set-backs)
 - Fewer drive-thru windows
- Increased mode options, with emphasis on higher vehicle occupancy rate.
- Decrease VMT, improve travel flow, reduce congestion.
- Less demand for infrastructure investments in the future will save tax dollars..

. Currently we do not include emission reductions by specific projects directly in the Conformity. If we did Include Project in SIP as a Control Measure

Project is not currently planned or committed.

Project is factored into emissions

inventories and photo chemical modeling.

Project is outlined in the SIP as a control measure, including deadline for implementation.

Project is added to regional transportation plan and TIP for funding and implementation.

Project is considered permanent and enforceable, must receive funding priority, and can result in freeze of federal transportation funding if not implemented timely (consistent with the SIP).

Role 4: Determining Transportation Control Measures (TCMs)

Evaluated a 20 available measures

CRITERIA

- Tons per year Reduction in VOC and NOx
 - % of Inventory from that source
 - Particulate Matter Reduction
 - Cost
 - Cost Effectiveness (Cost per ton)
 - Does the authority to enforce it currently exist
 - Acceptability to:
 - State
 - Local Government
 - General Public
 - Is it fair from an Environmental Justice Perspective
- Many are currently in place – especially those impacting specific industries ie Auto Refinishing
 - Some that have been done on a voluntary basis
 - Diesel Retrofits
 - Residential and/or Business Energy Efficiency
 - Alternative Fuels
 - Many are not effective unless done in large quantities
 - Lawn Equipment Exchange
 - Gas Can Exchange
 - Gas Cap Exchange



Role 4: Determining Transportation Control Measures (TCMs)

Cost-Benefit Analysis of 6 Emission Control Measures

- Cap and Trade - Not in our wheelhouse. Not cost effective or equitable especially at a regional scale.
- Diesel Retrofits – Cost effective, but doesn't impact VOCs, difficult to implement on a voluntary basis with CMAQ funds available to NIRPC
- Low VOC Asphalt – included recommendations for plants, paving specifications, pavement recycling, and patching
- Park and Ride – most effective when fuel costs are high and in areas with high parking costs and excellent public transit
- Traffic Controls – signal synchronization, ramp metering, one-way street pairs.
- Enhanced I and M –
 - at that time, VOC reductions were 116,000 tons of VOC/year for the basic I/M at a cost of \$5410/ton
 - with the addition of Biennial Enhanced I/M would shift to \$879 per ton.
 - Currently, per IDEM presentation I/M is getting credit for 1,400 tons per year.

Role 4: Determining Transportation Control Measures (TCMs)

THOUGHTS

Legally change the plan –

- Reach attainment first (both NWI and Chicago)
- Find an acceptable legally enforceable replacement for Vehicle Inspection and Maintenance
- Minimum 7 year time period between attainment and replacement.
- Any substitutes are likely more costly and less popular

Fail to meet the requirements –

- Lose state control of air regulatory programs
- Crippling economic sanctions at the state and regional level
- Lose \$35M + federal funds for critical NWI Transportation Projects
- Lose gains we have made in air quality

Change the rules without backsliding and increasing air pollution?

Congress → EPA → Legislature → IDEM → GO!

Contact

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