Transportation at a Crossroads

Florida Transportation Commission
July 16, 2009
Stephen Reich, Center for Urban Transportation Research
University of South Florida
Reich’s Critical Issues

- Linkages Between Land Use and Transportation
- The Environmental and Energy Implications of Transportation
- Demand Outpacing Supply
- Funding Issues
TRB “Critical Issues in Transportation, 2009 Update”

- Congestion
- Energy & Climate Change
- Infrastructure
- Finance
- Equity

- Emergency Preparedness
- Safety
- Institutional Changes
- Investment in Human and Intellectual Capital
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AASHTO “Bottom Line Report”

- Stimulate economic recovery
- Solvency to the Federal Highway Trust Fund
- Redressing higher costs of highway and transit construction
- Addressing the transportation impacts on global climate change
- Reconstruction needs of an aging transportation system
- Reducing congestion on highways
- Increasing capacity for highways and public transportation
- Maintaining international competitiveness
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Bipartisan Policy Center “A New Vision for US Transportation Policy”

- Economic Growth
- National Connectivity
- Metropolitan Accessibility
- Energy Security and Environmental Protection
- Safety
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The National Surface Transportation Infrastructure Financing Commission

- Enhance mobility
- Generate sufficient resources
- Cause users and direct beneficiaries to bear full costs
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- Equity considerations
- Support the broad public policy objectives of energy independence and environmental protection
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National Surface Transportation Policy and Revenue Study Commission

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- Mobility Within and Between Metropolitan Areas is Reliable
- Transportation Systems are Appropriately Priced
- Modes are Rebalanced and Travel Options are Plentiful
- Freight Movement is Explicitly Valued
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- Transportation Decisions and Resource Impacts are Integrated
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What’s Wrong with Reich?
No Safety or Preservation?

• Nationally doing pretty well on safety and structural issues – need to keep up the efforts
• The number of traffic fatalities in 2008 reached its lowest level since 1961
• Both the fatality and injury rates are at all-time lows
Figure 1: Fatalities and Fatality Rates per 100 Million VMT From 1961 - 2008

Figure 2: People Injured and Injury Rate per 100 Million VMT by Year, 1988-2008

AASHTO on Bridges

Structurally Deficient Bridges

Source: AASHTO Bottom Line Report 2009, Figure 3.11
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<tr>
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<tr>
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Source: AASHTO Bottom Line Report 2009, Table 3.7
LINKAGES BETWEEN LAND USE AND TRANSPORTATION
Alan Pisarski’s CIA III

- The nation is half suburban - 30% central cities - 20% non-metro
- Non-metro areas are gaining population from metro areas
- Suburban growth is still predominant - central cities showing growth but not retaining share of population.
- About 70 million among the 116 million housing units in the nation are single family detached units and another 6.5 million are single family attached units
- Suburban single family units exceed the number of all central city housing units.
- Suburb to suburb commute continues to dominate growth

Implications of Trends

• Development patterns continue to make it difficult to serve mobility with line-haul or high-capacity transit

• A personal means of transport will be required well into the future for some portion of trips

• Pricing of housing that does not account for externalities can encourages dispersed development

• Nationally we can not “mode shift” our way out of congestion
ENVIRONMENTAL AND ENERGY IMPLICATIONS
US Energy Facts

- The U.S. uses 382 million gallons of gasoline per day
- *Transportation makes up 68% of the US oil demand*
- U.S. imports 60% of domestic demand
- Fossil fuels are finite
- Environmental consequences of existing fuels are well documented

Source: US Department of Energy, Transportation Energy Data Book, Edition 28, Table 4.09 and Table 4.07

Year

0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Share

Large SUV
Midsize SUV
Small SUV
Large van
Midsize van
Small van
Large pickup
Midsize pickup
Small pickup
Large wagon
Midsize wagon
Small wagon
Large car
Midsize car
Small car

Source: Transportation Energy Data Book, Edition 27
Total Greenhouse Emissions by Sector 2006

- Residential: Carbon dioxide, 1,216.8
- Commercial: Carbon dioxide, 1,056.1
- Industrial: Carbon dioxide, 1,775.8
- Transportation: Carbon dioxide, 1,884.7

Source: Transportation Energy Data Book, Edition 27, Table 11.4
DEMAND OUTPACING SUPPLY
U.S. Vehicle Miles Traveled 1984 - 2009

Source: US Department of Transportation, Federal Highway Administration, April 2009 Traffic Volume Trends
Public Road Mileage - VMT
1920 - 2007

Source: US DOT, FHWA, Highway Statistics 2007 Table VMT-421
## Urban Congestion 1987 vs. 2004

<table>
<thead>
<tr>
<th>Urbanized Area Size</th>
<th>Average Daily % Congested VMT</th>
<th>Average Length of Congested Conditions -hours</th>
<th>Average Annual Delay/Capita</th>
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<td>Less than Half-Million</td>
<td>6.5</td>
<td>16.6</td>
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<td>Half-Million to One Million</td>
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<td>One Million to Three Million</td>
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<td>All Urbanized Areas</td>
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<td>31.6</td>
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Source: AASHTO Bottom Line Report 2009, Table 3.9
Florida Population Growth

Source: Bureau of Economic and Business Research, Warrington College of Business Administration, University of Florida, June 2009
FUNDING ISSUES
U.S. Transportation Expenditures - Constant Dollars - all Modes
all Levels of Government ($mill.)

National Highway Construction and Maintenance Cost Indices

*These indices have been scaled to equal 100 in 1987.*
Highway Account Balance

Ending balance for FY 2008 includes $8.017 billion transferred from the General Fund in September 2008 pursuant to Public Law 110-318.

Source: USDOT, Federal Highway Administration, June, 2009
Funding Issues

- No political will to adjust gas taxes
- P3s and tolling can not address many of the transportation needs
- VMT charges still a few years away, nothing inherit to deal with political courage
- System preservation and safety investments can not be sacrificed
My Bottom Line

• Resources are becoming more scarce
• The system is aging
• US mobility will continue to rely heavily on individual vehicles of some type
• We are fueling the system with in a non-sustainable manner
• Congestion continues to grow – even in light more moderate projections
As you can see, by late next month you'll have over four dozen husbands. Better get a bulk rate on wedding cake.