



Readying our Transportation Infrastructure for Climate Change

New Jersey Climate Adaptation Alliance Conference

New Brunswick, New Jersey

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Transportation Infrastructure Sub-Sectors

- Roads, Bridges & Tunnels
- Rail/light rail
 - Passenger
 - Freight
- Bus/Paratransit
- Aviation
- Maritime/Ports
- Other
 - MPOs



Study Approach

- All Sub-sectors & Vulnerabilities
- Preliminary Practice Scan
 - Background research
 - Preliminary interviews
- Key Informant Interviews
 - 2-3 per sector
- Sub-sector focus groups
- Full-sector roundtable discussions to develop policy recommendations



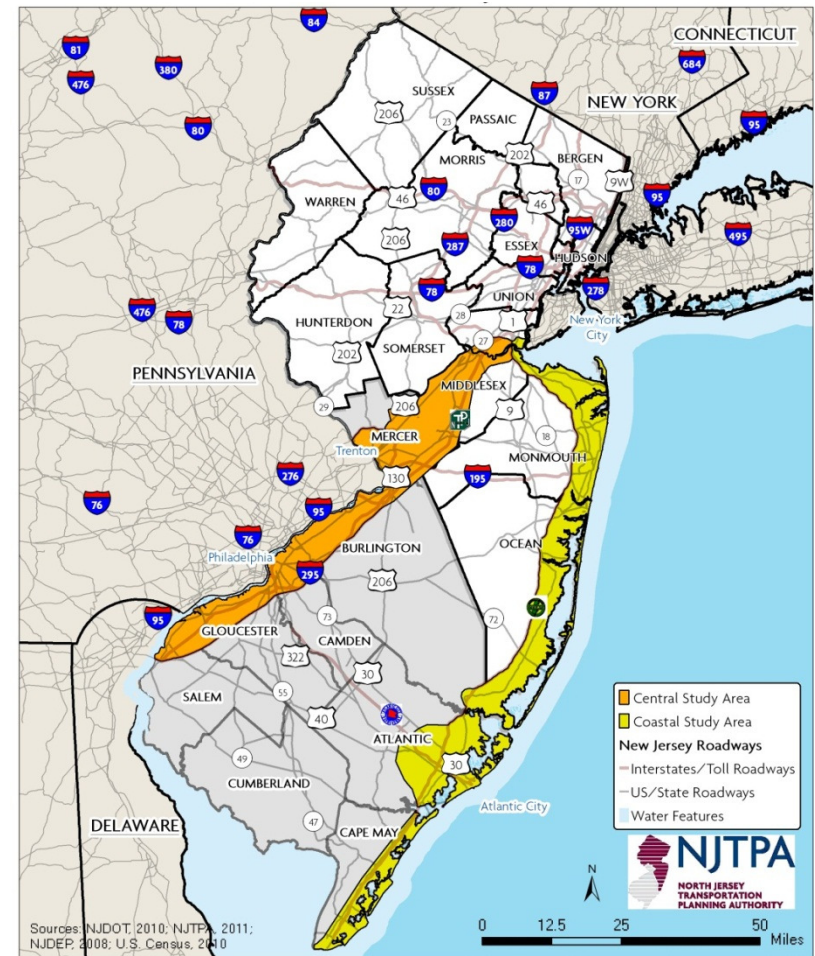
Mitigation vs. Adaptation

- **Climate Change Mitigation** - human intervention to reduce the sources or enhance the sinks of heat trapping greenhouse gases (GHG) to avoid the unmanageable (catastrophic) consequences of global warming
- **Climate Change Adaptation** - the range of adjustments of a system (human and natural) to manage the unavoidable aspects of climate change (including climate variability and extremes), its moderation of potential damages, taking advantage of opportunities, and coping with adverse consequences

*From Marjorie Kaplan "New Jersey:
Adapting to Climate Change"
presentation, undated*

North Jersey Transportation Planning Authority (NJTPA)

- Climate Change Working Group and Resources Page
- Region-wide GHG Emissions Inventory and Regional GHG Mitigation Plan
- Climate Change Vulnerability & Risk Assessment of Transportation Infrastructure
- Future projects
 - Passaic River Basin Mitigation & Adaptation Study
 - NY-NJ-CT Hurricane Sandy Follow-up Transp. Vulnerability Assessment and Adaptation Analysis



New Jersey's Other MPOs

- Delaware Valley Regional Planning Commission (DVRPC)
 - Regional Greenhouse Gas Inventory (last updated in 2010)
 - Green-building initiatives mostly in PA part of region

- South Jersey Transportation Planning Organization (SJTPO)
 - Regional Greenhouse Gas Inventory (not yet complete)



NJDOT

- **GASCAP – Carbon Footprint Estimator Tool**
 - Life-cycle Greenhouse Gas impacts of capital construction projects
 - Highways, bridges and transit
- **Extreme Weather Risk & Vulnerability Assessment**
- **Sandy Recovery and Rebuilding**
 - Highways & Bridges - Mitigation and “betterment” activities as part of repair & reconstruction
 - Facilities (maintenance yards, local aid offices etc.)

NJ TRANSIT

- **2012 Asset Resilience Study**
 - Focus on extreme weather events
 - Identifies and maps at-risk stationary assets
 - Recommends potential cost effective resilience strategies for the identified impacts/risks

Port Authority of NY & NJ

- 2008 Sustainability Policy and Goals
- Internal projects:
 - Asset inventory and multi-hazard risk assessment
 - Sustainable Design Guidelines, including adaptive design measures
 - Projects to address flooding (e.g., installation of floodgates at PATH stations, adding redundant power supplies at airports)
 - Protecting natural systems – Hudson-Raritan Estuary Resource Program
 - Energy adaptation projects
- External Collaboration:
 - NY City Panel on Climate Change (NPCC)
 - ClimAID (NY State)
 - NY State Climate Action Council
 - NY State Sea Level Rise Task Force

Emerging Gaps and Challenges

- Transportation sector is complicated....Lots of assets and lots of “owners”
 - State assets
 - Authority assets
 - Local government assets (municipal, county)
 - Private assets
- Vulnerability and risk assessment methodologies vary, including temporal scope
- Activity among transport modes seems to vary widely
- Activity also varies by geography
- Limited funding for planning and implementation in a financially austere time
- Stay tuned...more later....

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