The Transportation Capacity Problem:
Approaches to Congestion Relief

STB Commissioner Francis P. Mulvey

NMFTA/NCC Meetings

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Introduction

Transportation and the National Economy

Drivers of Transportation Demand—Economic Activity

Population

Globalization

Business Practices
Transportation Supply

Public/Private Provision

Private: Rail, Pipelines

Public: Roads, Airports, Port Facilities

Historic Pattern: Supply Preceded and Shaped Demand

Today: Respond to Crises
The Growing Capacity/Congestion Problems

Focus on Surface Freight Modes

TTI Annual Studies Document Worsening Problem

Congestion caused: 3.7 billion hours of travel delay and 23 billion gallons of wasted fuel consumption

Travel during peak hours takes 40% longer than during off peak; it took 13% longer in 1982
Growing Capacity / Congestion Problem

More than 2/3s of all travel during peak periods occurs in congested conditions compared to 1/3 in 1982.

Roughly 60% of major roads are congested at the peak.

Length of congested period has grown from 4.5 to 7 hours.

Travel time reliability is greatly reduced.

And it will get worse.
Growing Capacity/Congestion Problem

By 2025

- Population will increase by 26%
- GDP will approximately double
- Total passenger travel will rise 72%
- Truck tonnage will grow 75% by 2020
Sources of Congestion

- Bottlenecks: 40%
- Traffic Incidents: 25%
- Work Zones: 15%
- Bad Weather: 10%
- Poor Signal Timing: 5%
- Special Events/Other: 5%
Growing Capacity/Congestion Problem

Investment in Urban Transport Infrastructure inadequate to meet growing demand

Require 5000 additional lane miles of freeways and major roads annually just to stay even

Major transportation projects take 10-15 years from conception to completion

Not as though we are doing nothing—highway spending grew under TEA-21 and fewer miles were in poor shape

But more than 50% of spending went to system preservation
Growing Capacity/
Congestion Problem

Problem not limited to Highways

Ports dealing with larger vessels and rapidly expanding international trade

Rail capacity problem is of more recent vintage

Economic regulation fostered excess capacity, especially for the railroads
The Developing Rail Capacity Crisis

Shrinking Workforce and Infrastructure Partly Offset by Productivity Improvements

But Continuous Increase in Traffic Begins to Absorb “Excess Capacity”

Network becomes More Vulnerable to Stochastic Events

A Perfect Storm or the Rail Version of Global Warming
Growth and Decline of Railroad Mileage
Railroad Employment 1939-2003 (in thousands)

Number of Employees all Railroads

0 200 400 600 800 1000 1200 1400 1600 1800
The Genesis of the RR Capacity Problem

Improved Earnings Still not Revenue Adequate
Railroads “Punished” by Wall Street for Making Capital Investments
Railroads Often Found that Infrastructure Investments Failed to Generate Sufficient Income

Long term Strategy to Reduce Size of Workforce
Added Rail Infrastructure is Long-Lived While Demand Increases can be Short-Lived
Railroad ROI 1970-2003
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<th>Cost Of Capital</th>
<th>BNSF</th>
<th>CSXT</th>
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Short term Capacity Problems

Expanding Economy Led to Surge in Imports
Large Grain Harvests in 2003 and 2004
Growth in Export Coal Market
Crew Shortages due to Wave of Retirements
Equipment Shortages due to Reduced Purchases
Cutbacks in Capital Spending Programs
Tight Capacity in Trucking Industry due to Driver Shortages, Higher Fuel Costs, HOS Rules, etc.
Class I Capital Expenditures
(in billions of current $)
Carrier Responses to Recent Capacity Problem

- More Cars and Locomotives Bought and Leased
- Accelerated Hiring and Training of Train Crews
- Some Infrastructure Expansion Efforts
- Price Rationing of Available Capacity
- Railroads Choosing who they will Serve and the Common Carrier Obligation
Long-Term Rail Capacity Constraint Factors

Demand for Freight Rail Transport Projected to Grow by 60%-70% over Next Two Decades

Railroads’ Inability to Earn Cost of Capital

Pressure from Wall Street to Reduce Capital Costs and Improve ROI

Long-Term Contracts Limit Railroad Pricing Flexibility

Railroads tend to Bid Long Term Contract Rates Down to Long Run Marginal Costs
Approaches to the Transportation Congestion Problem

- Build more Physical Infrastructure
- Adopt technological innovations
- Make better use of existing facilities
- Promote shipper and traveler behavioral changes
- All have potential but all limits
Infrastructure Capacity

SAFETEA-LU—2 years late and $90 billion short

$286.5 billion over 6 years is 38% more than was provided for in TEA-21 back in 1998 but far short of $375 billion estimated need

Contains a rail title but far from intermodal legislation

Expands the RIFF program to $35 billion and makes shippers eligible
Rail Capacity Investment

Railroads Support Limited Public Sector Role
Public/Private Partnerships (Alameda Corridor, CREATE)

Railroad Trust Fund Concept

Investment Tax Credits
- Short Lines and the 286K lb. Car Problem
- Class I Access and Limited Fiscal Capacity
- RIM and RIFF
Technological Innovations

Highways—Intelligent Transportation Systems
Railroads – Positive Train Control

Short Sea Shipping
Low Speed Maglev
Improve Utilization of Existing Infrastructures

Highways—Ramp metering, optimizing traffic signals, variable tolls, etc

Railroads—more use of MIS in scheduling locomotives, cars, crews

Ports—move to 24/7 operations
Obstacles

Dollar resources

Resistance to Change

Labor Contracts

Ineffective lobbying Effort to address freight transportation needs
Need to Focus on Freight Issues and Intermodal Solutions

Reauthorization of Highway Program is only 4 years away

Need to Increase the visibility of freight issues

Need to install a comprehensive evaluation process (i.e., c/b analysis) in the planning process

Need to deal with limitations on Federal funding that dedicates $ to a single mode or non-freight purposes
Thank You, Any Questions?