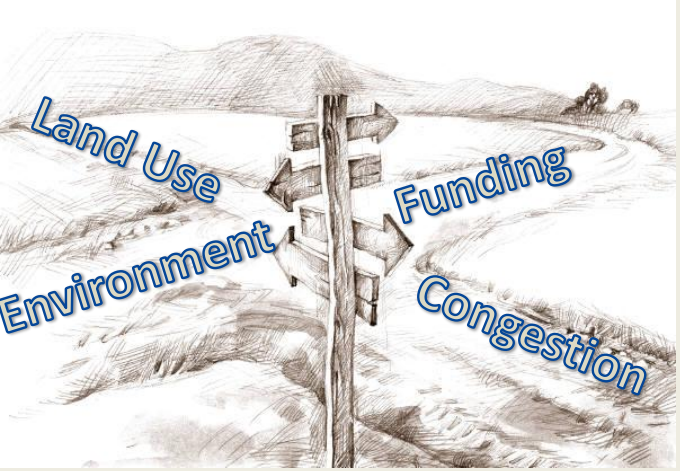

Transportation at a Crossroads

Florida Transportation Commission

July 16, 2009

Stephen Reich, Center for Urban Transportation Research

University of South Florida

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USF UNIVERSITY OF SOUTH FLORIDA
COLLEGE OF ENGINEERING

Reich's Critical Issues

- Linkages Between Land Use and Transportation
- The Environmental and Energy Implications of Transportation
- Demand Outpacing Supply
- Funding Issues

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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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- Support the broad public policy objectives of energy independence and environmental protection

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National Surface Transportation Policy and Revenue Study Commission

- Facilities are well Maintained
- 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
- Safety is Assured
- Transportation Decisions and Resource Impacts are Integrated
- Rational Regulatory Policy Prevails

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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

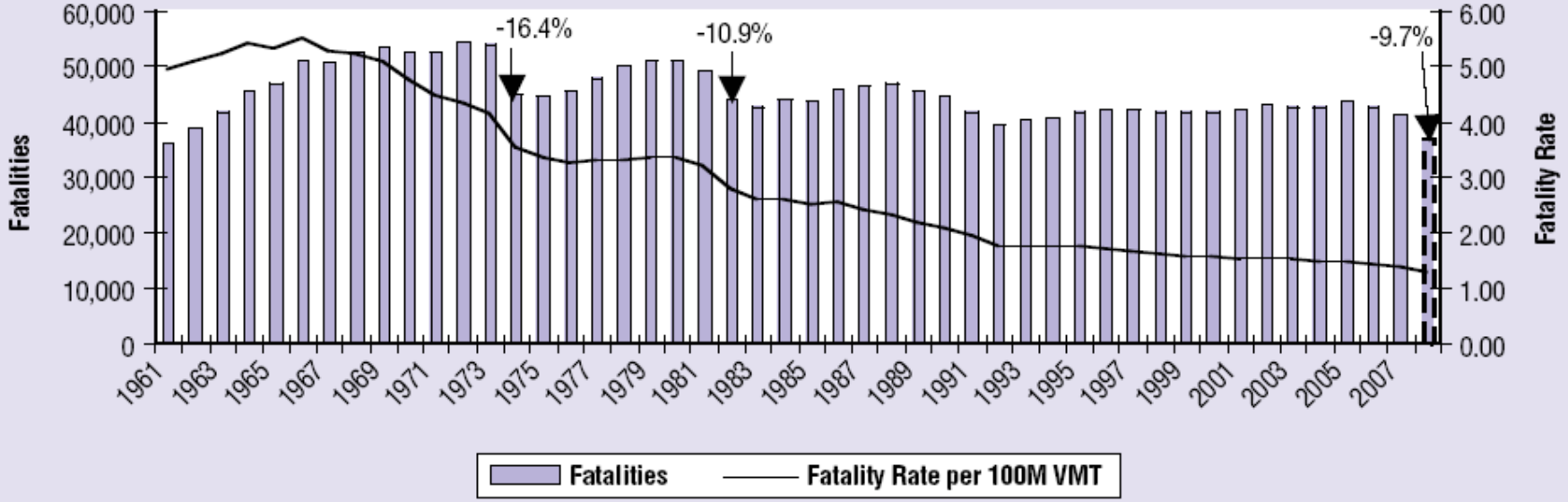
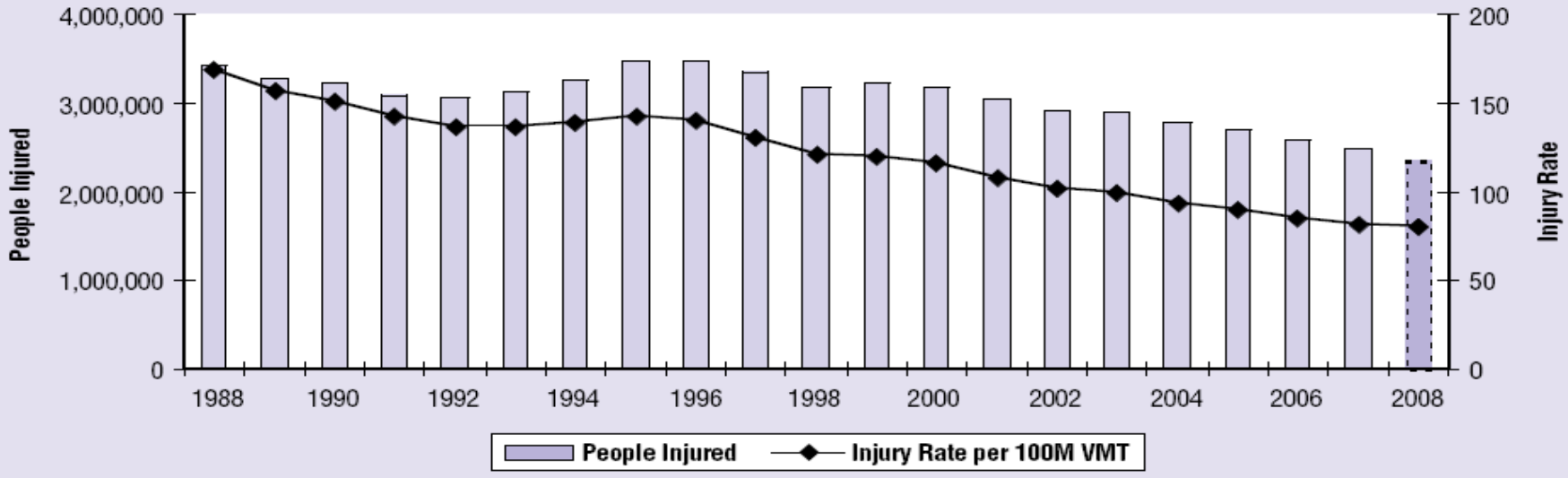
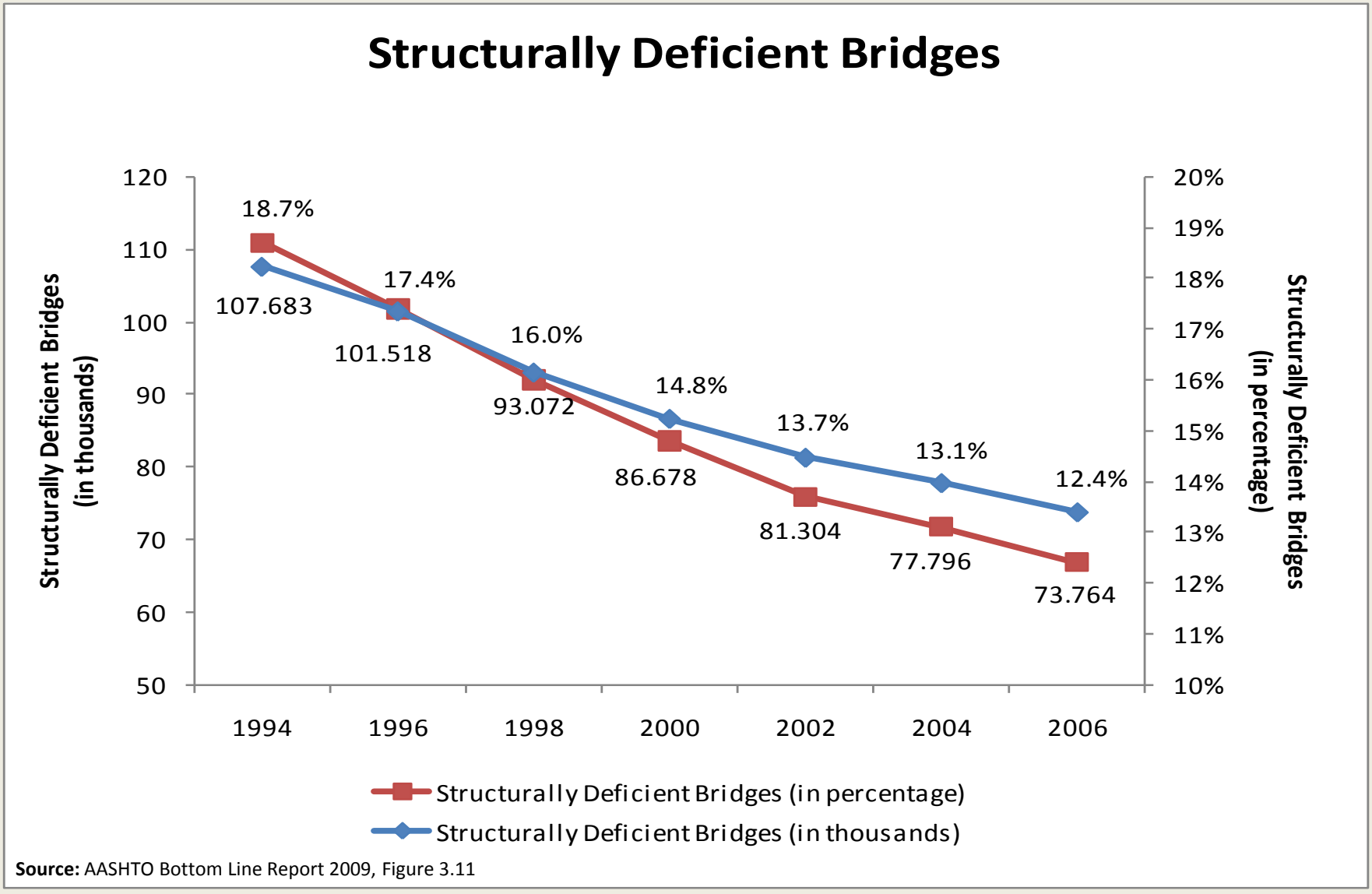


Figure 2: People Injured and Injury Rate per 100 Million VMT by Year, 1988-2008



Source: National Highway Traffic Safety Administration, 2009

AASHTO on Bridges



Source: AASHTO Bottom Line Report 2009, Figure 3.11

AASHTO on Pavements

Percent of VMT on Pavement by Condition of Pavement						
	1995	1997	1999	2000	2002	2004
Rural						
Percent Good	46.3	47.9	53.0	55.2	58.0	58.3
Percent Acceptable	91.5	92.5	93.5	93.8	94.1	94.5
Small Urban						
Percent Good	39.8	39.3	40.0	41.2	41.6	41.2
Percent Acceptable	83.9	84.0	83.9	84.1	84.4	84.3
Urbanized						
Percent Good	35.2	33.5	34.1	34.3	34.1	36.1
Percent Acceptable	83.5	82.6	81.0	79.9	79.3	79.2

Source: AASHTO Bottom Line Report 2009, Table 3.7

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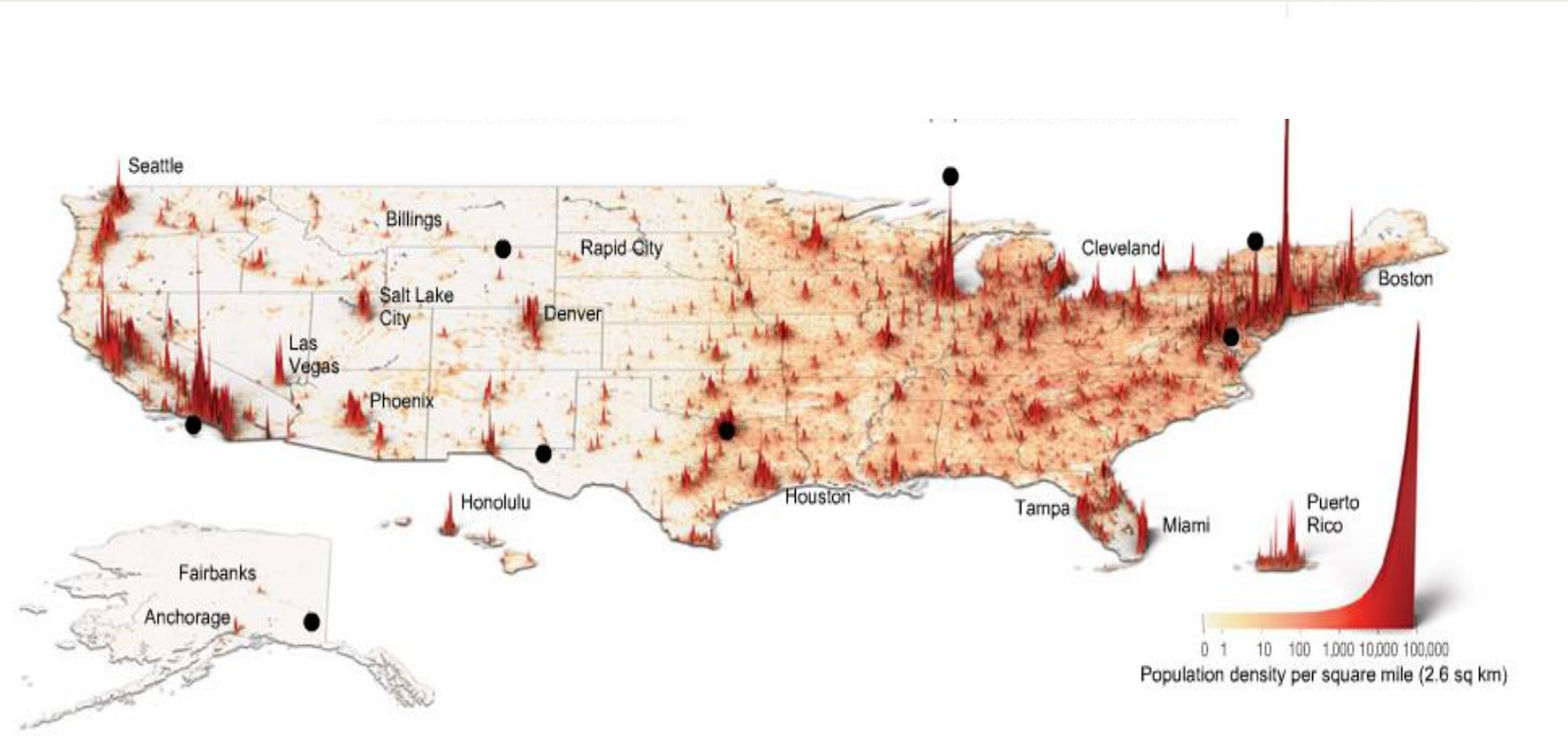

LINKAGES BETWEEN LAND USE AND TRANSPORTATION

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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

Source: Facts from Alan Pisarski's *Commuting in America III study,* http://onlinepubs.trb.org/onlinepubs/nchrp/CIAIIIfacts.pdf

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

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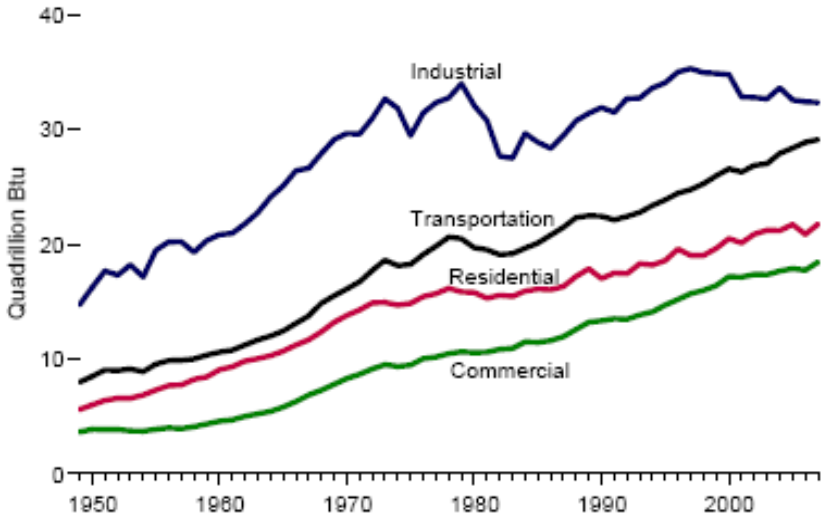

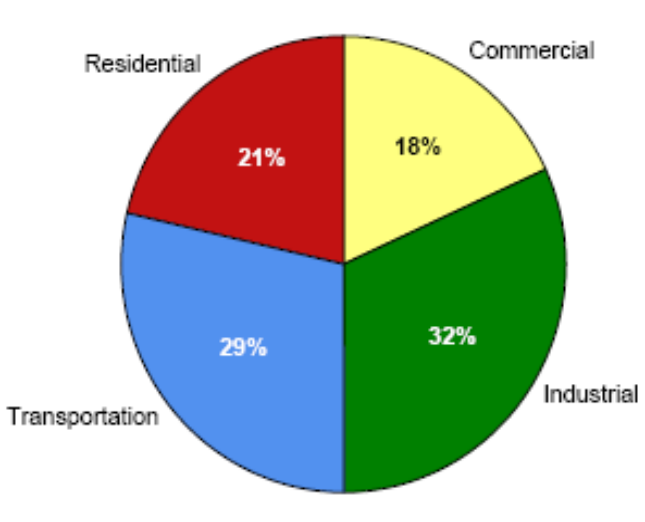

ENVIRONMENTAL AND ENERGY IMPLICATIONS

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

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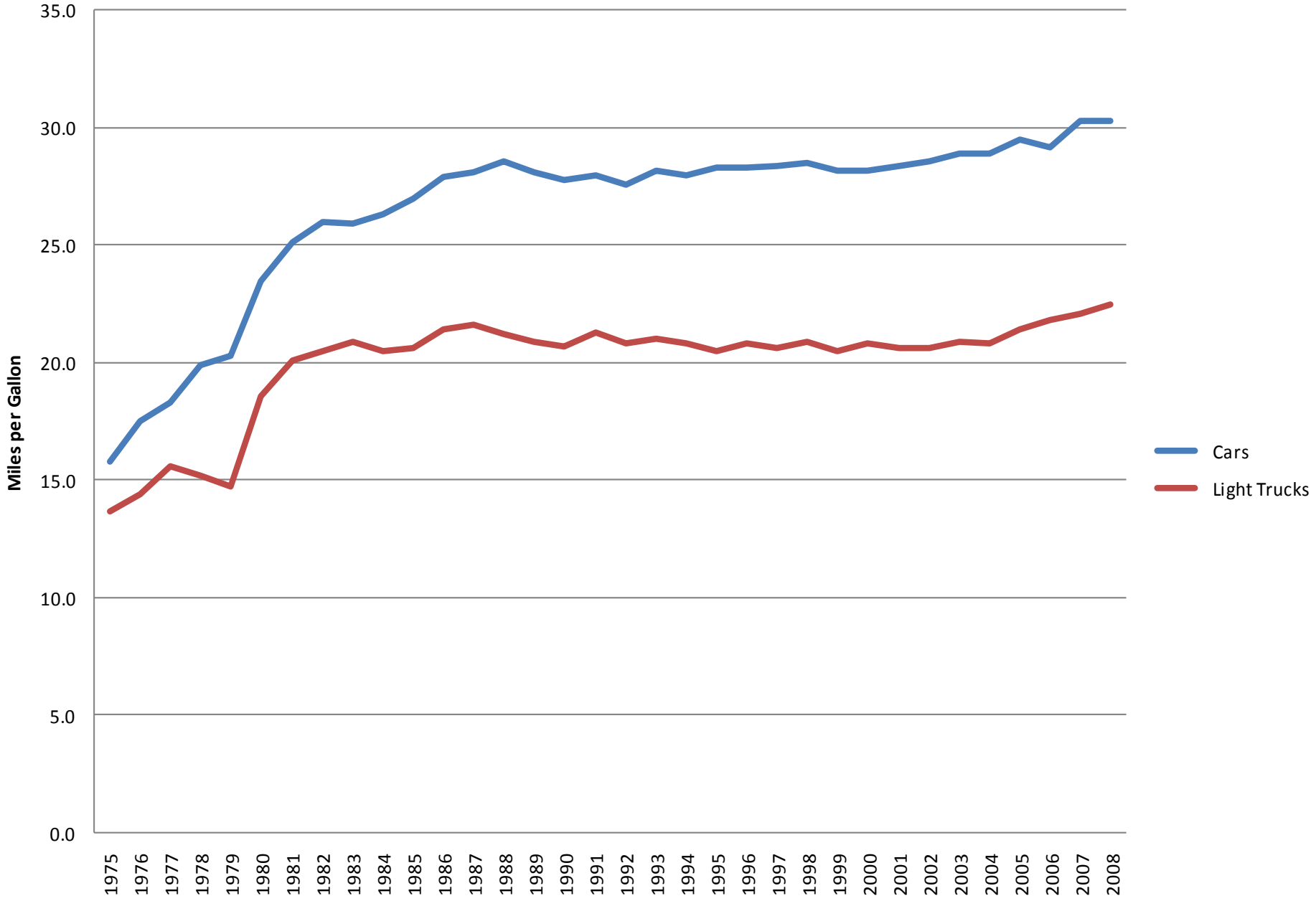
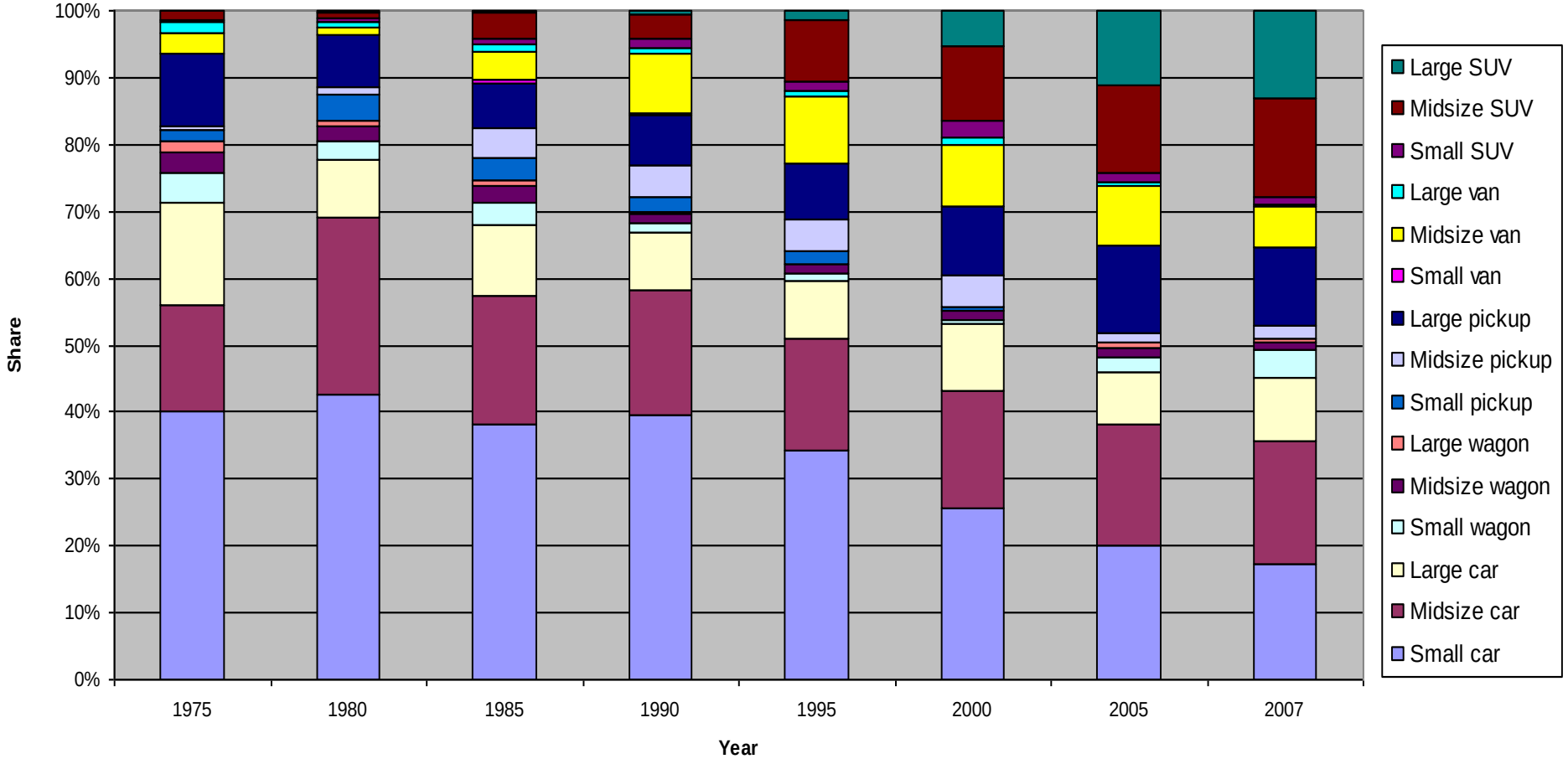
US Light Duty Fleet Fuel Efficiency 1975 - 2008



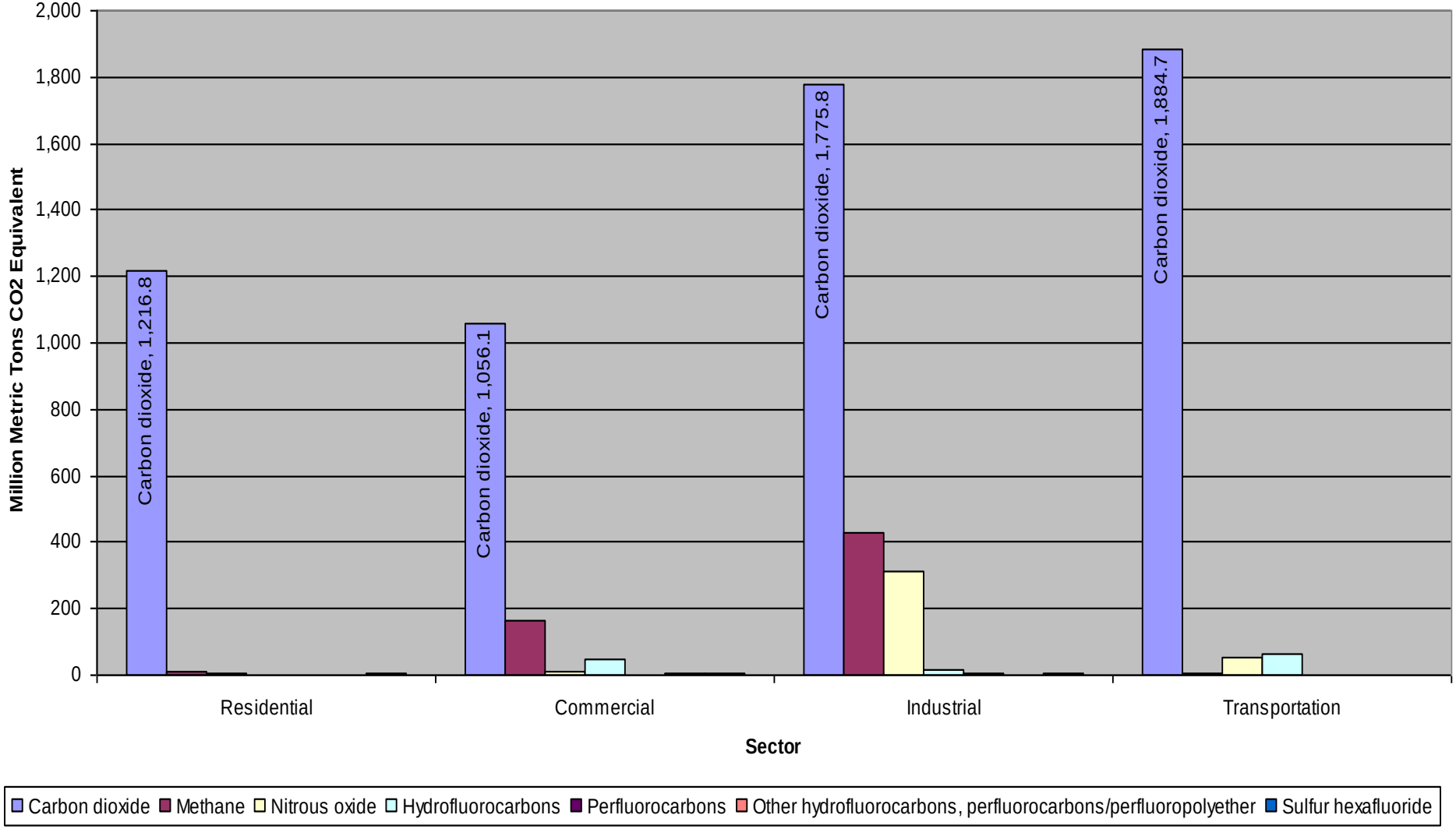
Source: US Department of Energy, Transportation Energy Data Boodk, Edition 28, Table 4.09 and Table 4.07

Light Vehicle Market Share - U.S. 1975-2007



Source: Transportation Energy Data Book, Edition 27

Total Greenhouse Emissions by Sector 2006



Source: Transportation Energy Data Book, Edition 27, Table 11.4

DEMAND OUTPACING SUPPLY

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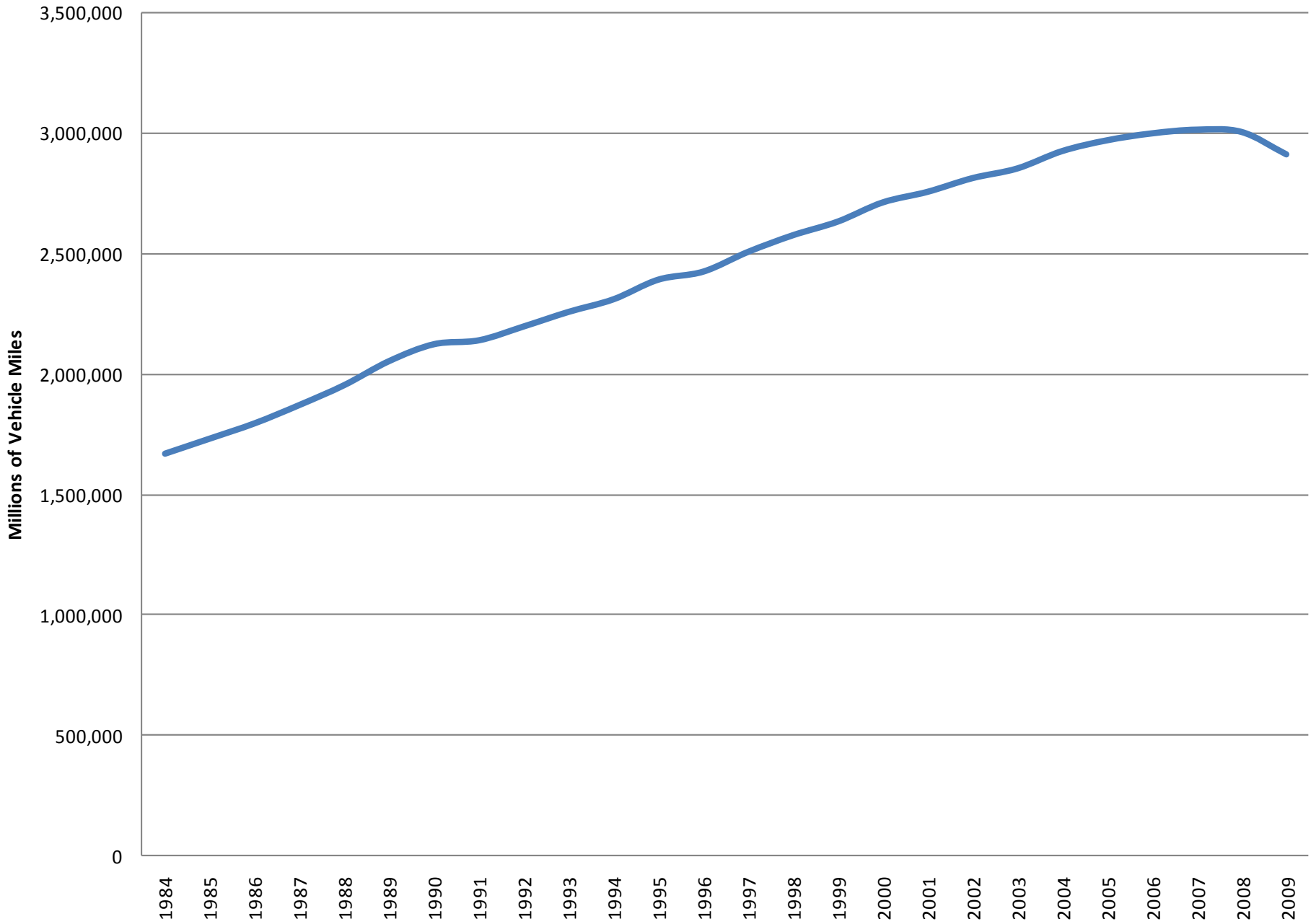
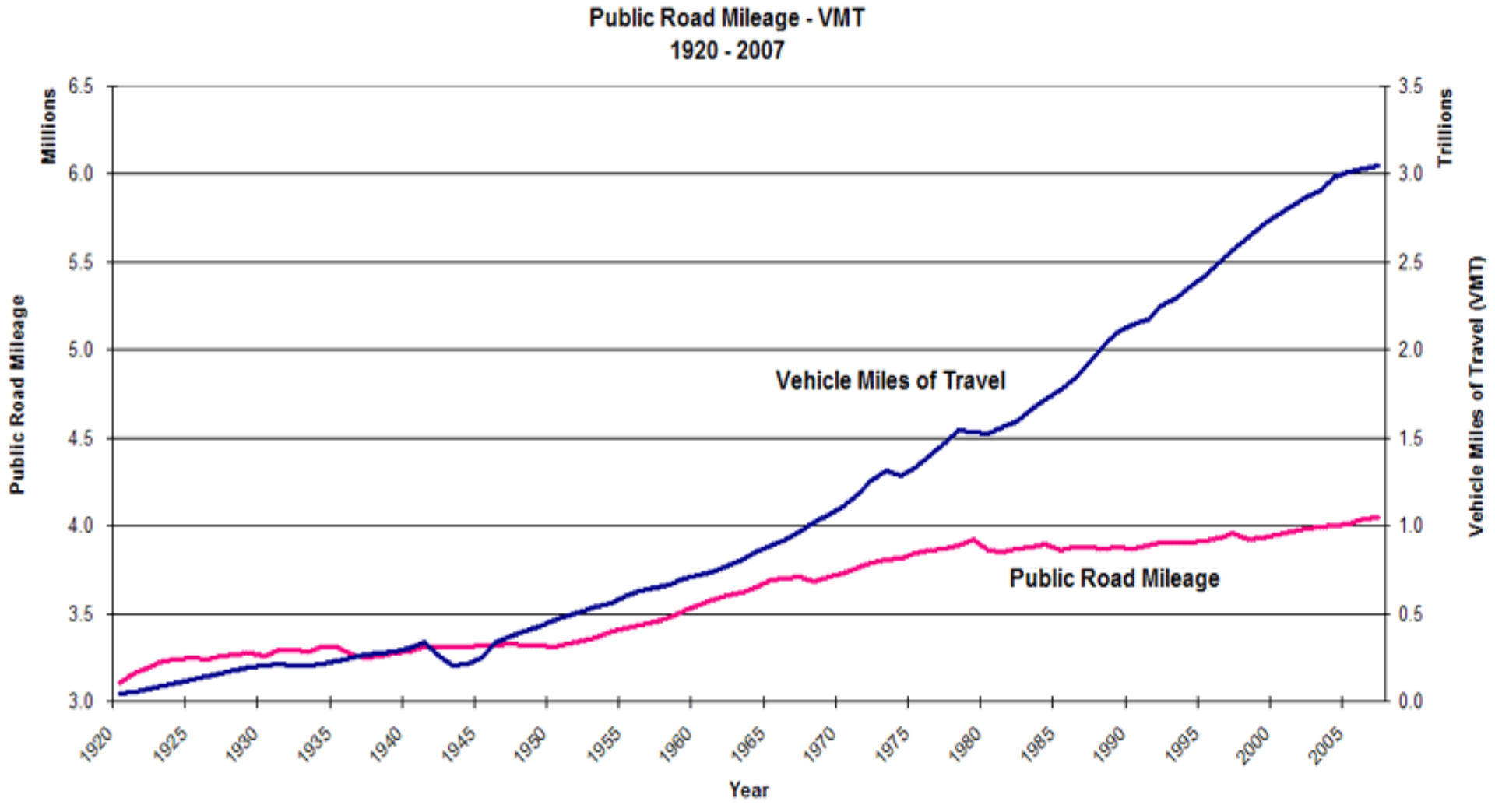
U.S. Vehicle Miles Traveled 1984 - 2009



Source: US Department of Transportation, Federal Highway Administration, April 2009 Traffic Volume Trends



Source: US DOT, FHWA, Highway Statistics 2007Table VMT-421

Urban Congestion 1987 vs. 2004

	Average Daily % Congested VMT		Average Length of Congested Conditions -hours		Average Annual Delay/Capita	
	1987	**2004**	**1987**	**2004**	**1987**	**2004**
Urbanized Area Size						
Less than Half-Million	6.5	16.6	2.8	4.6	2.4	8.6
Half-Million to One Million	13.5	24.8	4.1	6.1	6.0	16.1
One Million to Three Million	16.8	31.7	4.9	6.8	6.4	21.0
Over Three Million	31.6	40.7	7.2	7.8	28.3	38.9
All Urbanized Areas	21.1	31.6	5.4	6.6	12.8	24.4

Source: AASHTO Bottom Line Report 2009, Table 3.9

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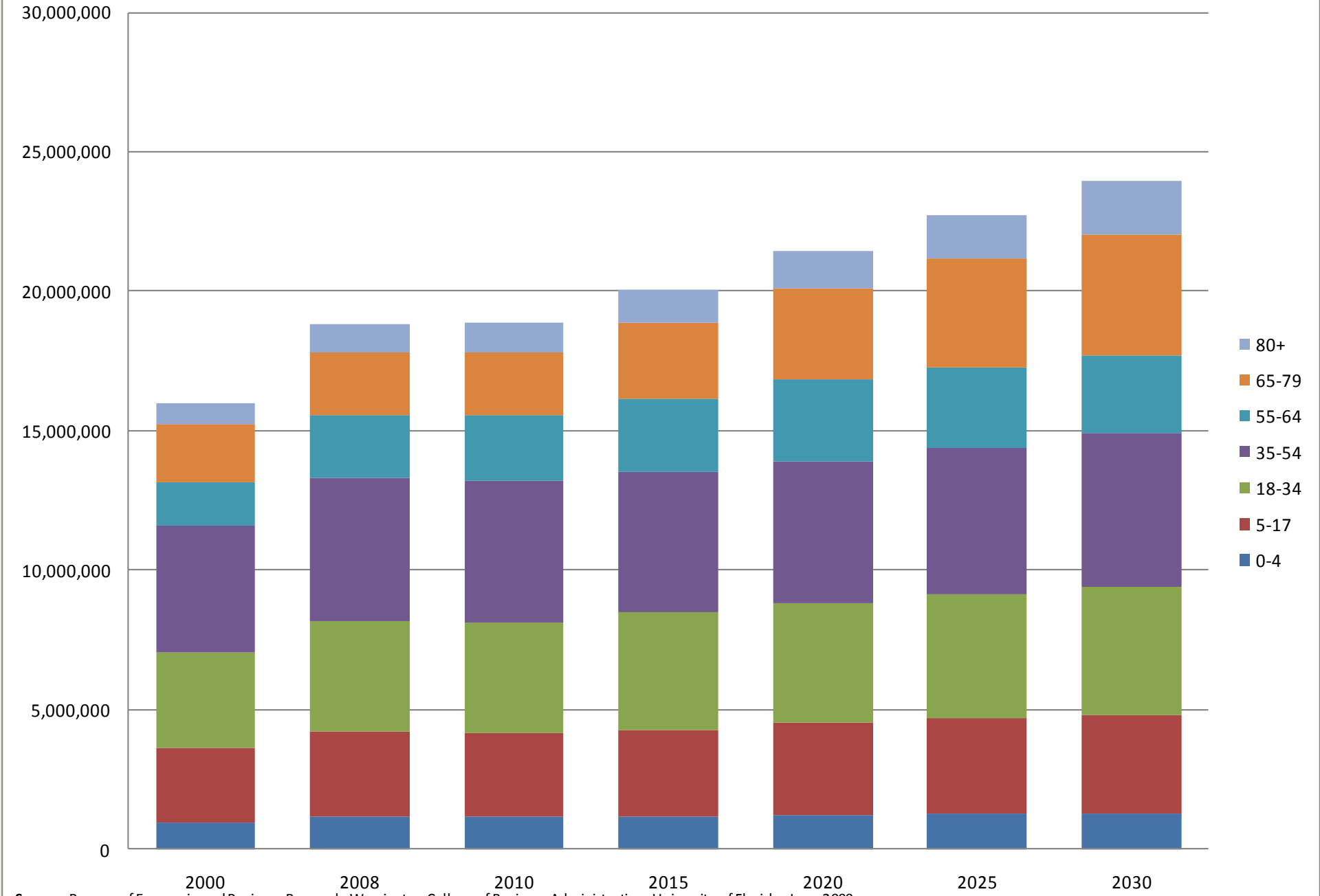
Florida Population Growth



Source: Bureau of Economic and Business Research, Warrington College of Business Administration, University of Florida, June 2009

FUNDING ISSUES

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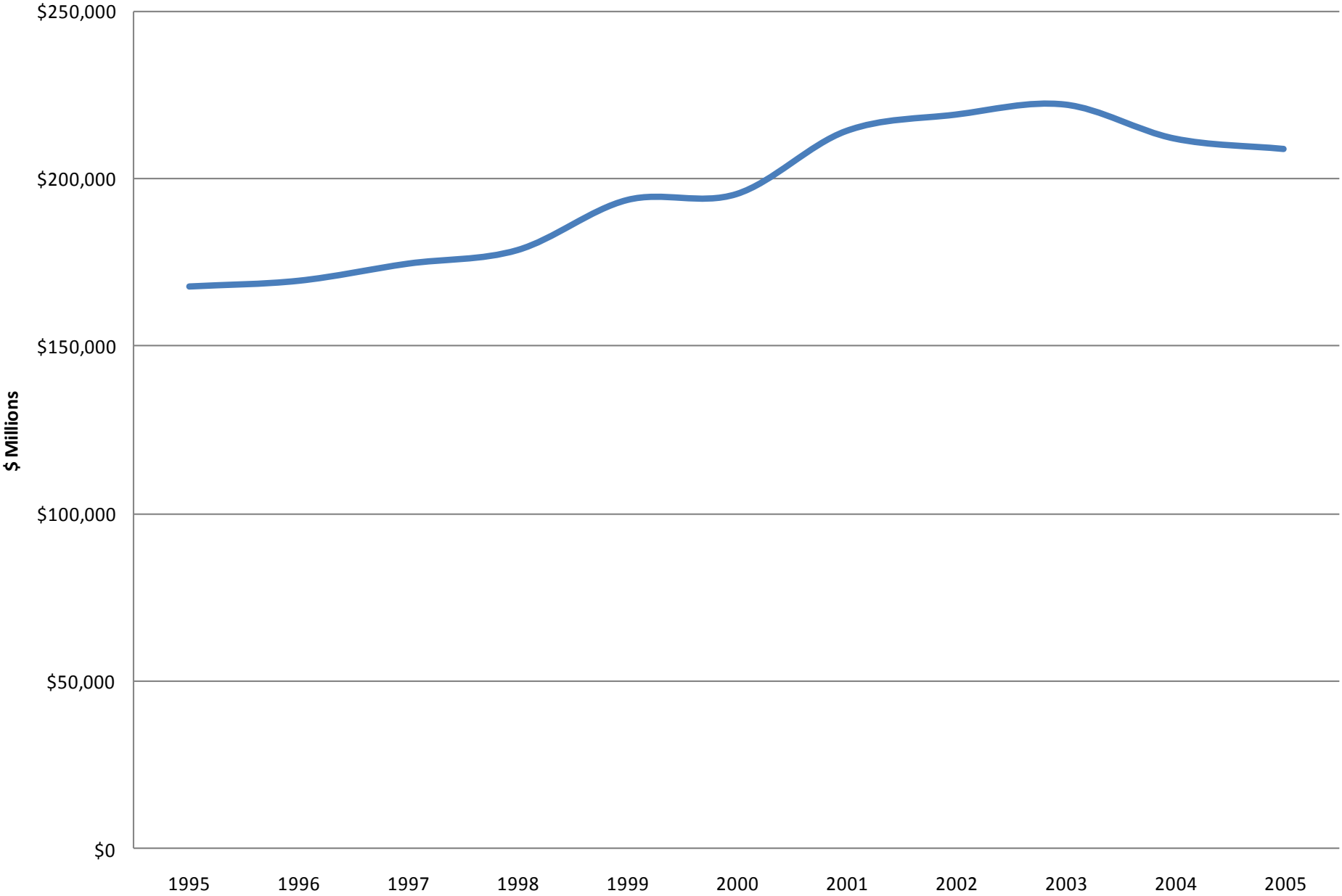
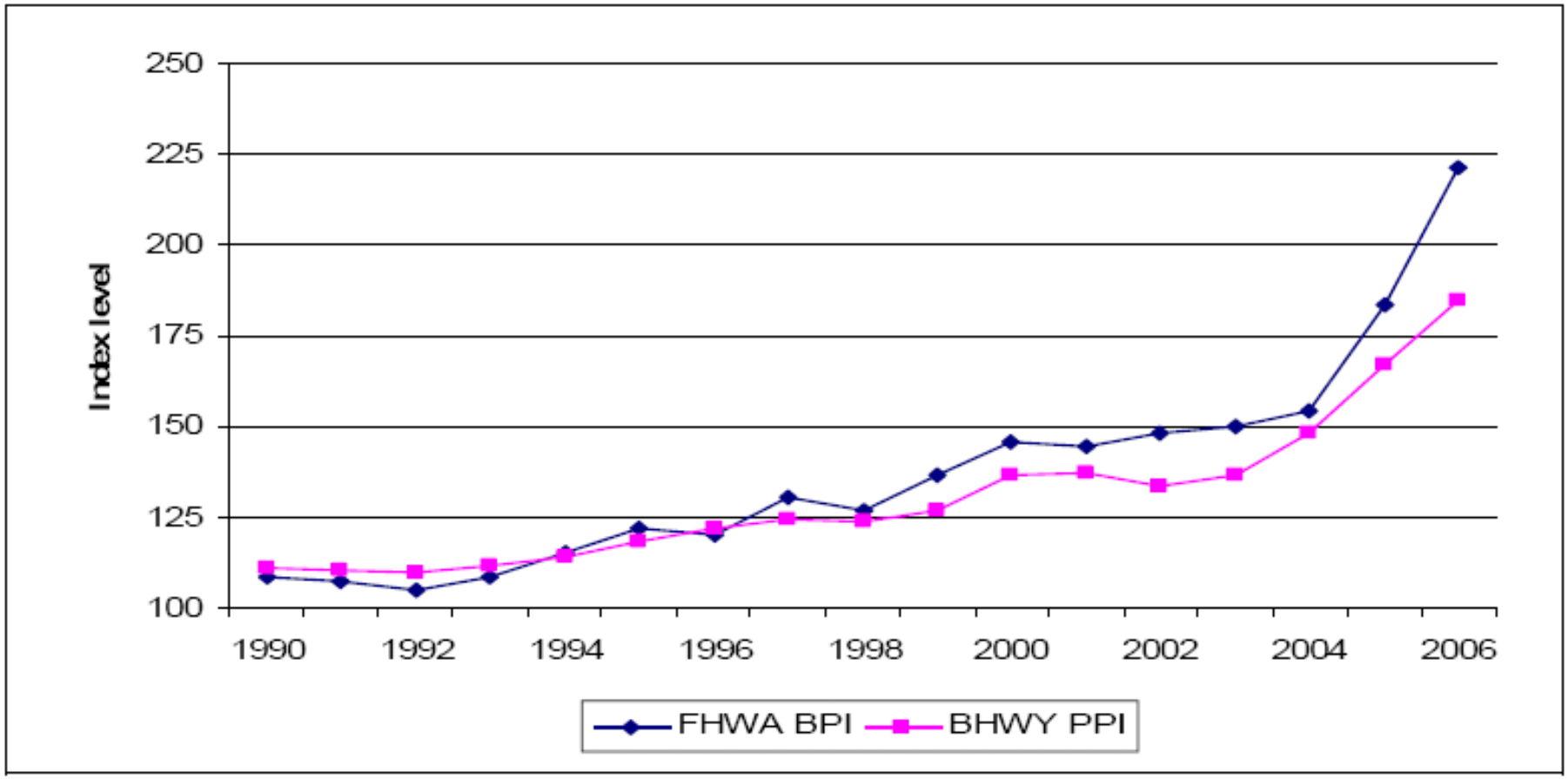
U.S. Transportation Expenditures - Constant Dollars - all Modes all Levels of Government ($mill.)

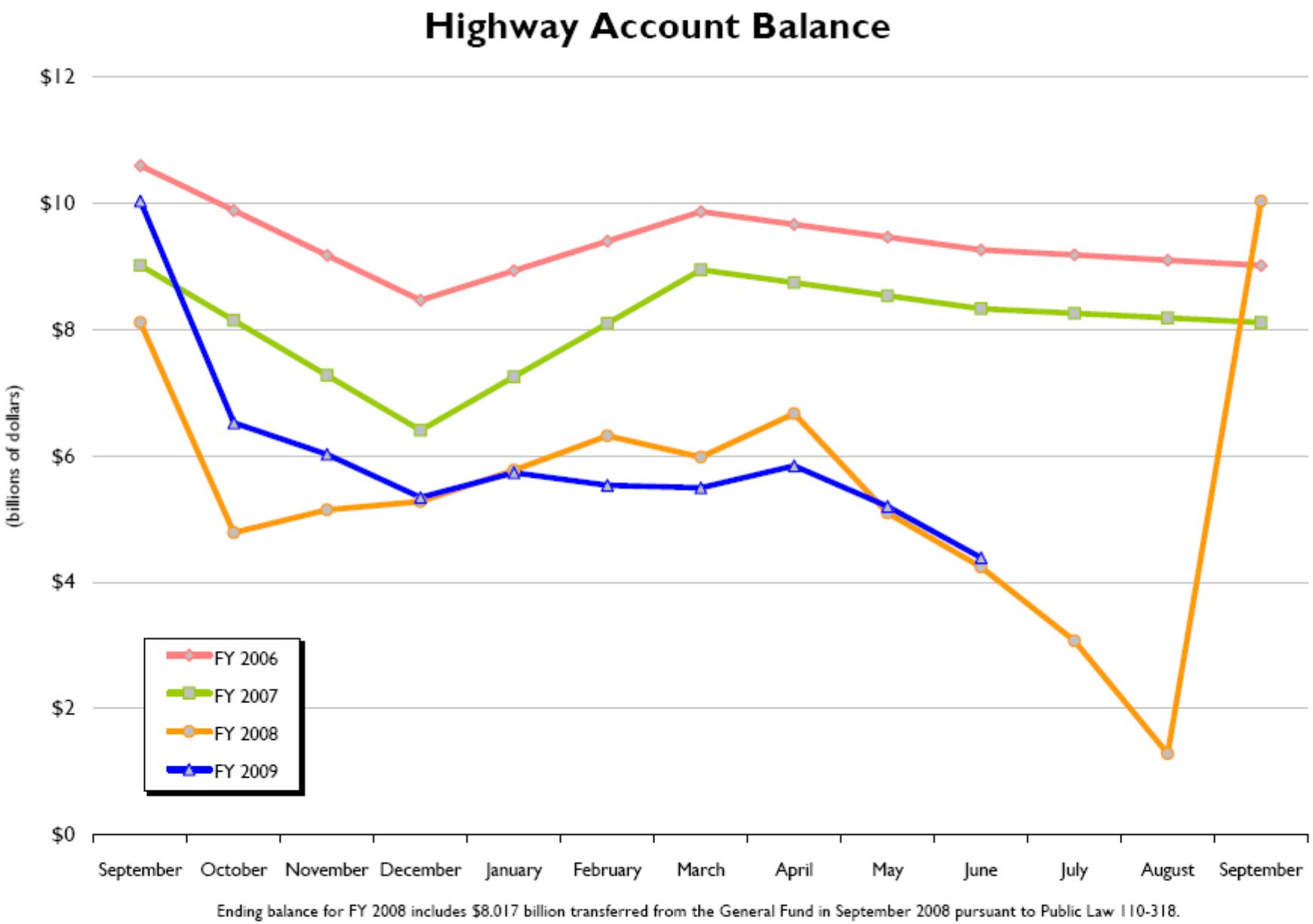


Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Government Transportation Financial Statistics 2008.

National Highway Construction and Maintenance Cost Indices



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



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

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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

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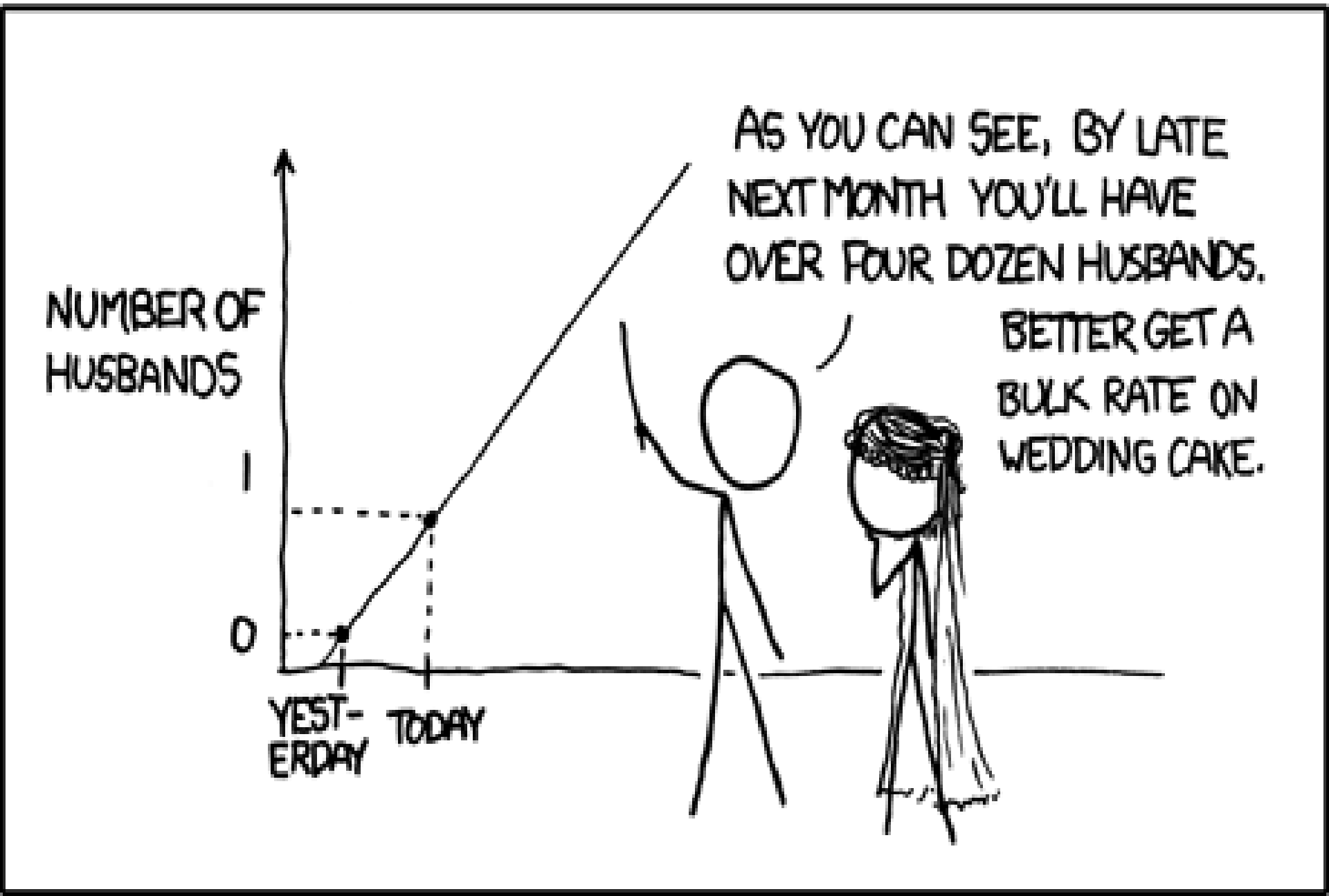
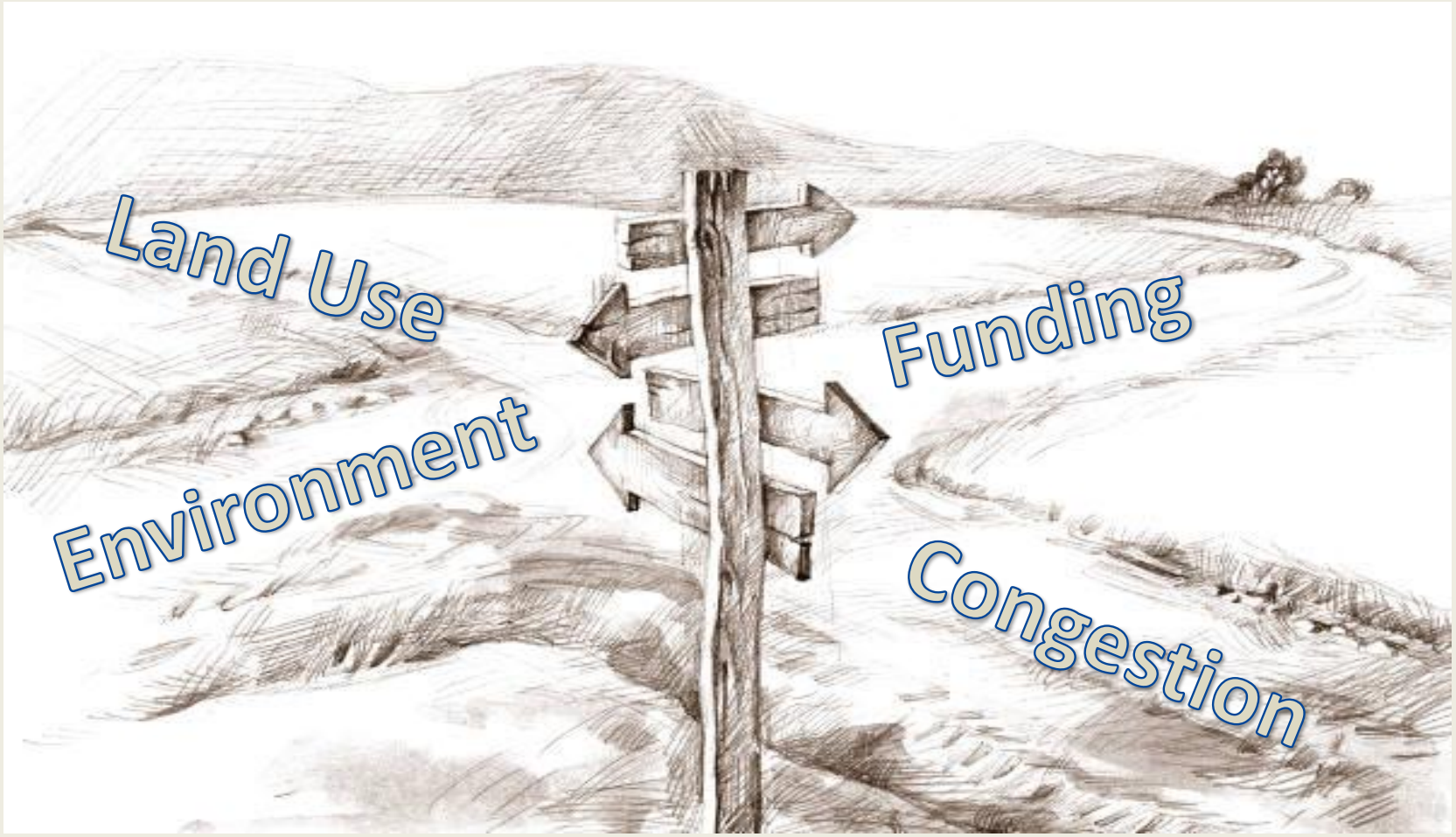
MY HOBBY: EXTRAPOLATING




Land Use
Environment
Funding
Congestion