Transportation System’s Importance to New Yorkers

• The circulatory system for the state
• Prerequisite to job creation and economic competitiveness
• Vital to quality of life, energy conservation, and environmental protection
• Provides connectivity critical to all other activities: health care, education, tourism and recreation
System Conditions

Example: Bridge Conditions

Bridges

- Heavily used
  - Trucks: more and heavier already; freight increase projected

- Aged
  - Salt
  - Weather

- Essential
  - Link to global markets
  - Community services

- Expensive
  - Steel
1450 bridges become deficient in next 5 years
1500 additional bridges become deficient in next 6-10 years.
System Capacity
Example: Rail Capacity

- Passenger and freight usage on same lines
  - Different operating characteristics
  - Need for coordinated investment
- Freight owned lines - downsized to profitability
  - Short lines and “last mile”
  - Heavier loads
- Urban connectors - Intercity and commuter usage crowding each other for tracks and stations
  - Mega-regions
System Capacity:
New York’s Shared Rail Corridors – Freight and Passenger

Ridership FY 2006
Empire: 1,216,400
Adirondack: 94,021
Lake Shore: 148,800
Total 1,459,221

Freight Use – Trains Daily
Buffalo to Albany: 60-70
Metro Area NYC to Albany: 6-10
Adirondack: 8
## 20 Year Transportation Capital Needs
**(2007 $ in billions)**

<table>
<thead>
<tr>
<th>Asset Class / Program Area</th>
<th>Investment Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Highway Bridges</td>
<td>$ 17.4</td>
</tr>
<tr>
<td>Local Highway Bridges</td>
<td>$ 13.2</td>
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<tr>
<td>State Pavements</td>
<td>$ 40.0</td>
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<tr>
<td>Selected Local Pavements</td>
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<td>Traffic &amp; Safety</td>
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<tr>
<td>Mobility</td>
<td>$ 2.7</td>
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<tr>
<td>Pedestrian / Bicycle / ADA</td>
<td>$ 2.0</td>
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<tr>
<td>Drainage / ITS / Guide Rail / Rest Areas / Fleet &amp; Facilities</td>
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<tr>
<td>Public Transit Capital</td>
<td>$ 6.5</td>
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<tr>
<td>Freight Rail, Passenger Rail, and Ports</td>
<td>$ 5.2</td>
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<tr>
<td>Aviation</td>
<td>$ 4.3</td>
</tr>
<tr>
<td>Local Capital Aid</td>
<td>$ 8.6</td>
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<tr>
<td>NYSDOT Other *</td>
<td>$ 4.5</td>
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<tr>
<td><strong>NYSDOT Capital Program Subtotal</strong></td>
<td><strong>$ 125.2</strong></td>
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<tr>
<td>Illustrative Major Projects</td>
<td>$ 50.0</td>
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<tr>
<td><strong>20 Year Total</strong></td>
<td><strong>$ 175.2</strong></td>
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</table>

*NYSDOT Other includes Capital Program Management, Bridge Inspection, Emergency Repairs, and Miscellaneous*
A New Policy Framework

• Build a transportation system that supports New York’s economic competitiveness
• Invest in strategies that create value and are most cost-effective over the long run
• Ensure that land use is a factor in transportation planning
• Improve the energy efficiency of our transportation system
• Create a balanced network that provides both redundancy and choice for the efficient movement of people and goods
How?

Strong and responsible Federal role
• Reauthorization in 2009
• Donor-donee dilemma and disconnect

Balanced modal choices
• Link between land use and transportation
• Energy implications of transportation system

Making the most of the system
• Improved project delivery
• Technology
Federal Role: Federal Funding is Key for Capital Program

- Federal funds comprise 50% of highway capital budget
- Federal funds comprise 25% of transit capital budget
The Disconnect: Flawed Federal Revenue Model

- Highway formulas reward fuel use
  - “Perverse incentive” re energy policy
  - Less highway travel reduces revenue
- Lack of growth with infrastructure needs, especially for transit
- No incentive to invest in transit
- Transit use adds cost to state/locals for operations
Federal Role: SAFETEA-LU
Recognized the Need to Address the Future

Established two commissions to study future policy and funding issues:

• To inform debate before it began
• National Surface Transportation Policy & Revenue Study Commission
  – Reported January 08
• National Surface Transportation Infrastructure Financing Commission
Federal Role: New Ideas/New Vision

- National Surface Transportation Policy and Revenue Study Commission Recommendations:
  - Increased Investment
  - Federal Government as a Full Partner
  - Investments:
    - Subject to benefit-cost analysis;
    - Support performance based outcomes
    - Generally Mode neutral
    - Driven by national objectives
  - Create National Surface Transportation Commission (NASTRAC) to oversee development of performance based standards; approve funding strategies
## The Fragmented Silos

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<tr>
<th></th>
<th>Highway</th>
<th>Transit</th>
<th>Intercity Rail</th>
<th>Ports/Freight</th>
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</table>
The National Challenge: Getting to a New Purpose

- Establish cross-modal metrics
- Need sound data to evaluate investments and establish costs and benefits
- Overcoming resistance to funding mechanisms and system changes
- Re-defining government and/or modal roles.
Balanced Modal Choices:

• Land Use and transportation
  – Chicken/Egg
• Costs of Sprawl
  – Individual
  – Municipal
• Supporting a variety of choices
  – “modally agnostic”
  – quality of life
Between 1960 and 2000 the area of urbanized land around Syracuse doubled while population increased by only 8%. Population density in the urbanized area had almost halved.

This pattern of growth, sprawl, is replicated around all urbanized areas in New York.
VMT in New York

VMT Per Capita by Urbanized Area

- RURAL: 17,329
- KINGSTON: 12,979
- POUGHKEEPSIE: 10,401
- BINGHAMTON: 10,285
- GLENS FALLS: 10,246
- SARATOGA: 10,164
- CAPITAL DISTRICT: 9,807
- SYRACUSE: 9,550
- ROCHESTER: 8,539
- UTICAROME: 8,183
- ELMIRA: 7,590
- BUFFALO: 7,550
- SMALL URBAN: 6,914
- ITHACA: 6,412
- NYMTC: 5,201

VMT in New York
## Mode Splits: Varying Patterns of Public Transportation Usage

<table>
<thead>
<tr>
<th></th>
<th>NYC</th>
<th>Long Island</th>
<th>Hudson Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>52.8%</strong></td>
<td>Nassau 15.7%</td>
<td>Westchester 20.4%</td>
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<tr>
<td><strong>Suffolk 6.8%</strong></td>
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<td>Dutchess 4.2%</td>
<td>Orange 4.7%</td>
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<tr>
<td></td>
<td></td>
<td>Putnam 7.2%</td>
<td>Rockland 8.2%</td>
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</table>
Energy Use: VMT Trends in New York and the Nation

New Yorkers drive about 25% fewer miles than the national average.
Energy and Transportation: Climate Change Challenge

Can we:

- Create incentives (not penalties) for VMT reductions?
- Move away from formulas and collection mechanisms that reward fuel use and VMT?
- Provide incentives for energy efficiency and emission reduction?
- Incorporate incentives for smart growth?
Climate Change Opportunity: Getting To Efficient Transportation

- Land Use
- Sustainable Development
- Improved Air Quality
- Mode Choice
- Reduce Carbon Footprint
- Energy Cost
Making the Most of the System: Countering Affects of Time

• Maintaining assets to extend asset life and reduce life-cycle cost
  – Preventive maintenance
  – Reducing backlog to SOGR

• Build projects sooner to reduce the impact of inflation.

• Revisit the project development process to reduce time to delivery
  – Reason to outreach early and often
  – Benefits of streamlined permitting
Typical transportation project development process

Approximate Timeline (in years)

1 2 3 4 5 6 7 8 9 10

Planning Studies
- Determine Existing Conditions
- Traffic Forecasts
- Analysis Needs
- Conceptual Solutions
- Preliminary Cost Estimates
- Cost Estimation Validation Process (CEVP)

Environmental Studies
- Purpose and Need
- Traffic Analysis
- Preliminary Alternatives
- Public Outreach
- Technical Studies
- Air Quality
- Noise Analysis
- Traffic Analysis
- Socio/Economic
- Cultural Resources
- Biological Resources
- Hazardous Materials
- Water Quality
- Floodplain/Hydrologic
- Energy
- Land Use
- Economic
- Wetlands
- Visual Effects
- Environmental Justice
- Cumulative & Secondary Impacts
- Cost-Benefit Analysis

Preliminary Design
- Geometric Design
- Typical Sections
- Grading
- Drainage
- Structural
- Traffic/ITS
- Signing/Striping
- Lighting
- Utilities
- 30% Plans

Final Design
- 60% Plans
- 90% Plans
- Specifications and Estimates
- Final Plans

Right-of-Way Engineering and Acquisition
- Right-of-Way Setting
- Right-of-Way Engineering
- Appraisals
- Purchase Offers
- Counter Offers
- Relocation
- Asbestos Clearing
- Demolition
- Condemnation (if necessary)
- Federal Regulations

Source: Nevada DOT.
Making the Most of the System: The Promise of Technology

• Stretching capacity: a recurring pattern across modes
  – Vehicle Infrastructure Integration
  – Next Generation Air Transportation System (NextGen)
  – Positive Train Control

• Increasing system efficiency: Intelligent Transportation Systems
  – incident management
  – travel planning
  – real time information
Looking Ahead to New Approaches

- Transportation Authorization in September, 2009
  - Highway Trust fund insolvent this year.
  - Policy recommendations from the National Surface Transportation Policy & Revenue Study Commission
    - Challenge to redefine National Purpose
  - Finance recommendations to come from National Surface Transportation Infrastructure Financing Commission
- Lessons from London?
- Role of Climate Change?
New Approaches: Eddington Study

- “Paradigm Shift” – an economic study not a transportation study
- Reframing the question. Ask:
  - What are the economic challenges?
  - NOT:
  - What are the transportation challenges?
- “Modally agnostic” – support the modes that get to the economic objectives
- The answers to the economic questions drive the solutions and the structures needed to attain them.
New Approaches: Climate Change

• Transportation may be a casualty of Climate Change
  – Adaptation

• Transportation is a contributor to Climate Change
  – 1/3 of all green house gas emissions

• Will transportation be part of the solution?
  – More energy efficient vehicles, modes and settlement patterns
  – Re-connecting federal, state, and local resources
Thank You

Astrid C. Glynn, Commissioner