New York State
Department of Transportation

Capital Budget Hearing
Transportation 20 Year Needs Assessment (2010 - 2030)

Preliminary Estimate of Multimodal Transportation Infrastructure Preservation & Improvement Needs
Presentation by:
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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
Transportation System Serves Important Policy Goals

- Supports New York’s economic growth
- Major role in land use planning
- Central to energy efficiency
- Provides security through readiness and redundancy
- The foundation for the efficient movement of people and goods
A Time for Action

• A new program (2009-2014) under development
• Conditions are deteriorating
• Reversing current trends will take time - must start now
• Costs to recover will only grow if we wait
• Opportunity provided by next Federal transportation funding authorization (2009)
Federal Partnership is Essential

- National crisis requires Federal solution
- New Federal Surface Transportation Act is due in 2009
- Opportunity to redefine, revitalize and expand Federal role
  - Interstate system responsibilities
  - Bridges
  - Transit projects
  - Incentives for States that are transit friendly and energy efficient
  - Historical support should increase, not waver
  - Federal funding supports nearly half of our current program
- Needs analysis charts the path for Federal advocacy
State of the Transportation System
System Under Stress

- Structural imbalance: funds do not keep pace with growing inflation and demand
- Aging infrastructure
- Declining conditions
- Increased use
- Inflation undermining buying power of current funding
- Core preservation limits ability to address expansion and economic needs
- Current Federal and State funding inadequate to reverse deterioration trends
- Progress of 1980’s and 1990’s is over
- A national phenomenon
Impacts on the System

- Future safety
- Return to infrastructure crisis of 1970’s
- More deficient bridges and rough pavements
- Transit assets that fail to support service needs
- Unmet freight and passenger rail demands that increase highway impacts
- Air service: capacity constraints downstate; underserved communities upstate
Impacts on the State

- Failure to meet economic growth needs statewide
- Loss of businesses, jobs, and productivity
- Brain drain
- Waste of scarce and expensive energy resources
- Environmental degradation
- Quality of life
System Trends and Conditions
System Overview

• Bridges
• Pavement
• Congestion
• Transit
• Freight Rail & Port
• Intercity Passenger Systems
• Investment constraints
• Current Approach
State and Local Highway Bridge Condition Trends

Percent Deficient by Number of Bridges

Data Source: Annual Official Bridge Condition Reports, April 2007 Official Bridge Data
Prepared by: NYSDOT, Office of Policy & Performance
Number of NYS Highway Bridges by Age
Data Source: April 2007 Official Bridge Data
Excludes closed bridges
1450 bridges become deficient in next 5 years

1500 additional bridges become deficient in next 6-10 years
Data Source: Annual Pavement Condition Reports  
Prepared by NYSDOT, Office of Policy & Performance
State Highway Paving Cycle

GOAL: 12 YEARS
Annual Passenger Hours of Delay per Person

Year

Annual Passenger Hours of Delay

Transit

• Integral part of a balanced transportation system
• Support for transit helps preserve and enhance:
  – Personal mobility
  – Economic sustainability
  – Mitigation of traffic congestion/enhanced efficiency of highway network
  – Energy independence and improved air quality
  – Emergency preparedness
• System performance depends on mix of investment decisions by the federal, state and local governments and the private sector
• Strong role of the Federal government and favorable Federal transportation policies in future authorization bill are critical to meeting needs
Transit

• Energy Independence and Improved Air Quality
  – As a result of the State’s extensive support for public transportation, New York uses the least energy per capita for transportation purposes (2/3 national average)
  – For every passenger mile traveled, transit is twice as energy efficient as private automobiles
  – Transit reduces fuel consumption in the New York by 1.3 billion gallons annually
  – Transit in NY keeps the following pollutants out of the air-and our lungs-each year:
    • 94 million lbs. of carbon monoxide
    • 14 million lbs. of hydrocarbons and
    • 1.5 million lbs. of soot and particulate matter
Transit Systems other than the MTA
2007 Fleet Profile

Will exceed useful life in next 5 years

Have exceeded useful life

Age of Vehicles
(Based on Federal Standard of 12-Years)
Freight Rail & Port System Conditions

- Private rail investment not keeping pace with demand
- Investment levels not keeping pace w/ demand
- Projected 50% to 100% growth in freight rail demand over next 30 years
- Smaller railroads lack infrastructure to handle today’s heavier rail cars and growth in freight volumes
- Industries need access to the rail network through sidings, yards, & transload facilities
- Upstate ports lack ability to handle larger ships, heavier loads & new commodities
Trends in Rail Traffic

- Rail ton-miles continue to grow while the rail network continues to shrink
New York 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
Intercity Passenger Systems - Rail

- Significant track and equipment upgrades needed to support growing intercity passenger rail demand
- On time performance is low
- Infrequent and unreliable service
- Lacks predictable dedicated federal funding
- Federal authorization of Amtrak overdue
Passenger Rail System Conditions

Amtrak OTP 2002-2007

% Trains On Time

Year

Adirondack
Empire
Ethan Allen
Lake Shore Limited
Mapleleaf
Intercity Passenger Systems - Aviation

- Major upstate airports lack Federal aid for terminals and hangers
- Nine upstate commercial airports with minimal service
- Serious congestion downstate (JFK and LaGuardia)
- Stewart may provide opportunity to support growth
- Congestion in NY has major impact on national air system
Downstate Airport Congestion
JFK On-Time Flights in June, 2003 - 2007

Percent on Time

Year

2003 2004 2005 2006 2007

Source: US DOT
Current Investment Constraints

- Federal aid structural deficit and end point
- Failure of 2000 Bond Act
- Transit operators have deferred capital needs
- Rail network has downsized for profitability leaving little or no excess capacity - lack of Federal investment
- Inflation is reducing buying power
Finance Plan Construction Dollars Lost to Inflation 2005-2010

Based on FHWA BPI Average Growth (2002 to 2006)

<table>
<thead>
<tr>
<th>Original Value of Lettings</th>
<th>$10.2 billion</th>
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<tbody>
<tr>
<td>Dollars Lost</td>
<td>-2.2 billion</td>
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<tr>
<td>(22% LOST)</td>
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<tr>
<td>Construction - After Inflation</td>
<td>$8.0 billion</td>
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($2.3$ million)
Current Approach

• Focused on:
  – Safety first
  – Demand maintenance
  – Restoration of most critical facilities
• Approach often precludes:
  – Cost-effective preventive maintenance
  – More long-lasting comprehensive treatments
  – Ability to focus resources on important economic, energy-saving, or community enhancing projects
  – Timely funding of projects on secondary facilities
New Policies and Strategies
To Improve the State of the Transportation System
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
A New Strategy

• Reverse current condition trends
• Identify realistic and measurable goals for each system
• Make choices consistent with policies
• Assure value through timely project delivery
• Attain adequate, predictable, and reliable investment levels for all modes
• Ensure long-term system safety and security
• Preserve and expand existing systems through balanced investments in maintenance, capital, and operations
Investment Needs Analysis

A Multimodal View
Methodology

• Assess existing infrastructure condition
• Assess transportation needs
• All major transportation modes
• Include illustrative major projects
• Assessment period 2010 – 2030
• Presented in 2007 dollars
Principles for Investment

• Balanced approach – modes & facilities
• Targeted growth to spur economy
  – City by City strategy
  – Major projects
• Preservation of assets and services
  – Includes normal replacement costs
  – Overcomes the current backlog of past deferred maintenance
  – Pavements and bridges includes operations funding to maintain system at an acceptable level
  – Public transit (exclusive of the MTA) includes capital only
  – Freight rail, water port, and aviation includes capital only
  – Passenger rail includes current Amtrak subsidies
Bridge Investment Goals

• State and local highway bridges
  – Excludes authority bridges
• Investment principles
  – Eliminate critically deficient bridges
  – Return to the conditions that we achieved after the investment programs of the 1980’s and early 1990’s
  – Increase preventative maintenance
  – Improve project delivery methods
  – Make targeted enhancements
• 20 year investment needs
  – State bridges: $17.4 billion
  – Local bridges: $13.2 billion
State Highway Bridge Condition Forecast

Year

Percent Deficient by Number of Bridges

Historical Trend  Investment Level  Current Program
Pavement Investment Goals

- State highway pavements
  - Excludes Thruway and most local roads
- Investment Principles
  - Reverse trend in deficient pavement
  - Return to the conditions that we achieved after the investment programs of the 1980’s and early 1990’s
  - Maintain overall higher condition level on high volume roads, NHS, and trade corridors
  - Restore 12 year paving cycle
  - Approach the Federal goal for pavement smoothness
- 20 year investment needs
  - State pavements: $40.0 billion
  - Selected local roads: $3.9 billion
State Pavement Condition Forecast

Historical Trend

Investment Level

Approach Federal Ride Quality Goal

Year

Percent Fair and Poor by Lane-Miles

Other Highway Assets
Investment Goals

- Drainage and culverts
- Traffic control devices
- Guide rail
- Pedestrian
- Bicycle
- ADA compliance
- Rest areas
- Fleet and facilities
- Petroleum bulk storage
- 20 year investment needs: $21.6 billion
Transit Investment Goals

• Systems other than the MTA
  – Excludes MTA, NYCT Bus and Subway, and MTA Commuter Railroads

• Investment principles
  – Replace buses at Federally rated useful life
  – Return support facilities/major facility components (doors, lifts, HVAC, roofs) to a state-of-good-repair
  – Maintain/modernize transit-related equipment (shelters, communication and fare collection systems and ITS)
  – Achieve clean-fuel and emissions standards
  – Expand fleet to accommodate increased ridership

• 20 year investment needs
  – Transit Buses/Facilities/Equipment - $6.5 billion
Transit Fleet Condition Forecast
(Average Age)*

*12-Year Federally-Rated Life Cycle
Freight Rail, Passenger Rail and Port Goals

• Freight and Passenger Facilities
  – Includes current Amtrak operating subsidies
  – Includes freight needs on privately and MTA owned rights of way
  – Excludes PANYNJ and private ports

• Investment Principles:
  – Maintain state-of-good-repair for safe and reliable operations
  – Meet capacity needs for projected growth in freight
  – Accommodate changes in rail car size and weight
  – Provide environmental and fuel savings benefits
  – Reduce highway congestion and maintenance needs
  – Improve on time performance for Amtrak and increase ridership
  – Provides economic development opportunities

• 20 year investment need: $5.2 billion
Aviation Investment Goals

• Commercial and general aviation airports only (excludes PANYNJ airports)
• Based on FAA approved plans
• Preservation of airport assets
  – Runways and navigational equipment
  – Terminals and hangars
• Facility enhancements
  – Safety and security
  – Service improvements
• 20 year investment needs: $4.3 billion
Local Capital Aid
Investment Goals

- Capital grant programs for localities
- Investment Principles
  - Local bridge status is well known – State performs bridge inspections
  - Needs for local bridges are aligned with strategies for State-owned bridges and included in our bridge needs assessment
  - Partnership needed with MPOs and local governments to fully assess highway needs
  - Traditional aid programs are important and these investment levels have been incorporated into our assessment
    - CHIPS
    - Marchiselli
    - Special investment programs
- 20 Year Investment Needs: $8.6 billion
Illustrative Major Projects

- Tappan Zee Bridge / I-287 Corridor
- Gowanus (I-278)
- Northern Tier Expressway
- Intercity Passenger Rail
- Completion of I-86 Corridor
- Completion of Route 219 Corridor
- Kosciuszko Bridge (I-278)
- Peace Bridge
- 20 year needs: $50.0 billion (estimate)
# 20 Year Transportation Capital Needs

(2007 $ in billions)

<table>
<thead>
<tr>
<th>Asset Class / Program Area</th>
<th>Investment Level</th>
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<tbody>
<tr>
<td>State Highway Bridges</td>
<td>$17.40</td>
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<tr>
<td>Local Highway Bridges</td>
<td>$13.20</td>
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<tr>
<td>State Pavements</td>
<td>$40.00</td>
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<td>Selected Local Pavements</td>
<td>$3.90</td>
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<tr>
<td>Traffic &amp; Safety</td>
<td>$1.20</td>
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<td>Mobility</td>
<td>$2.70</td>
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<tr>
<td>Pedestrian / Bicycle / ADA</td>
<td>$2.00</td>
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<tr>
<td>Drainage / ITS / Guide Rail / Rest Areas / Fleet &amp; Facilities</td>
<td>$15.70</td>
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<tr>
<td>Public Transit Capital</td>
<td>$6.50</td>
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<tr>
<td>Freight Rail, Passenger Rail, and Ports</td>
<td>$5.20</td>
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<tr>
<td>Aviation</td>
<td>$4.30</td>
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<tr>
<td>Local Capital Aid</td>
<td>$8.60</td>
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<tr>
<td>NYSDOT Other *</td>
<td>$4.50</td>
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<tr>
<td><strong>NYSDOT Capital Program Subtotal</strong></td>
<td><strong>$125.20</strong></td>
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<tr>
<td>Illustrative Major Projects</td>
<td>$50.00</td>
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<tr>
<td><strong>20 Year Total</strong></td>
<td><strong>$175.20</strong></td>
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* NYSDOT Other includes Capital Program Management, Bridge Inspection, Emergency Repairs, and Miscellaneous
Conclusions/Summary
Investment Results

• Provides sustainable investment levels to preserve system
• Avoids higher costs for deferred treatment
• Continued safety of the system
• Opportunities to be more energy efficient
• System conditions will improve
• Multimodal system for the 21st Century
• Preserves and enhances New York’s economic competitiveness
Thank You