

Forces Affecting Transportation

An Overview of National Forces Shaping Washington's Current and Future Transportation System

presented to

The Connecting Washington Task Force

presented by

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Transportation leadership you can trust.

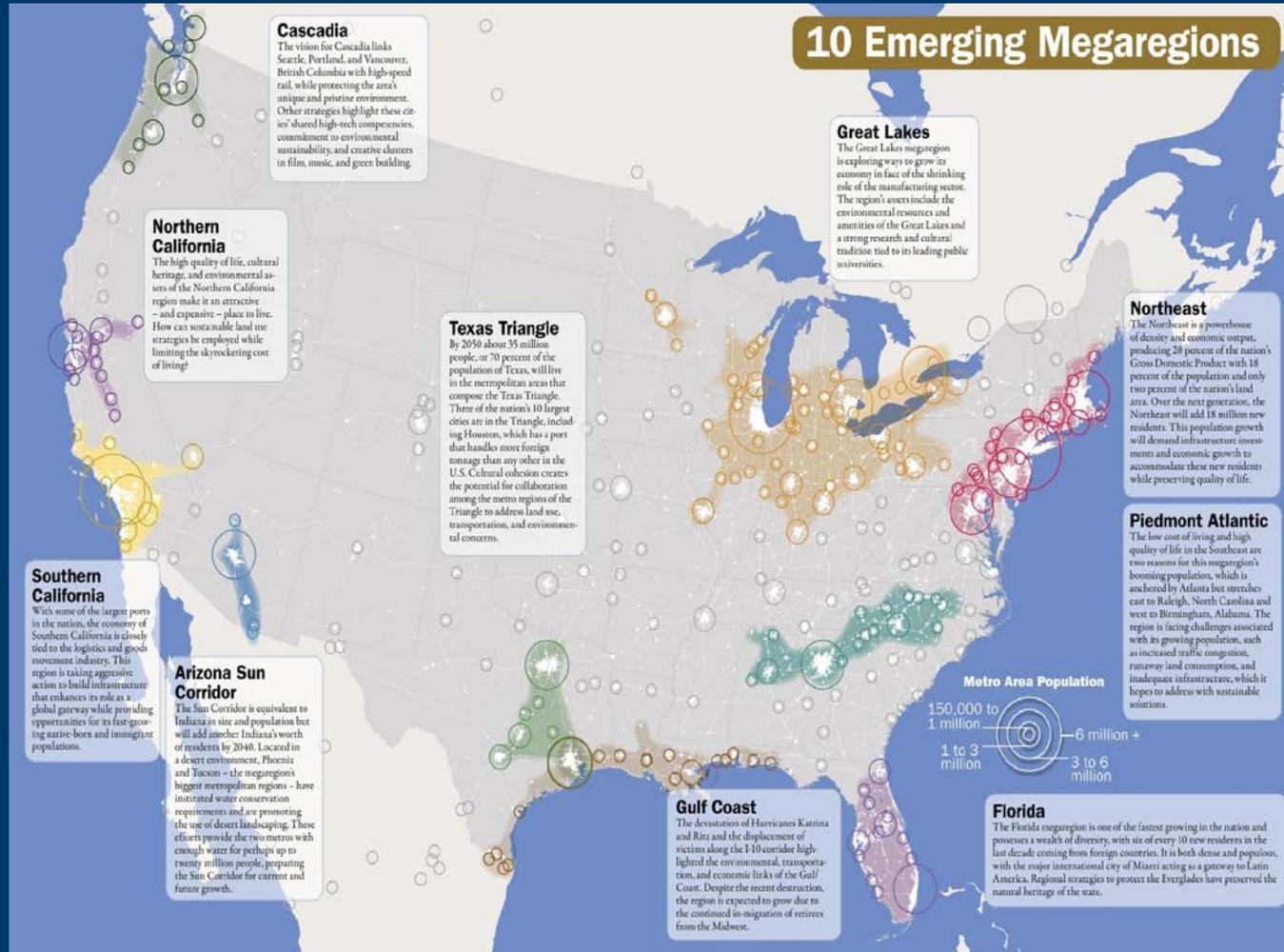
Overview: Transportation Economics Model

- **Transportation Demand**
 - » Demand for mobility and access
 - » People and freight
 - » Long distance and local circulation
- **Transportation Supply**
 - » Across transportation modes
 - » Regulatory complexity
 - » Materials cost
- **Resulting Mismatch?**
 - » Congestion
 - » Reliability
 - » Safety
- **Policy Considerations**
 - » Fuels
 - » Environmental Impacts
 - » Economic development
 - » Sustainable systems

Overview: Sources of Change

- **Transportation Demand**
 - ✓ Population increases & emergence of new mega-regions
 - ✓ Freight tonnage increasing
 - ✓ Personal income/recession influence
 - ✓ Transit ridership increasing
- **Transportation Supply**
 - ✓ Legacy infrastructure systems aging
 - ✓ Increased materials costs
 - ✓ Increased demand for accountability
- **Resulting Mismatch?**
 - ✓ Location and equity issues among populations
 - ✓ Increasing extent & duration of congestion
 - ✓ Reduced reliability conflicting with J-i-T
 - ✓ Safety
- **Policy Considerations**
 - ✓ Vehicles/Fuels mix changing
 - ✓ Continued loss of life
 - ✓ Global competition

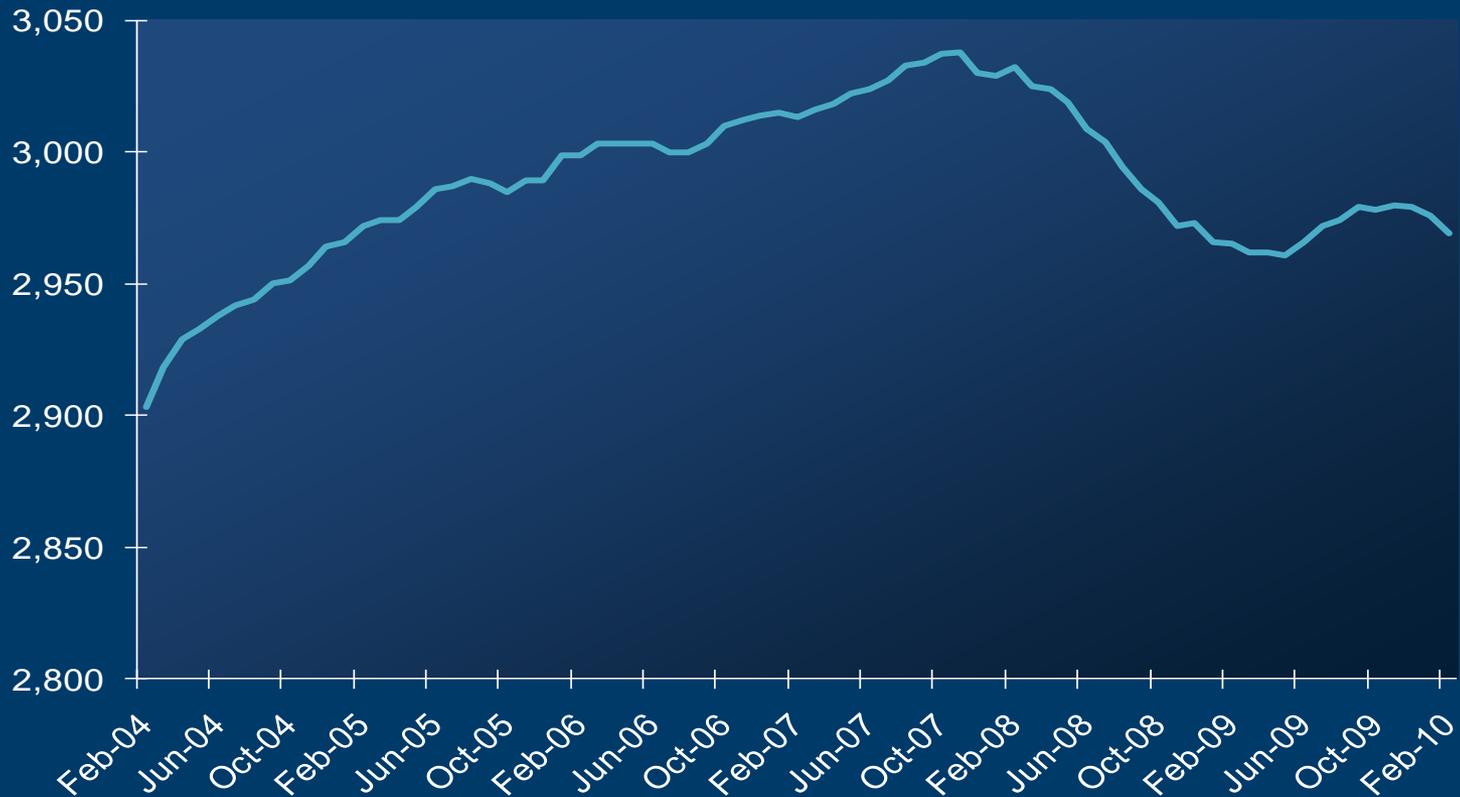
Ten Emerging Megaregions



VMT Trends

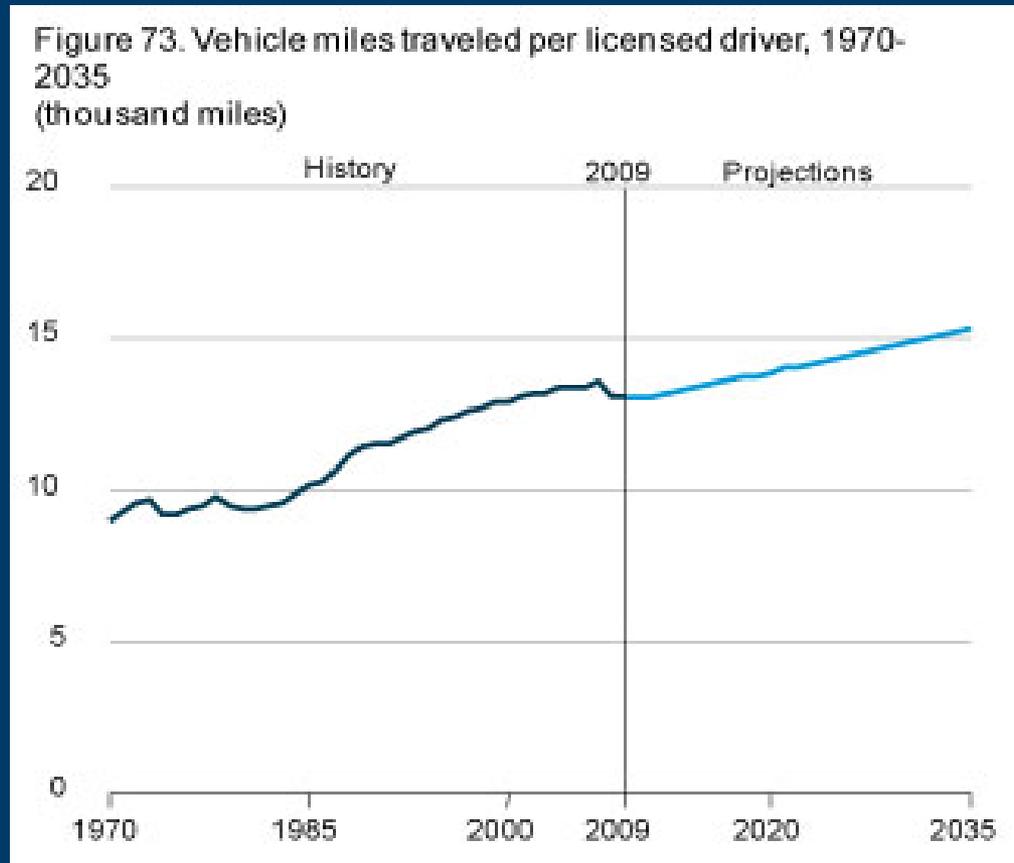
February 2004 to February 2010 (Moving 12-Month Total)

(Billions of Miles)



Source: AASHTO.

VMT Projections



Source: Energy Information Administration, Annual Energy Outlook 2011 (Figure 73).

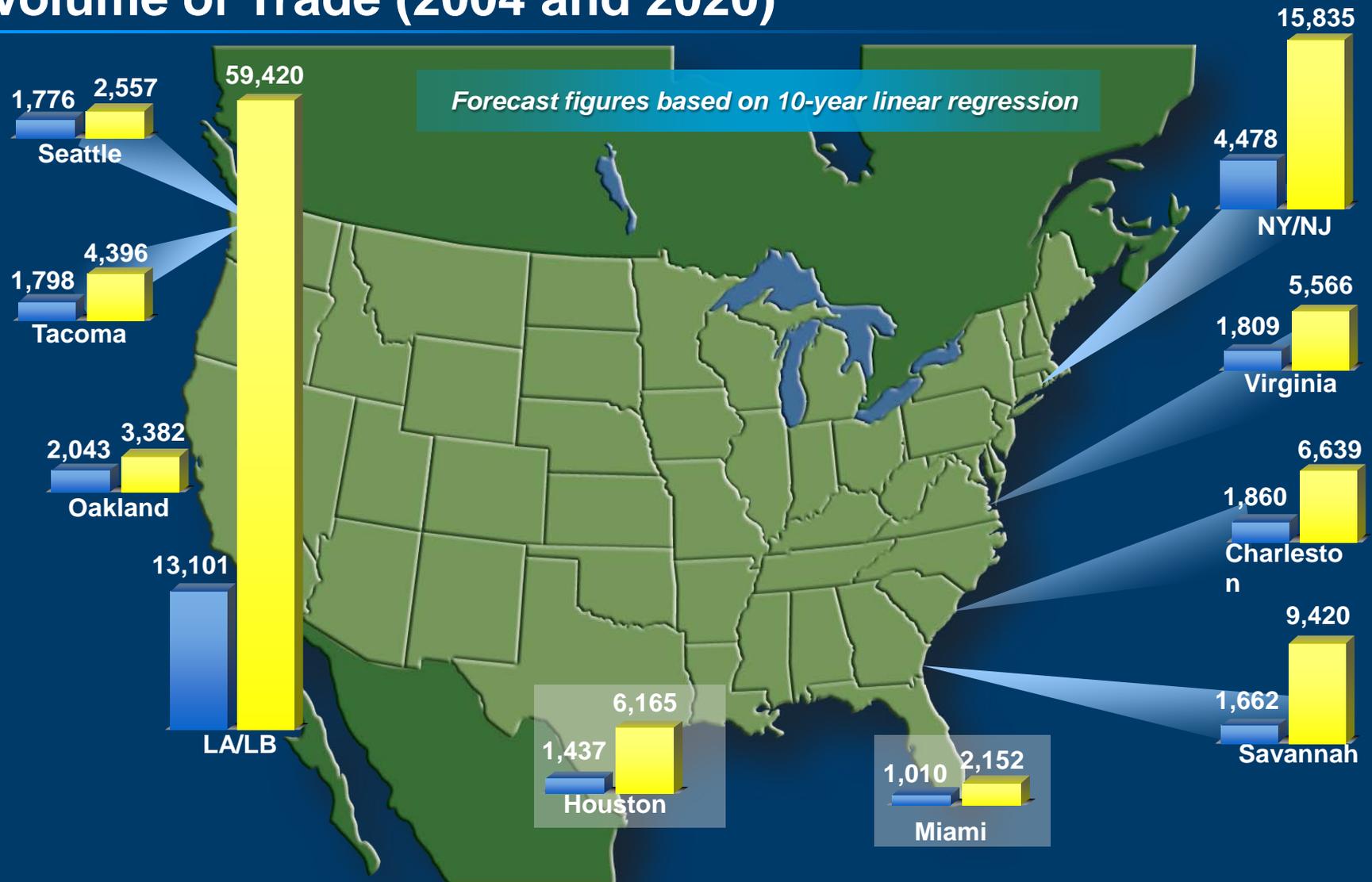
Passenger Miles and Ridership (Index 1990 = 100)



Source: Cambridge Systematics, Inc. analysis of APTA data.

Dramatic Increase in U.S. Maritime Trade

Volume of Trade (2004 and 2020)



Source: U.S. DOT.

(TEUs in thousands)



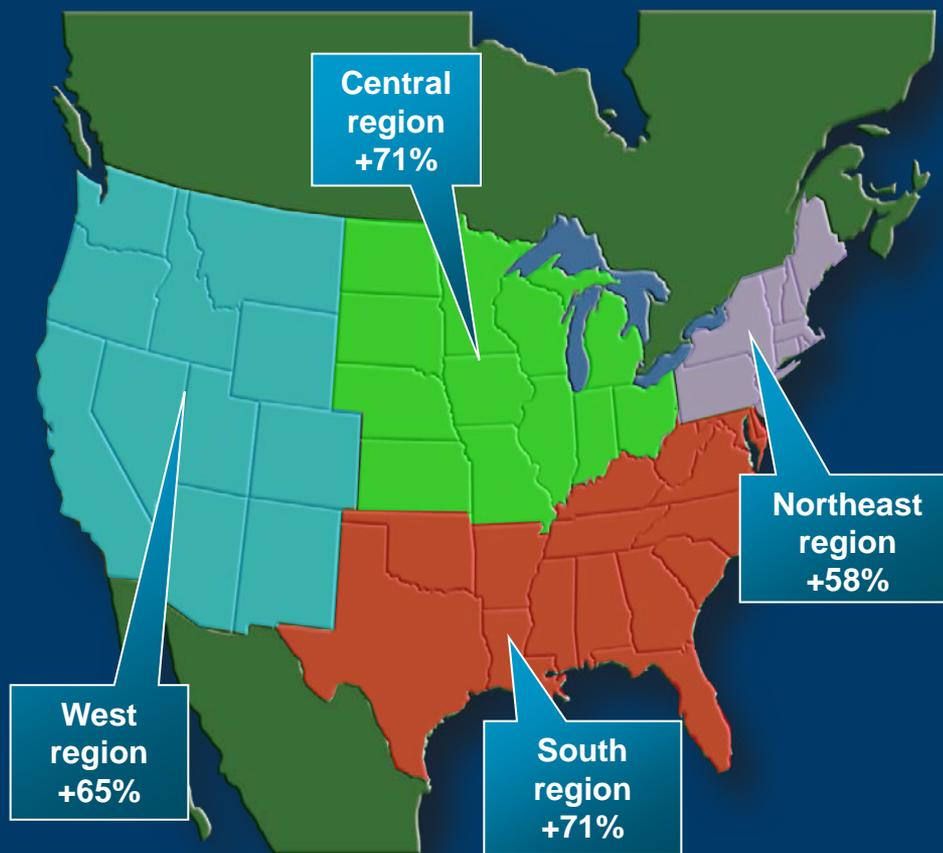
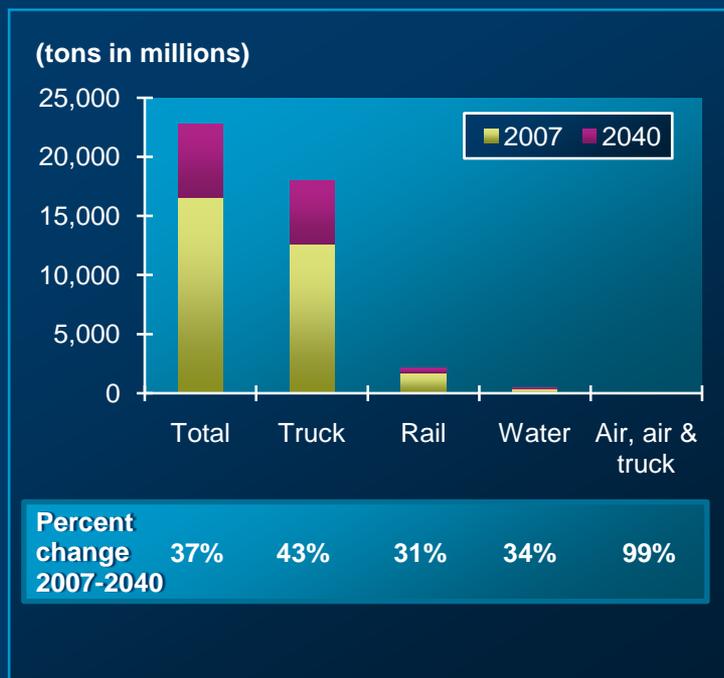
2004



2020

More Trade Means More Domestic Freight Movements...

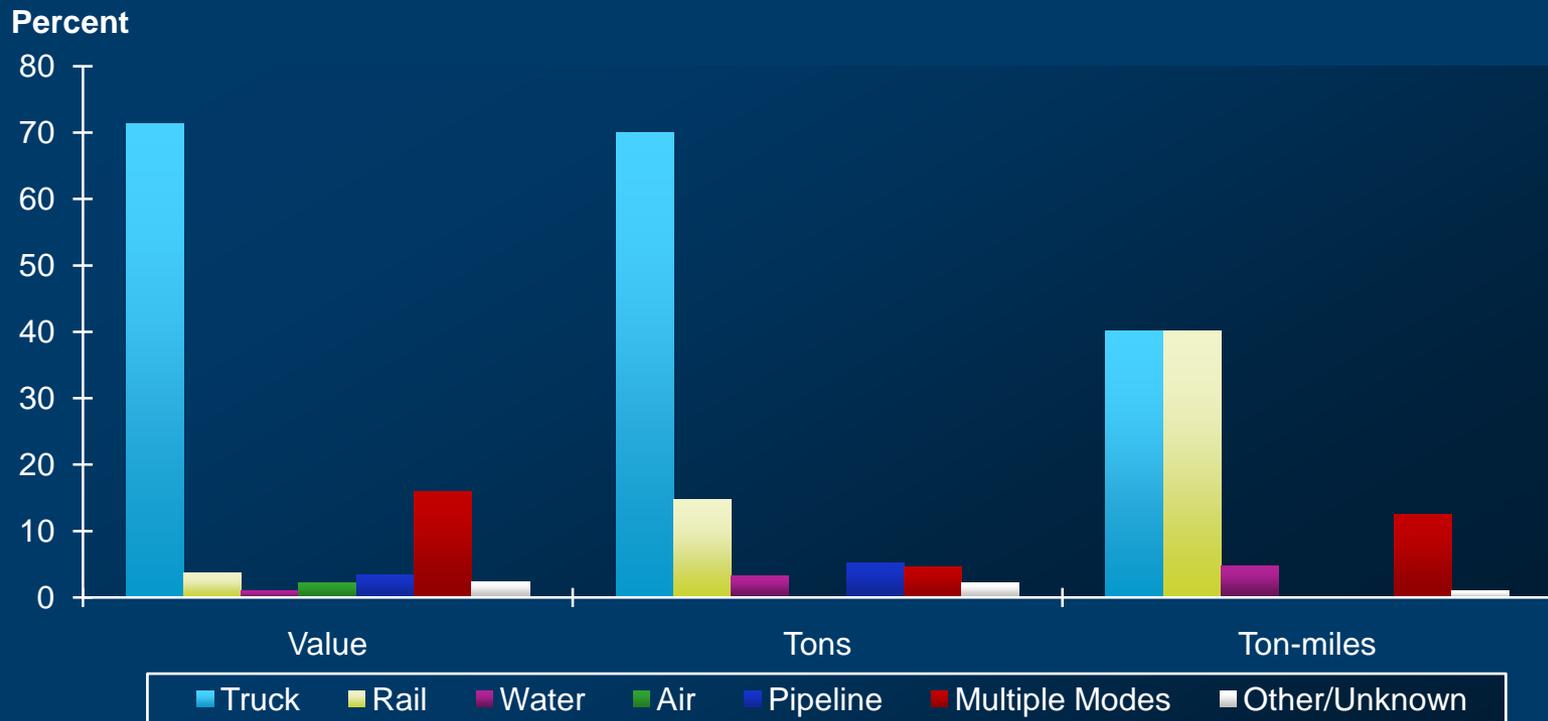
U.S. domestic freight tonnage growth forecast, 2007 to 2040



Source: U.S. DOT.

Freight Tons, Value, and Ton-Miles 2007

Trucking dominates domestic freight movement; rail is critical to the movement of bulky, lower-value commodities and for heavy shipments moving long distances



Source: Bureau of Transportation Statistics and U.S. Census Bureau, "2007 Economic Census, Transportation, 2007 Commodity Flow Survey," Table 1b.

2008 C&P Report

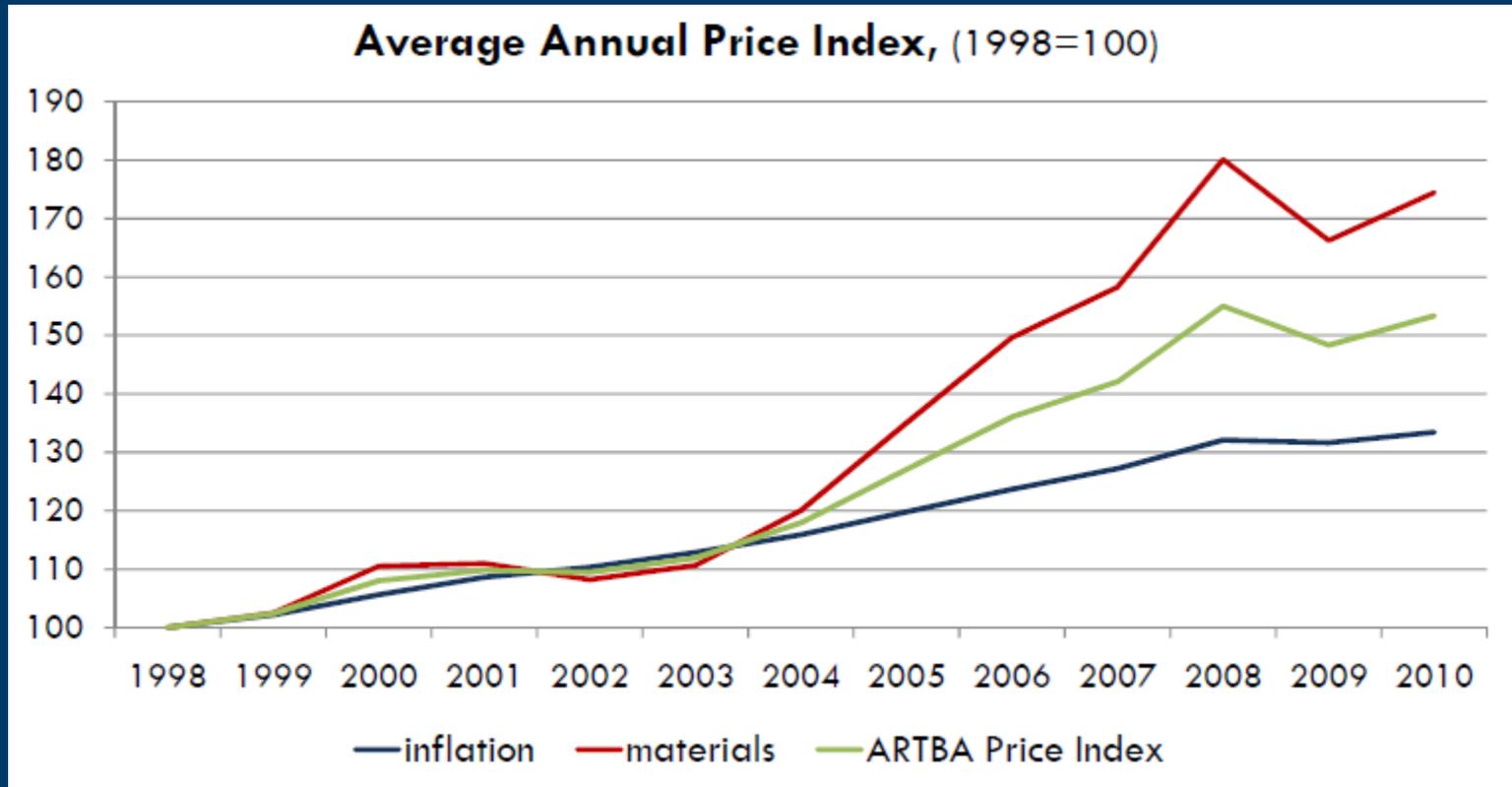
Capital Investment Needs

Billions of 2006 Dollars



Source: Federal Highway Administration, 2008 Conditions and Performance Report.

CPI, PPI, and ARTBA Price Index



Source: U.S. Bureau of Labor Statistics; ARTBA Price Index (ARTBA presentation to The Road Gang).

FHWA National Highway Construction Cost Index

Chained-Type Index: March, 2003 = 1.00

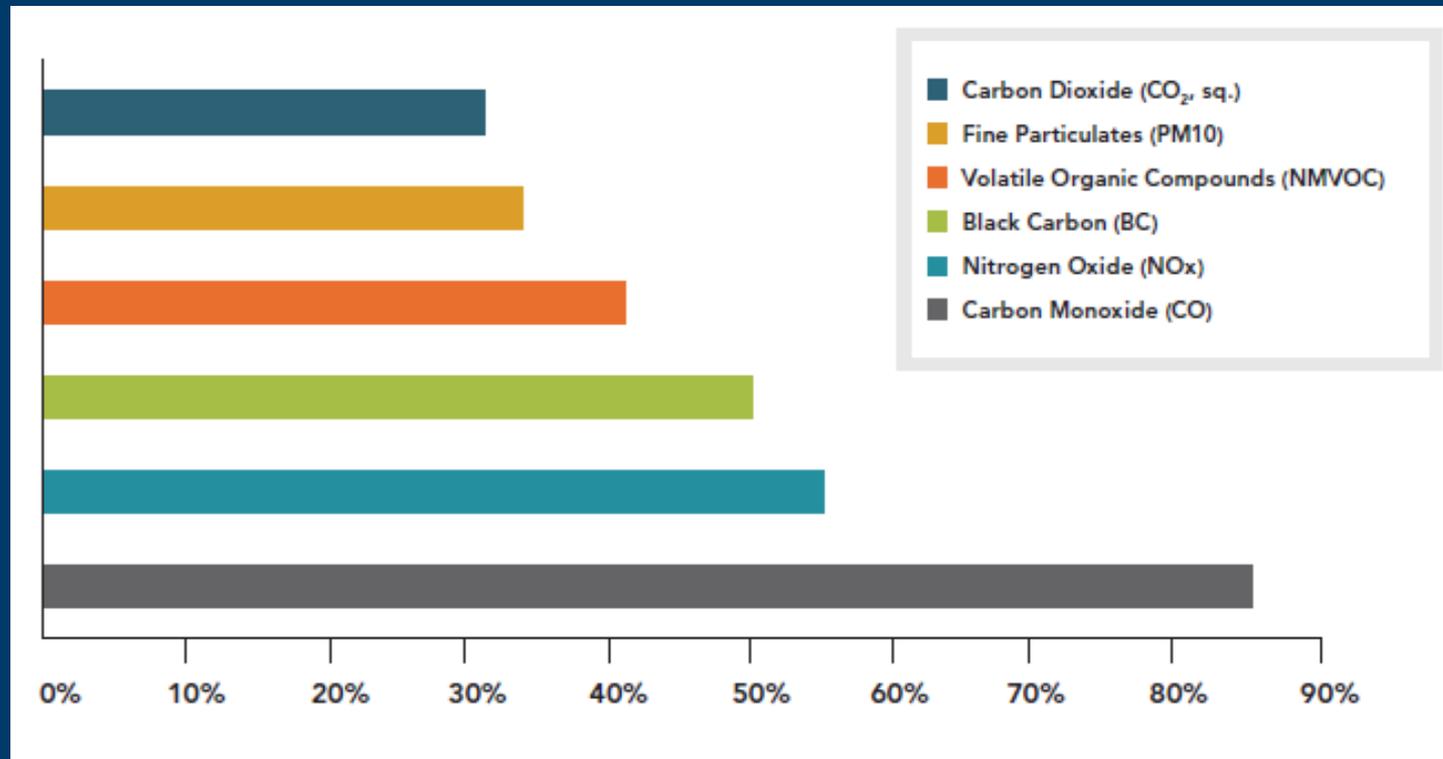


Source: Federal Highway Administration, National Highway Construction Cost Index.

Policy Considerations

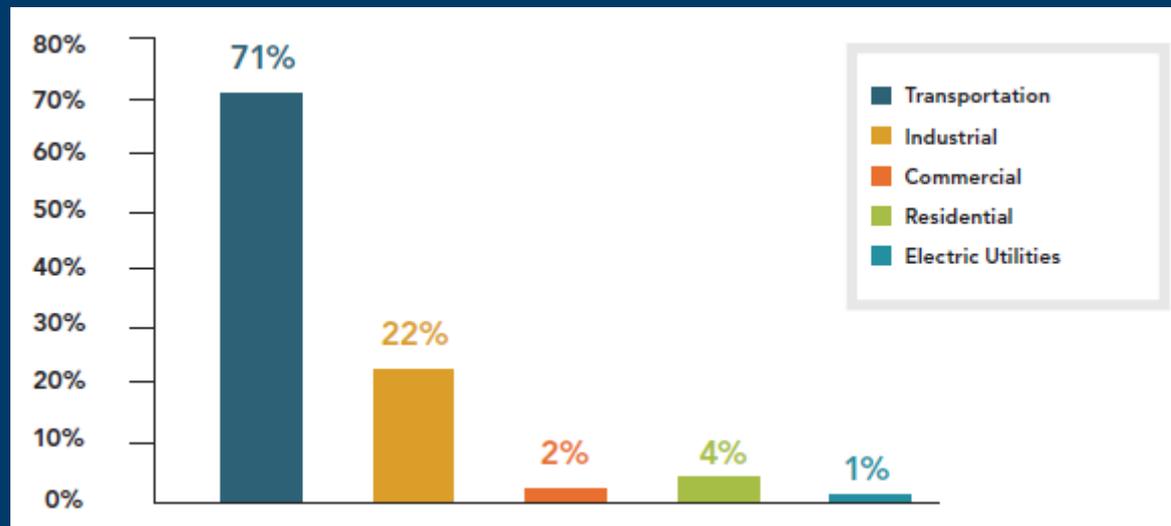
- **Project- and Program-Level Impacts**
 - » **Sustainable systems**
 - » **Fuels, including Energy Efficiency**
 - » **Environmental Impacts**
 - **Emissions, Climate, and Air Quality**
 - **Human, including community**
 - **Habitats**
- **Benefits**
 - » **Economic development**
 - » **Choice**
- **Intergovernmental and Institutional**

U.S. Share of Air Pollutants and Climate Gases Attributed to Transportation



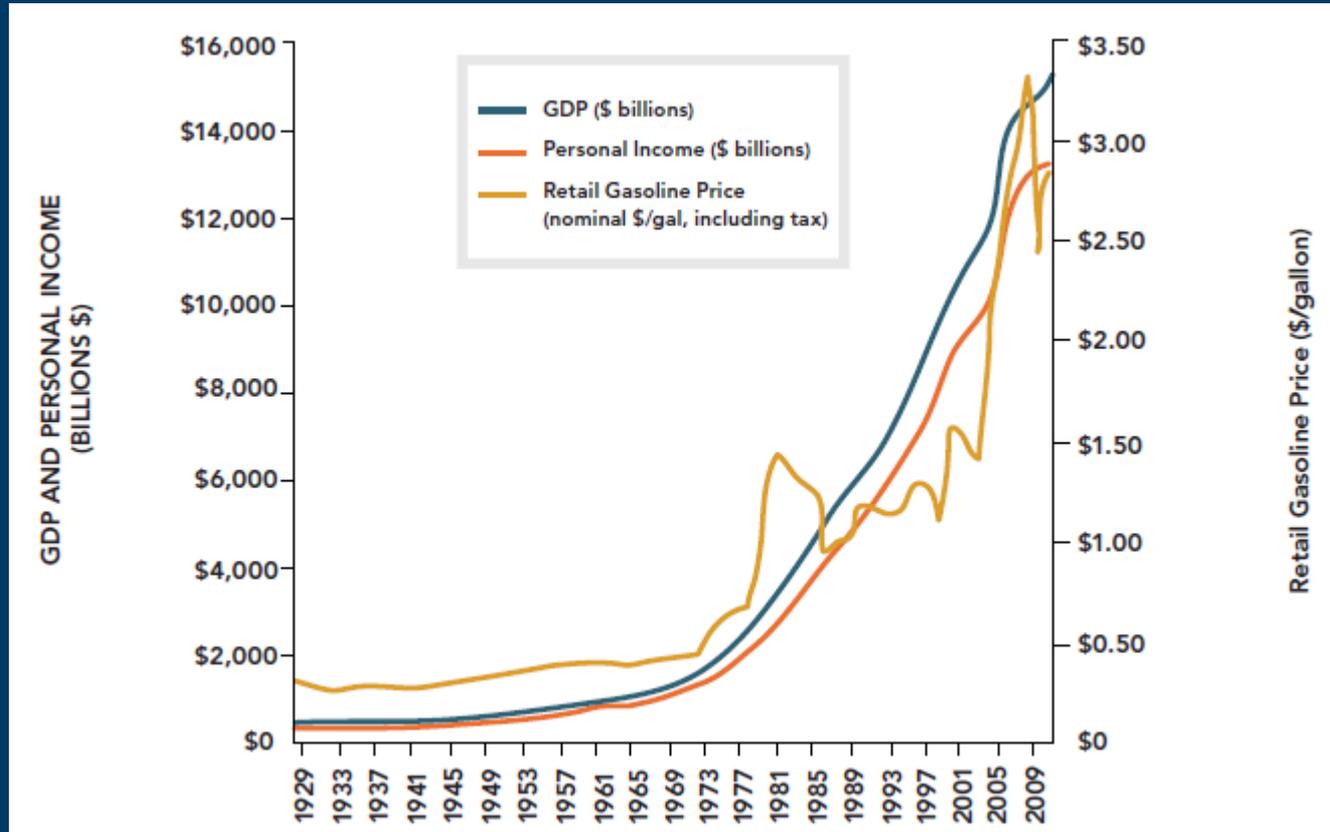
Source: Carnegie Endowment for International Peace, Road to Recovery, July 2011.

U.S. Petroleum Consumption by End-Use Sector 2009



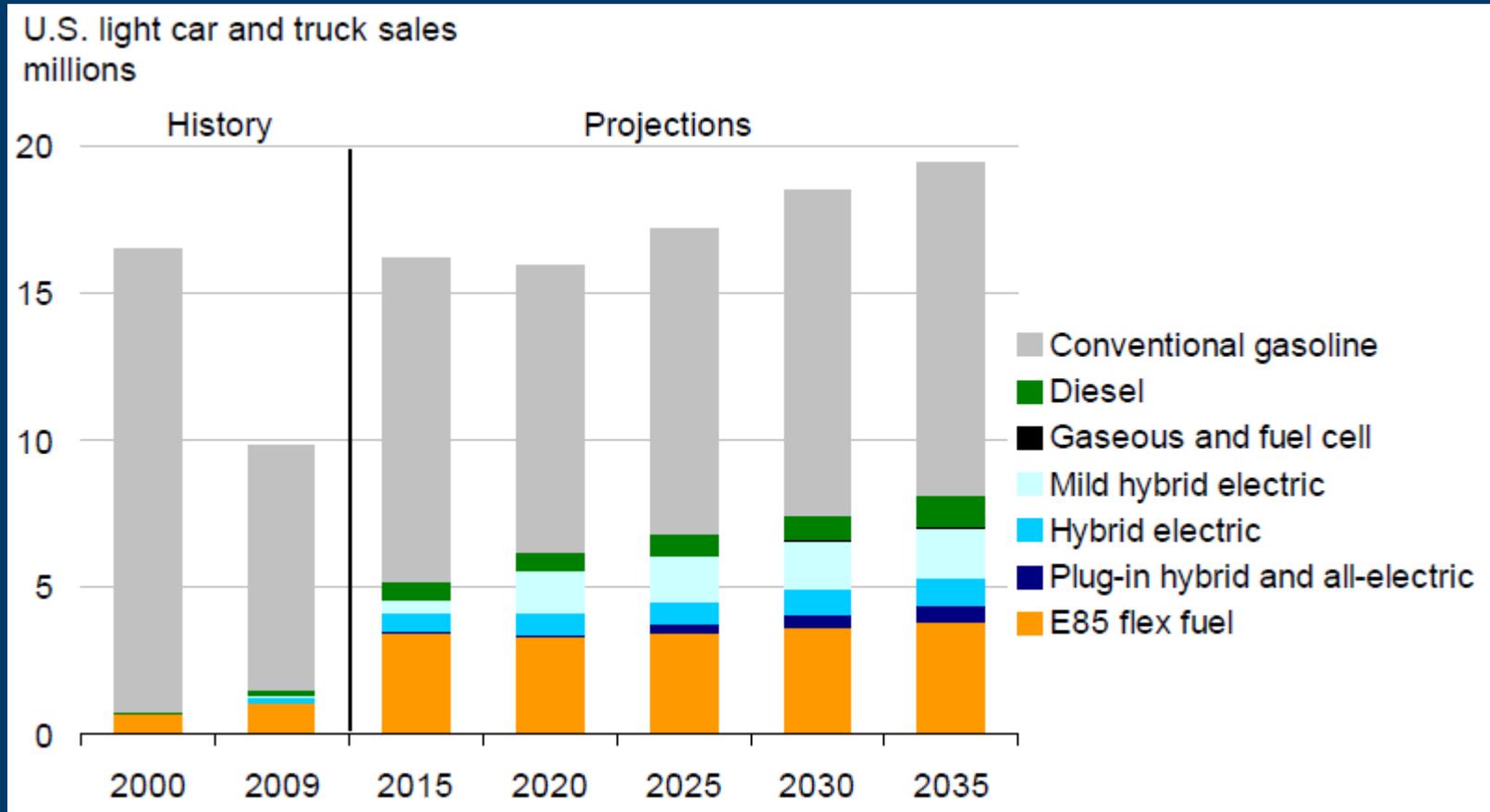
Source: Carnegie Endowment for International Peace, Road to Recovery, July 2011. Figure 4.1, p.78.

Gasoline Price versus Productivity and Income



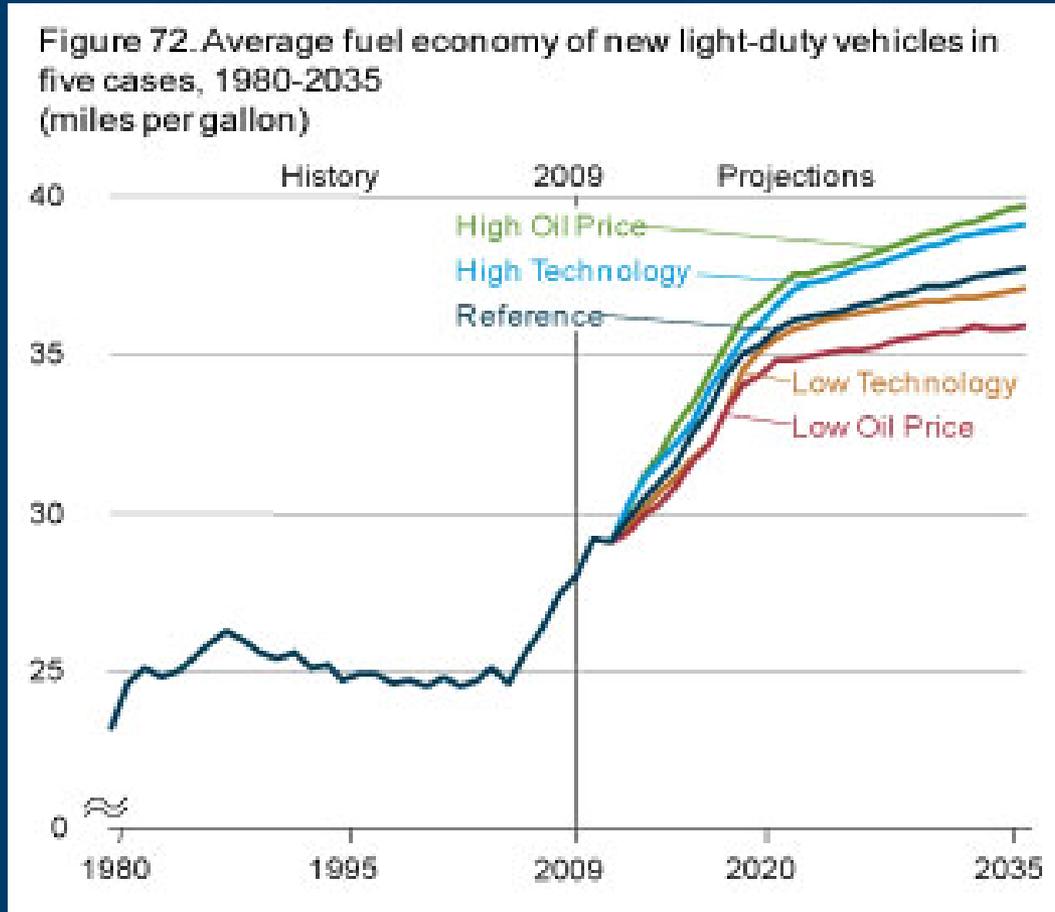
Source: Carnegie Endowment for International Peace, Road to Recovery, July 2011. Figure 3-3, p. 63.

Projections of Vehicle Sales through 2035



Source: EIA, Annual Energy Outlook (2011).

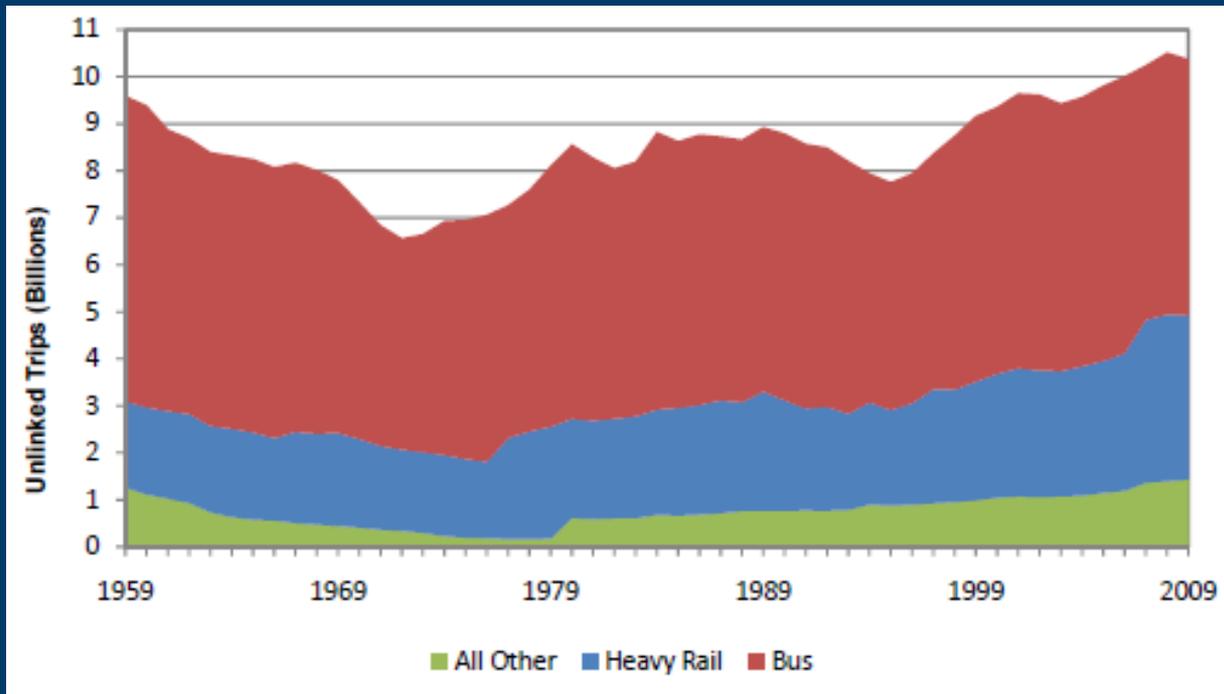
CAFÉ Standards will Impact Fuel Tax Yield



Source: Energy Information Administration, Annual Energy Outlook 2011.

Modal Shifts

Transit Ridership at Highest Level in Five Decades

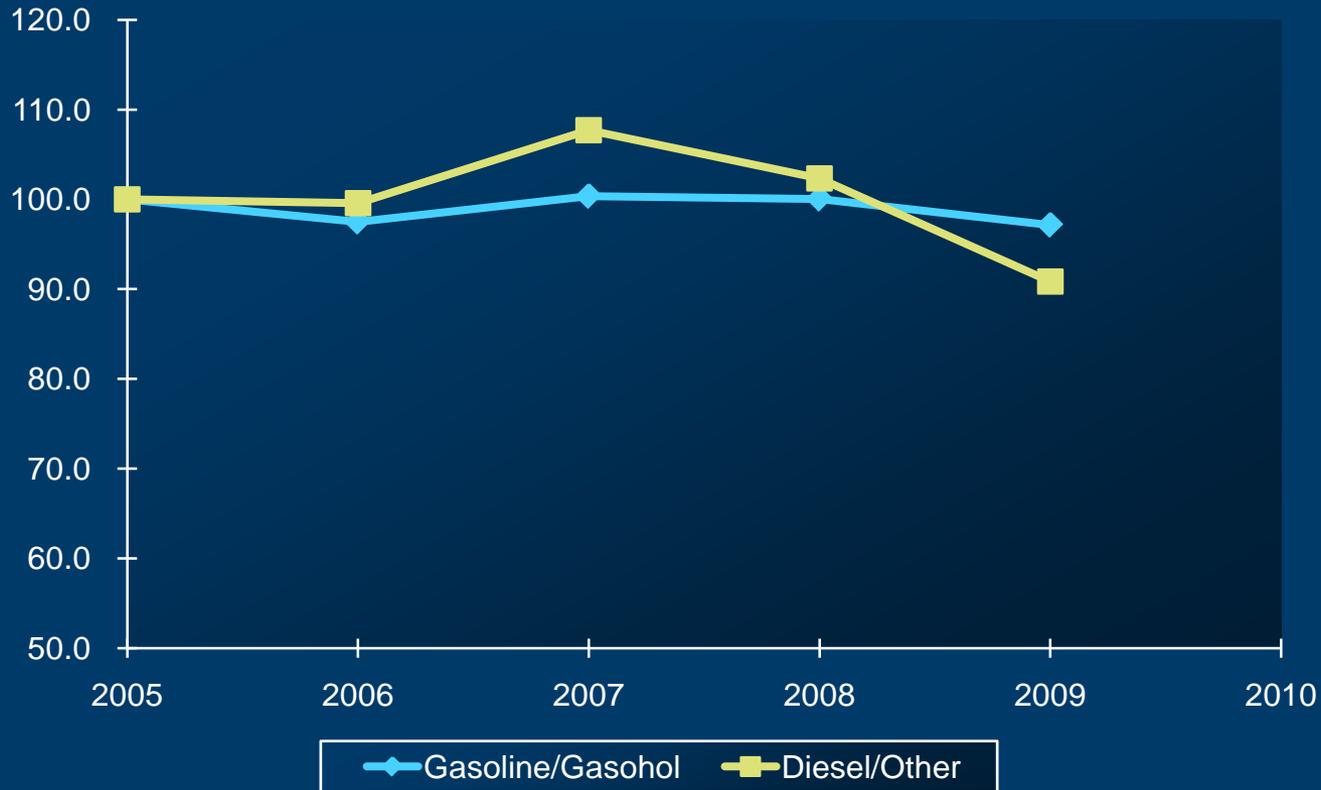


Source: APTA 2011 Fact Book.

Federal Fuel Tax Yield

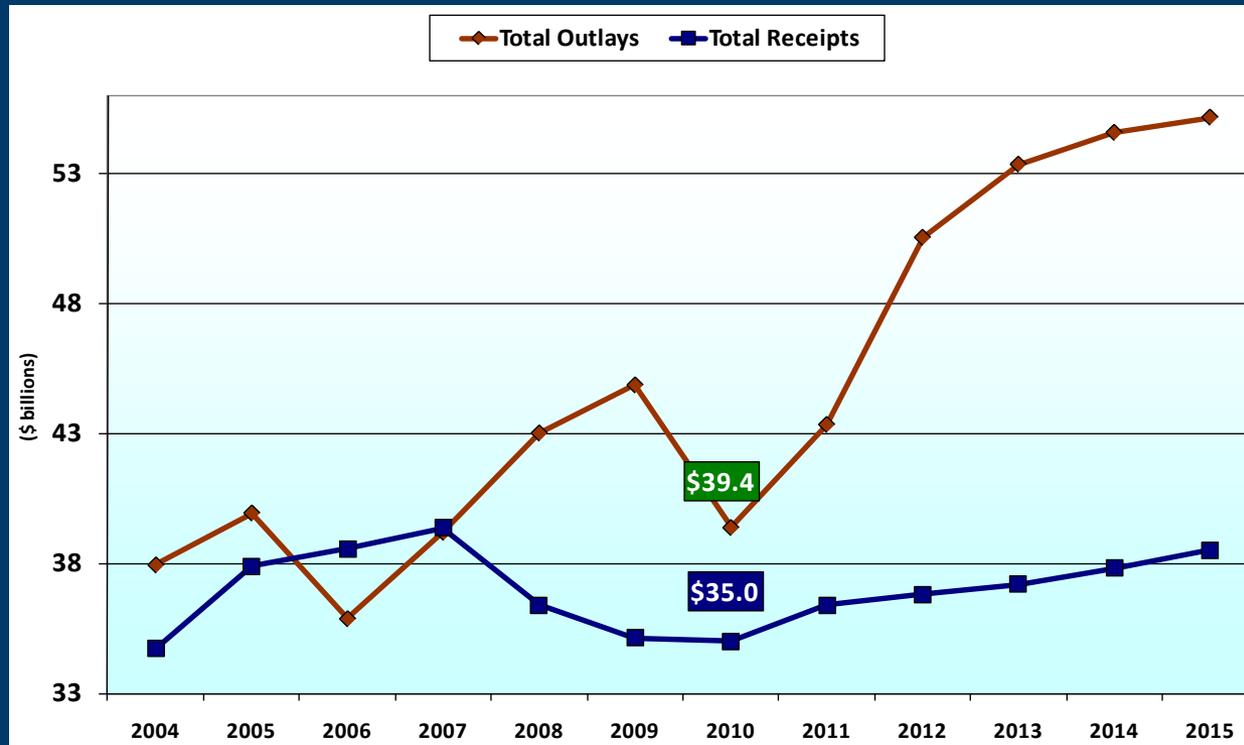
Index 2005 = 100

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Source: Cambridge Systematics, Inc. analysis of FHWA Highway Statistics data.

Highway Trust Fund Receipts and Outlays Discrepancy

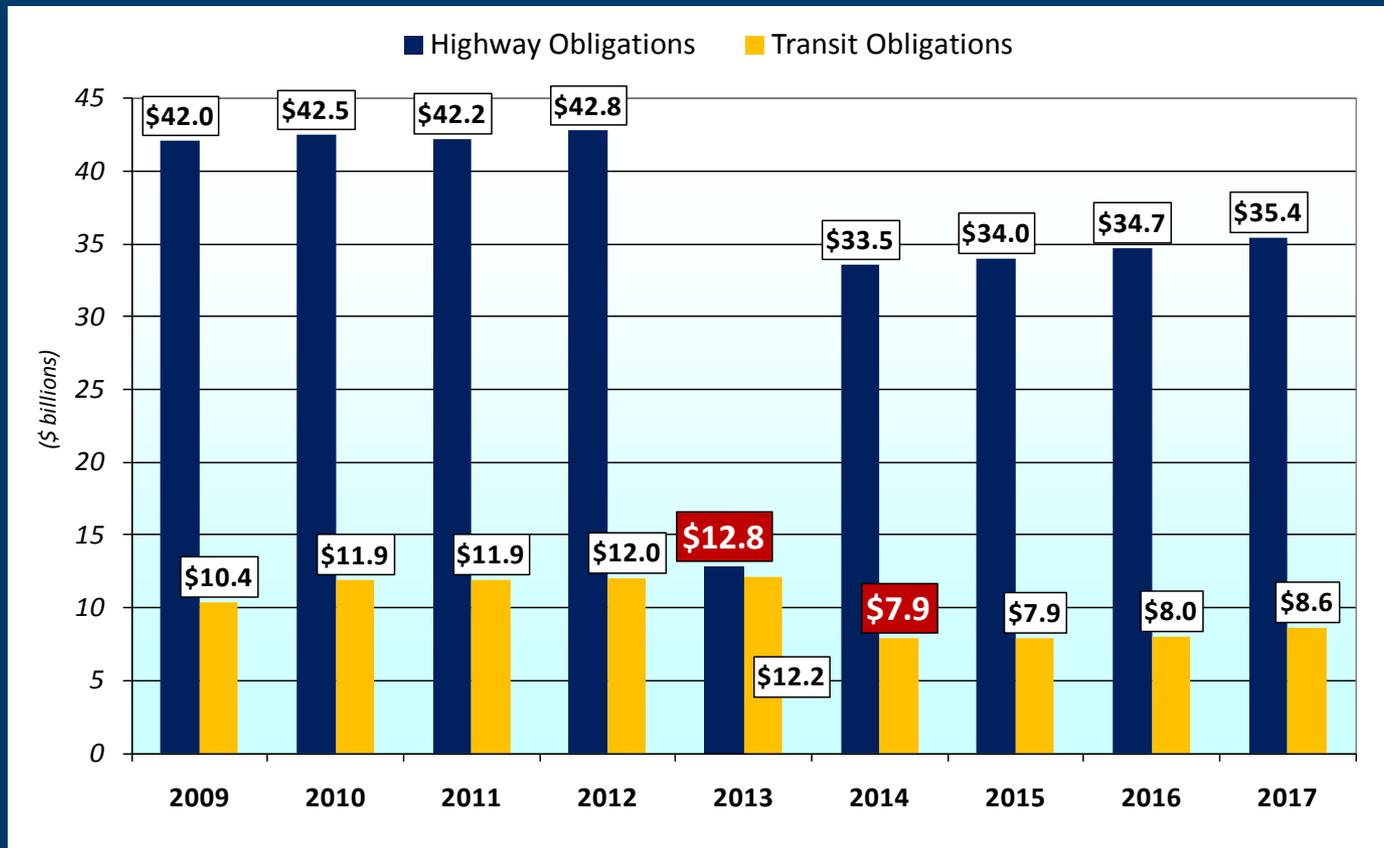


Source: AASHTO.

Note: Excludes \$8.017 billion transfer from General Fund to Highway Account of HTF in September 2008; \$7 billion transfer from General Fund to Highway Account of HTF in August 2009; \$19.5 billion transfer from General Fund to Highway and Mass Transit Accounts of HTF in March 2010.

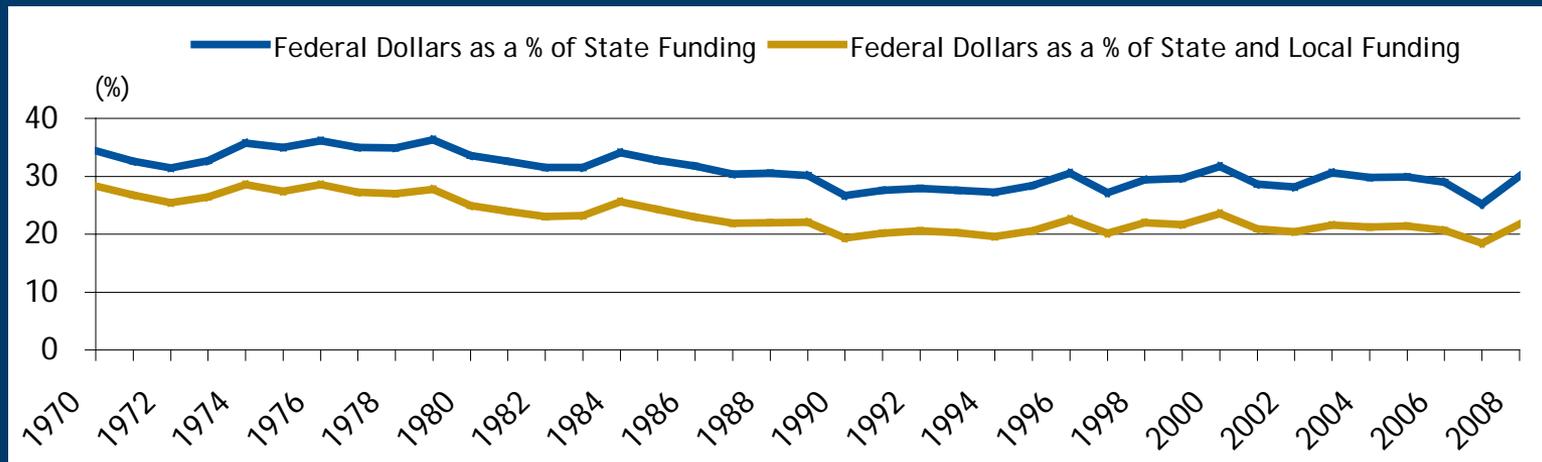
HTF Obligations

Highway and Transit



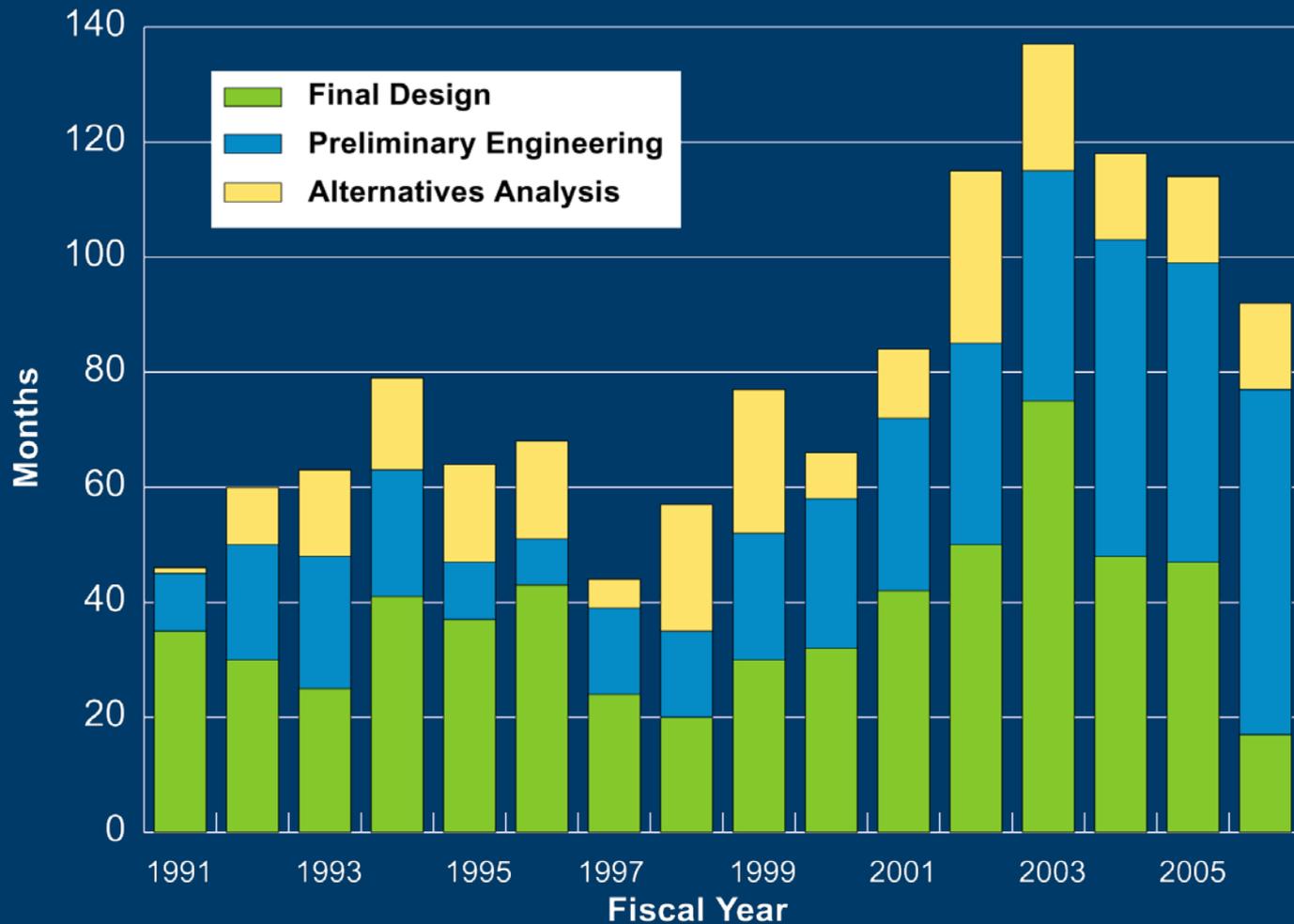
Source: AASHTO.

Signs of Federal Devolution



Source: Federal Highway Administration.

Time to Complete the New Starts Process



Source: National Surface Transportation Policy and Revenue Study Commission.

Environmental Impact Statement

Processing Time (FY 1998-2006)



Source: National Surface Transportation Policy and Revenue Study Commission.

Long Run Policy Trends: Signs of Accountability and Devolution

Uncertainty/declining Federal resources lead to questions of reliability and sustainability of Federal role

- **Predictability and consensus are basic ingredients to a sustainable system**
 - » 3 HTF transfers, 7 extensions (since SAFETEA-LU expired) through 9/11
- **Accountability and transparency are in the hands of system owners and operators**
- **Public values responsible, smart management**
 - » Need to communicate in terms of achieving and retaining system performance
- **At risk is productivity and quality of life through congestion, decay of assets, and externalities**

The Changing World of Transportation

Summary

Aspects

- **Transportation Demand**
 - » Mobility and access
 - » People and freight
 - » Long distance and local circulation
- **Transportation Supply**
 - » Regulatory complexity
 - » Multi-Modal
 - » Materials cost
- **Resulting Mismatch?**
 - » Increasing congestion
 - » Reliability
- **Policy Considerations**
 - » Fuels
 - » Environmental impacts
 - » Economic development
 - » Sustainable systems

Sources of Change

- ✓ **Demographics: increases & concentration**
- ✓ **Freight increasing**
- ✓ **Personal income; recession influence**
- ✓ **Transit ridership increasing**

- ✓ **Sticker Shock**
- ✓ **Preservation & Upgrade of Aging Legacy Systems**
- ✓ **Call for greater accountability**

- ✓ **Location changes**
- ✓ **Extent & duration of congestion increasing**
- ✓ **Reduced reliability**

- ✓ **Vehicles/fuels mix changing**
- ✓ **Less tolerance for continued loss of life**
- ✓ **Global scale markets**
- ✓ **Competitors addressing transportation edge**

Connecting Washington Task Force

QUESTIONS?

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