

Transportation and Climate Change – the New York State DOT Perspective

John Zamurs
NYSDOT
Center for Transportation and the Environment Telecast
December 3, 2008
North Carolina State University,
Raleigh, NC

NYSDOT General Approach

- Climate Change strategies should consider
 - vehicle technology
 - fuels
 - VMT/demand

NYSDOT General Approach

- State DOTs have greatest opportunity to affect climate change on VMT/demand
- State DOTs should support vehicle technology and fuel improvements

NYSDOT General Approach

- “Think globally – Act locally”
- Individual transportation actions may have small effect
- Cumulatively start to make a difference

2002 NY State Energy Plan

- Blueprint to inform energy decision making
- Provides broad statewide energy policy direction
- Considers:
 - transportation
 - environment
 - energy
 - economic development

2002 NY State Energy Plan

- ~ 65 recommendations
- 30 directly or indirectly related to transportation

Recommendations

- Commit to a statewide goal of reducing greenhouse gas emissions 5% below 1990 levels by 2010, and 10% below 1990 levels by 2020
- Working with regional and local planning organizations, analyze and quantify the energy use and air pollution emissions expected to result from transportation plans and programs

Recommendations cont.

- Include in the State transportation planning and State Environmental Quality Review Act (SEQRA) related processes, consideration of CO₂ production and mitigation strategies, as appropriate

Objective

- Consider the energy and greenhouse gas impacts of transportation actions
- Assess and compare the energy and greenhouse gas impacts due to the implementation of projects listed in TIPs and Long Range Plans
- Assess and compare energy and greenhouse gas impacts among alternatives at project level

Analysis Guidelines

- Direct and Indirect Energy Calculations for
 - No Action Scenario
 - TIP/Plan Scenario

New York State MPOs



Statewide initial results



Direct energy reduction:
43.5X10⁹ BTUs/day

Carbon Reduction:
6,381 tons/day

Project level analysis

- Analysis for major projects
- Comparison among alternatives, including No-Build
- Includes operational, construction and maintenance aspects of projects
- Typical differences among alternatives range from 1700 tpy to 15000 tpy carbon emissions

NYSDOT "Top 11" List of Actions

- | | |
|--|-------------------------|
| ■ Already doing many of these | ■ Mass transit |
| ■ Should be doing more | ■ Emissions reporting |
| ■ Need to quantify improvements | ■ Traffic signals |
| ■ Need to institutionalize energy/climate change awareness | ■ Freight management |
| | ■ Managed lanes |
| | ■ Smart growth/land use |
| | ■ Idle reduction |
| | ■ Commuter Choice |
| | ■ Air quality education |
| | ■ Alternative fuels |
| | ■ Research |

NYSDOT Climate Change/Energy Efficiency Team

- Multi-disciplinary group from all relevant program areas
- Executive level support and commitment
- Team will look at: reducing transportation energy costs for public; promoting energy efficient programs and projects; reducing NYSDOT's carbon footprint

NYSDOT Climate Change/Energy Efficiency Team

- Charge to Team – "Institutionalize climate change/ energy efficiency in everything we do"
- Includes major policy and project directions to actions of individual DOT employees

NYSDOT Climate Change/Energy Efficiency Team

- ~ 70 members
- Divided into 5 workgroups
 - 1) NYS transportation sector
 - 2) NYSDOT carbon footprint
 - 3) fuel availability and cost forecasts
 - 4) adaptation
 - 5) outreach and education

Workgroup #1

- Influence other transportation agencies and the public in NYS
- Consideration of climate change/energy efficiency in statewide and metropolitan plan and program development
- Working with MPOs
- Brainstorm concepts
- Evaluating and prioritizing

Workgroup #2

- Covers NYSDOT's vehicles, buildings, planning practices, design procedures, construction specifications, maintenance practices
- Brainstorm concepts
- Evaluating and prioritizing
- Combined with Workgroup #1
- Emissions reporting/inventory

Workgroup #3

- Petroleum availability and prices
- Short term and long term
- Effect on funding and basic transportation needs
- How to adapt to fuel prices/fuel supply issues
- Working with NYSERDA

Workgroup #4

- Adapt to wide range of climate change effects
- Statewide
- Design, construction and maintenance practices/specifications for effects of climate change
- Funding for adapting infrastructure

Workgroup #5

- Development of outreach plan
- Solicit ideas from NYSDOT employees (received ~150 ideas/suggestions)
- Promote climate change/energy efficiency to external stakeholders

Workgroup #5 cont.

- Establish web board where information on climate change/energy efficiency is posted for any NYSDOT employee to access and learn about climate change/energy efficiency and NYSDOT efforts and policies

Actions to Date

- Pilot compressed work week for NYSDOT employees
- Shut down computers at night
- Smart Growth website
- Seeking NYS version of Gulf Coast Study
- TIP guidance/direction to include explicit climate change/energy efficiency consideration

Actions to Date cont.

- Collaboration with NYSDEC, NYSERDA
- Involvement with RGGI – portion of allowance revenue stream for transportation
- Much more to come

External influences

- Interagency VMT Reduction Workgroup
 - outgrowth of Governor's Renewable Fuels task Force
 - State environmental agency is lead agency
 - 10% reduction from "business as usual" case in 10 years
- State Energy Plan
 - Governor's Executive Order
 - covers all sectors
 - Draft March, 2009
 - Final June, 2009