

Overview of Climate Change Related Efforts in Ohio:

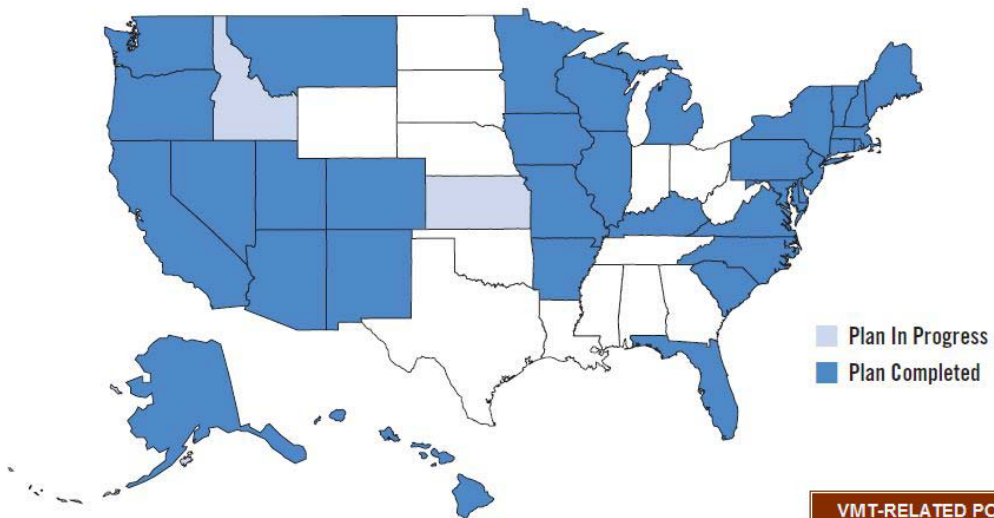
ODOT

Matt Perlik

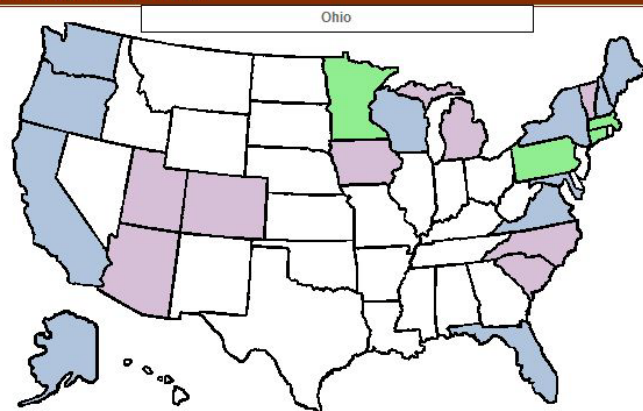
Office of Environmental Services

Ohio Department of
Transportation

State Climate Action Plans



STATE ADAPTATION PLANS

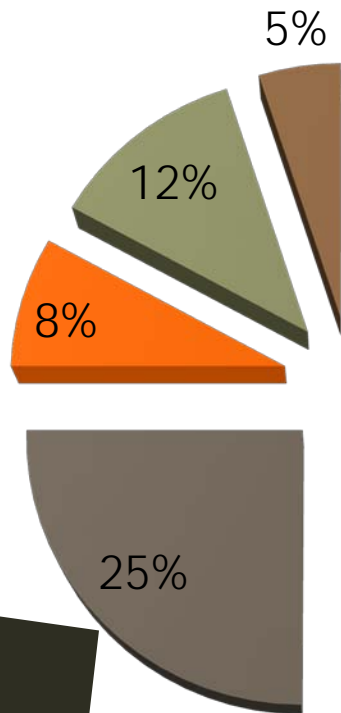


*C.A.P. stands for Climate Action Plan

VMT-RELATED POLICIES AND INCENTIVES



96% of Ohio GHG Comes from Fossil Fuel Combustion



- Electric Power Generation
- Transportation
- Residential
- Industrial
- Commercial

VMT
Fuels
Vehicles
System Operation
Modes
System Design
DOT Operations

Climate Change Efforts

- ***Just Getting Started:***

- ODOT's First "Sustainable" Highway Project

- ***Ongoing:***

- Efficient Movement (↓GHG)
- Save money reduce GHG
- Other opportunities

- ***Near Future:***

- ODOT Climate Change Mitigation and Adaptation Research
- OTEC Climate Change Session

ODOT's 1st Sustainable Highway Project: The "Green 7"

1. Energy and Energy Efficiency
2. Community Environment
3. Green Building
4. Waste Reduction, Recycling, and Reuse
5. Green Project Administration
6. Materials and Resources
7. Green construction Practices



FHWA INVEST Sustainability Tool

- Cleveland Innerbelt Project: perhaps the largest INVEST pilot project in the country
- Reviews and rates 30 project development sustainability metrics
- The project will review and apply the Greenroads rating system simultaneously with the FHWA INVEST tool
- Will provide insight to the use and value of these tools for future ODOT projects

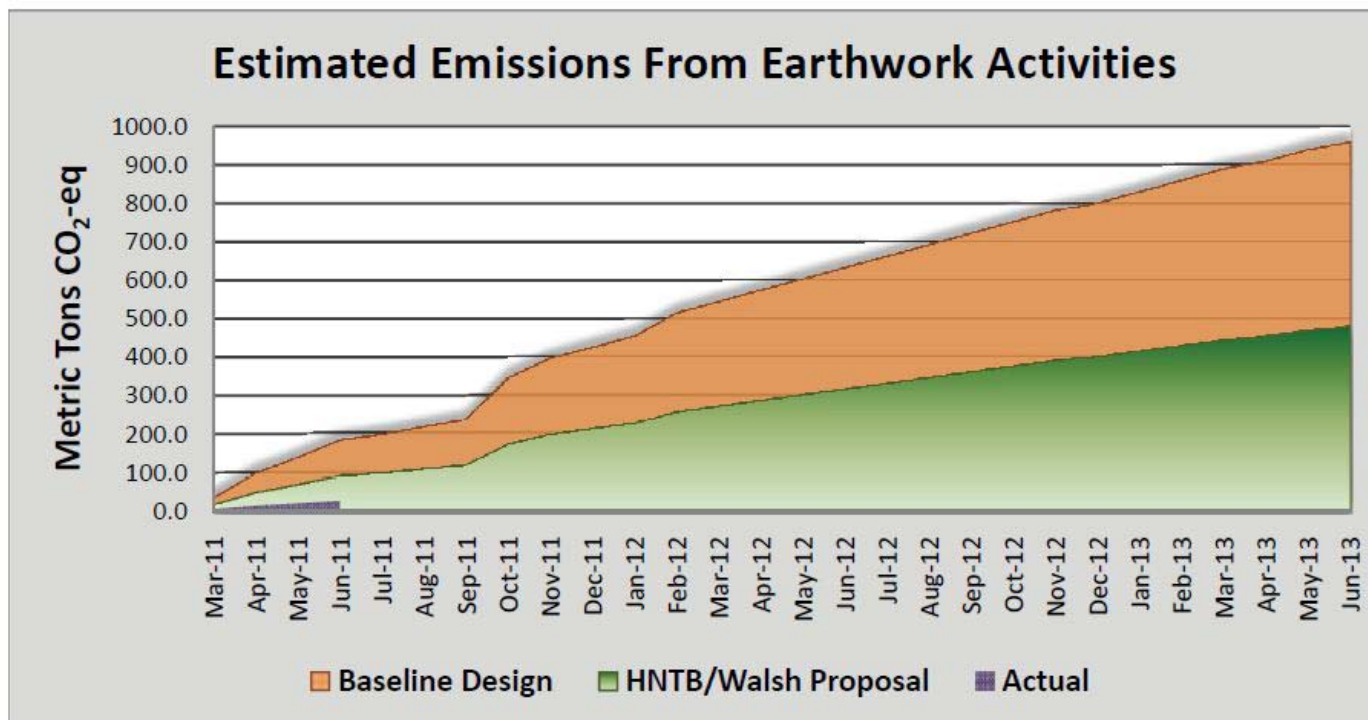


Federal Highway Administration, U.S. Department of Transportation

Sustainable Highways Self-Evaluation Tool



Cleveland Innerbelt GHG Emissions Reduction to date



Cleveland Innerbelt GHG Emissions Reduction to date

Emissions from Earthwork	Units	Baseline Design	Walsh-HNTB Proposal	Actual	Savings To Date (Baseline - Actual)
Total Earthwork Waste	CY	300,000	150,000	173,000	
Earthwork Percent Complete	%	19%	19%	19%	
Earthwork Waste To Date	CY	55,500	27,750	32,000	
Truck Haul Capacity	CY	10	10	40	
Fuel Usage To Date ⁴	gallons	15,467	7,734	2,230	13,237
Emissions, CO ₂ eq ⁵	metric tons	183	91	26	157

Initial results from the INVEST Tool will be presented at OTEC this October



Efficient Movement (↓ GHG)

- **Intelligent Transportation Systems**

- Possibilities are endless: infrastructure to driver, vehicle to infrastructure, and vehicle to vehicle information sharing

- **Incident Management Programs**

- Remove minor traffic bottle necks fast

- **Buckeye Traffic**

- Public map interface of live traffic conditions



-  **KNO B 4 U GO**

- Public tweets on local traffic conditions and ODOT projects

Save Money Reduce GHG

- Responsibility to Environmental Assets and Landscapes (REAL) Approach to Highway Maintenance (= reduced mowing)
- In preliminary discussions to pilot biofuel crop production on ROW
- Energy efficient technologies in buildings, signals, and outposts, and biofuels and flex-fuel vehicles in ODOT's fleet
- Installation of energy induction leveling technology at ODOT facilities to reduce energy use and save money



Other Opportunities

- Warm mix and other alternative pavements
 - Reduce paving costs
 - Extend the paving season
 - Improve asphalt compaction
 - Allow asphalt mix to be hauled longer distances
- Improve working conditions by reducing exposure to fuel emissions, fumes, and odors



Other Opportunities

- Promote eco-driving
- Traffic signal optimization
- Provide transportation choice to reduce VMT
- Promote efficient vehicle use and low carbon fuel
- Develop and implement a statewide Plug-in Electric Vehicle (PEV) readiness strategy and Infrastructure deployment roadmap
- Planning and Design considerations



ODOT Climate Change Mitigation and Adaptation Study

- A massive Statewide Planning Research project
- Will be the first step in understanding
 - ODOT GHG inventory and forecast
 - ODOT GHG reduction strategies
 - Transportation Infrastructure Risk Assessment
 - Implementation



Ohio Transportation Engineering Conference

- Climate Change Session
- October 25, 2011, 3-5pm
- State and National Experts will be presenting on Climate Change Science, CC adaptation, and CC risk assessment in Ohio to 1,000s of transportation engineers, planners, and consultants.

