

Navigating the VMT Curve: Emerging Travel Trends and Implications for Public Policy, or Tackling the Wicked Climate Change Problem

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Beyond Clean Cars and Fuels: Transportation and Land-Use Planning in a Carbon-Constrained World
VMT reduction panel presentation at New Partners for Smart Growth Conference
Thursday, February 4, 2010





The Wicked Problem of Climate Change

Scholars long ago characterized a public-policy problem with the kinds of features presented by climate change as a “wicked problem” that defies resolution because of the enormous interdependencies, uncertainties, circularities, and conflicting stakeholders implicated by any effort to develop a solution. Sometimes described as “social messes,” classic wicked problems include AIDS, healthcare, and Terrorism.

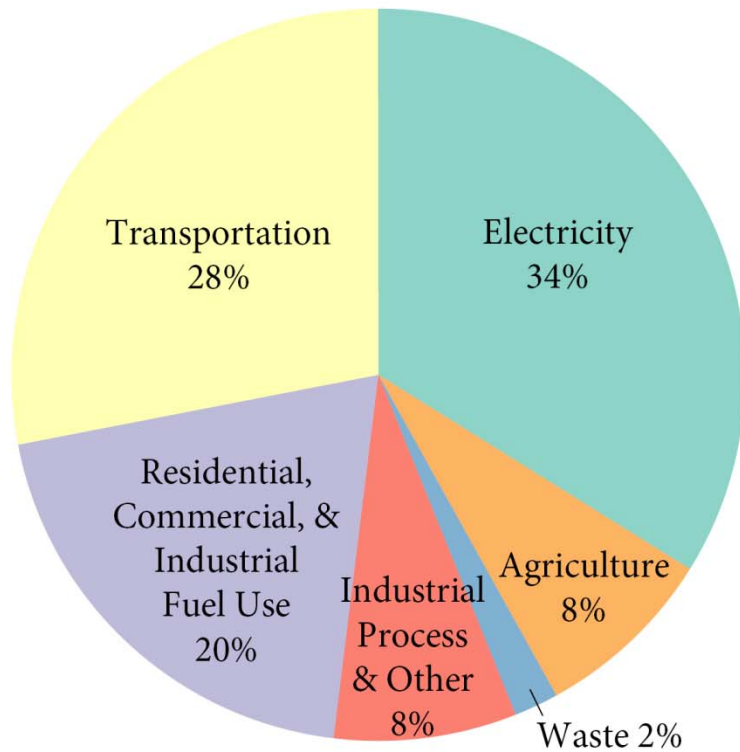
Climate change, however, has been fairly described as a “super wicked problem” because of its even further exacerbating features. These features include the fact that time is not costless, so the longer it takes to address the problem, the harder it will be to do so. As greenhouse gas emissions continue to increase, exponentially larger, and potentially more economically disruptive, emissions reductions will be necessary in the future to bring atmospheric concentrations down to desired levels. Future technological advances, therefore, would likewise have to be able to achieve those exponentially greater reductions to make up for lost time. The climate change that happens in the interim may itself cause sufficient economic disruption, for instance, by slowing growth rates, so as to make it much harder to accomplish the necessary technological innovation.

Richard Lazarus, Cornell Law Review 2009

What's the transportation-climate change connection?

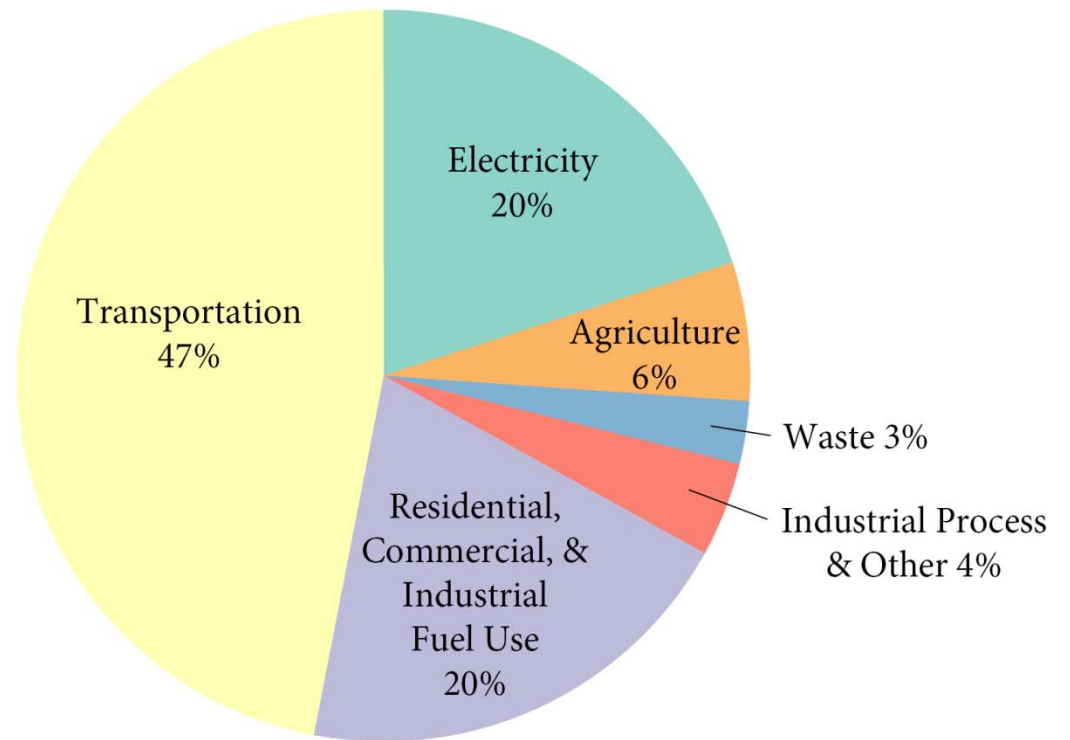
- The roads and waterways we operate as an agency combined with the state's airports are responsible for almost 50% of greenhouse gas emissions produced in our state.
- WSDOT's job is to keep people and goods moving by operating and improving our transportation system safely and efficiently—we also have a responsibility to relieve congestion, preserve our infrastructure and to be good environmental stewards.
- That means doing what we can to reduce the effects our operations have on our state's environment, economy and quality of life.

U.S. Greenhouse Gas Emissions



Source: Washington State Department of Ecology, 2005

Washington Greenhouse Gas Emissions



Source: Washington State Department of Ecology, 2005

Past Legislative Actions

State's greenhouse gas emission reduction limits

1990 levels by 2020

25% below 1990 levels by 2035

50% below 1990 levels by 2050

State's baseline = 94.6 million metric tons CO2 equivalent

RCW 47.01.440 sets per capita VMT benchmarks

18% by 2020

30% by 2035

50% by 2050

Baseline = 75 billion VMT 1990 levels by 2020

(excluding vehicles over 10,000 lbs)

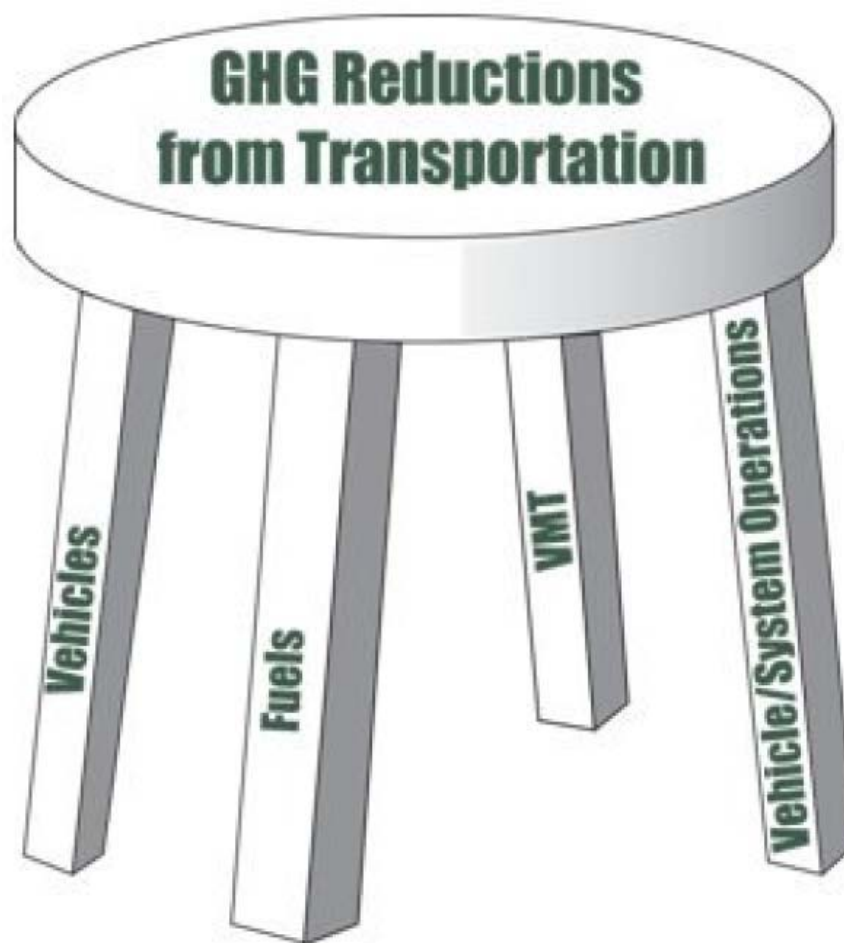
Governor's Executive Order 09-05

2. The Secretary of The Department of Transportation:

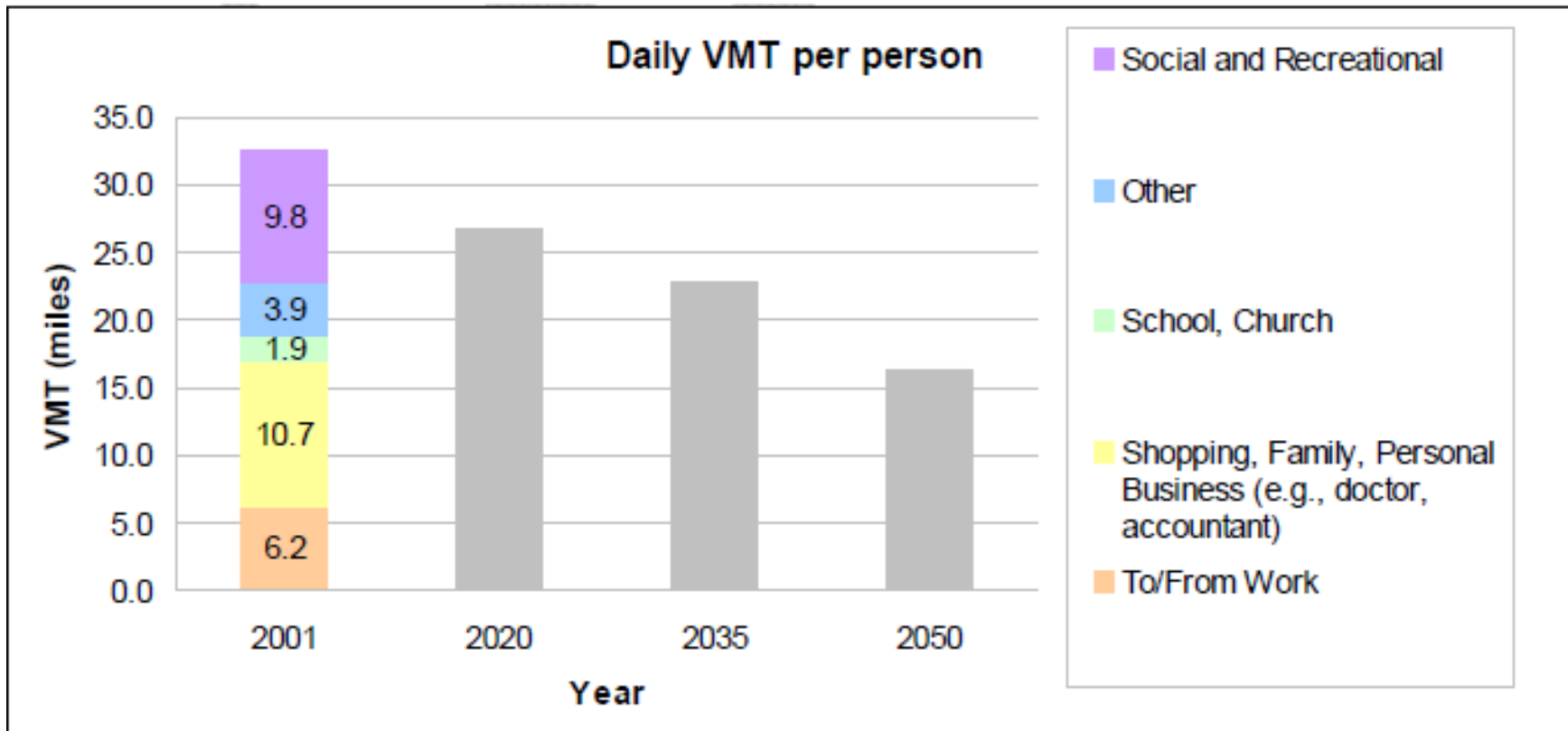
(a) In consultation with the Departments of Ecology and Commerce, and in collaboration with local governments, business, and environmental representatives, estimate current and future state-wide levels of vehicle miles traveled, evaluate potential changes to the VMT benchmarks established in RCW 47.01.440 as appropriate to address low or no emission vehicles, and develop additional strategies to reduce emissions from the transportation sector. Findings and recommendations from this work shall be reported to the Governor by December 31, 2010.

(b) Work with Puget Sound Regional Council, Spokane Regional Transportation Council, Southwest Washington Regional Transportation Council and Thurston Regional Planning Council to cooperatively develop and adopt regional transportation plans that will, when implemented, provide people with additional transportation alternatives and choices, reduce greenhouse gases and achieve the statutory benchmarks to reduce annual per capita VMT in those counties with populations greater than 245,000. By December 1, 2011, the Department will report to the Governor on which regional transportation planning organizations have developed, or are developing plans with greenhouse gas strategies, which strategies appear to have the greatest potential to achieve the benchmarks, and what policy or funding issues need to be resolved to ensure implementation.

Multiple Strategy Approach to Reducing Transportation GHGs

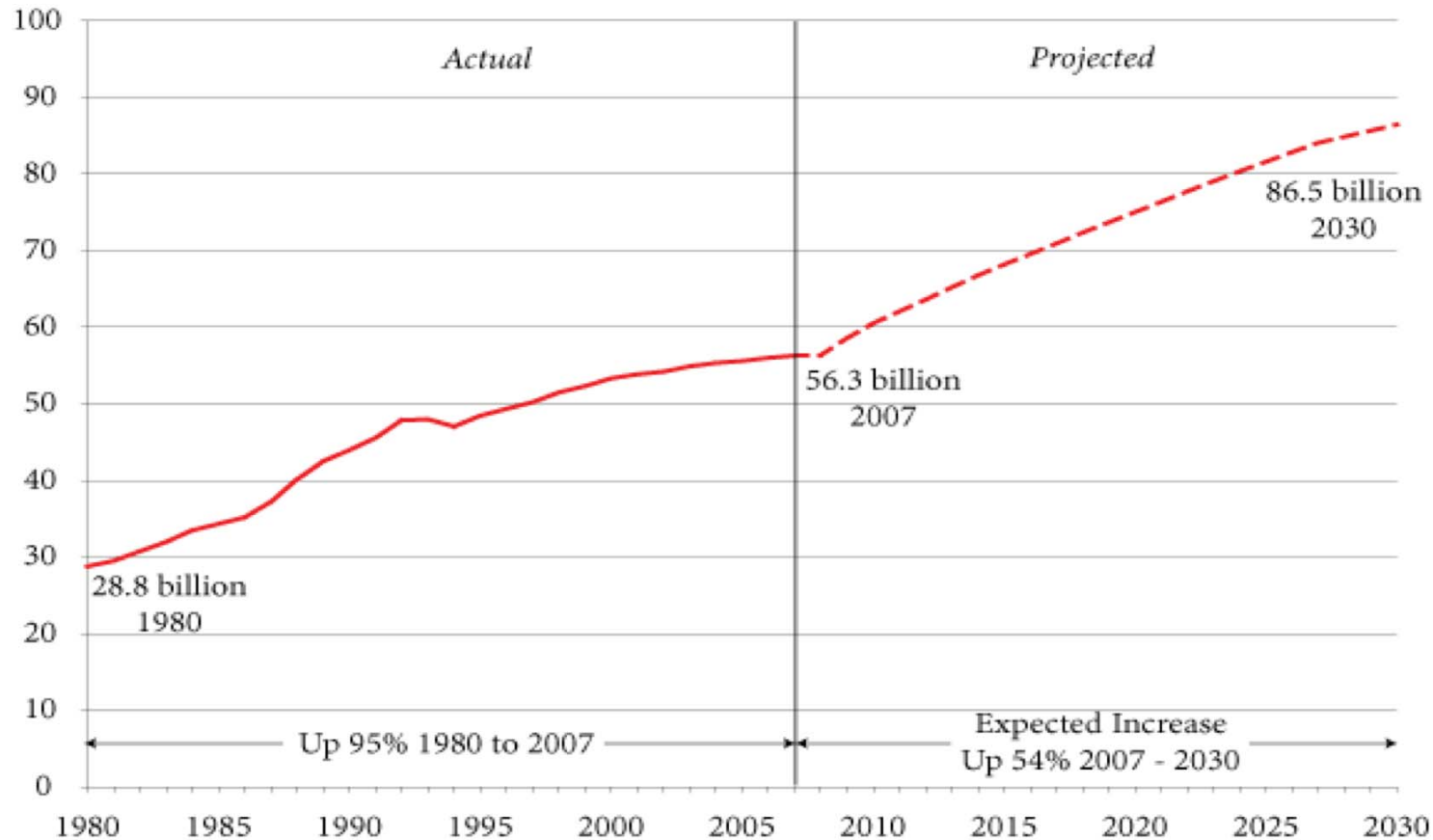


Daily VMT (by purpose) and reduction benchmarks—what gets eliminated?



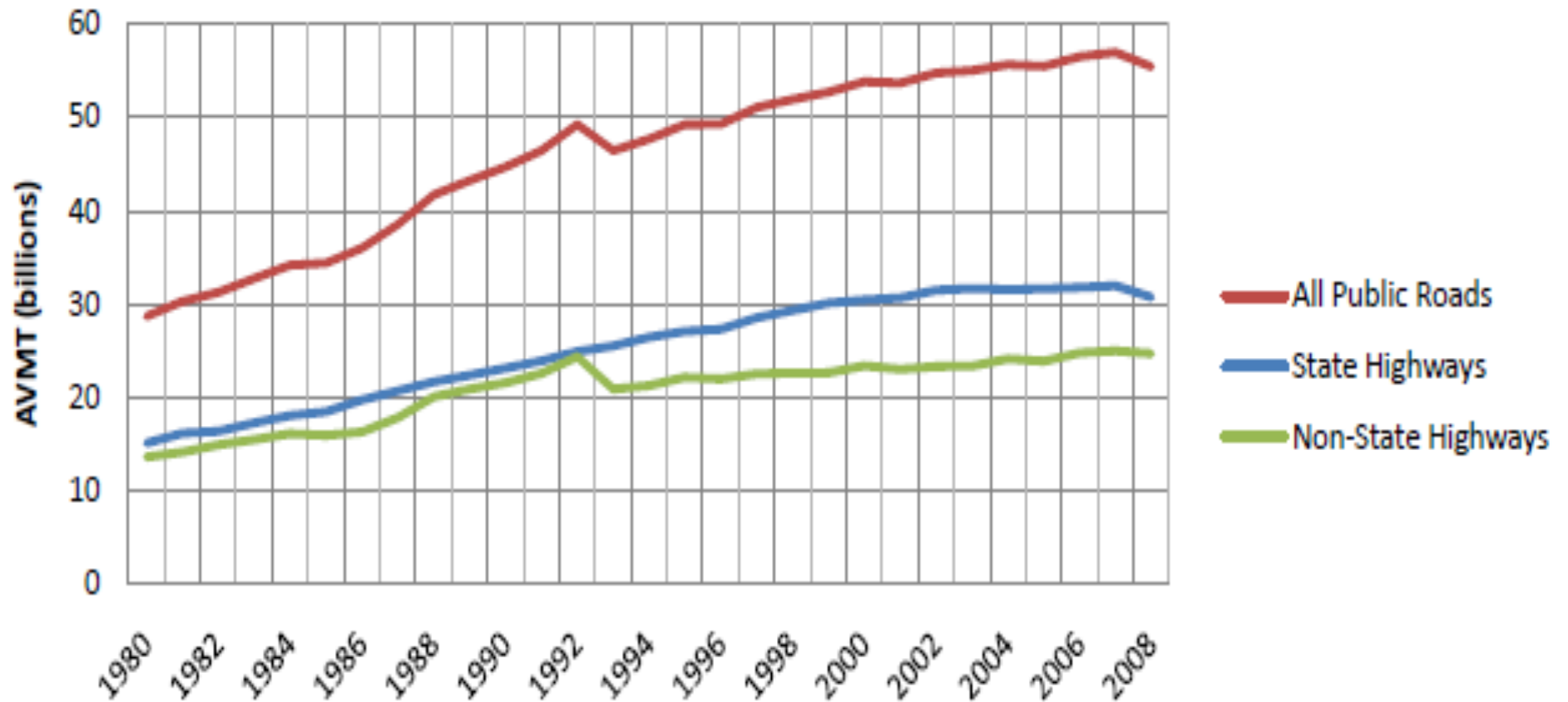
Based on National Household Transportation Survey Data

Feb. 2008 Statewide VMT Forecast

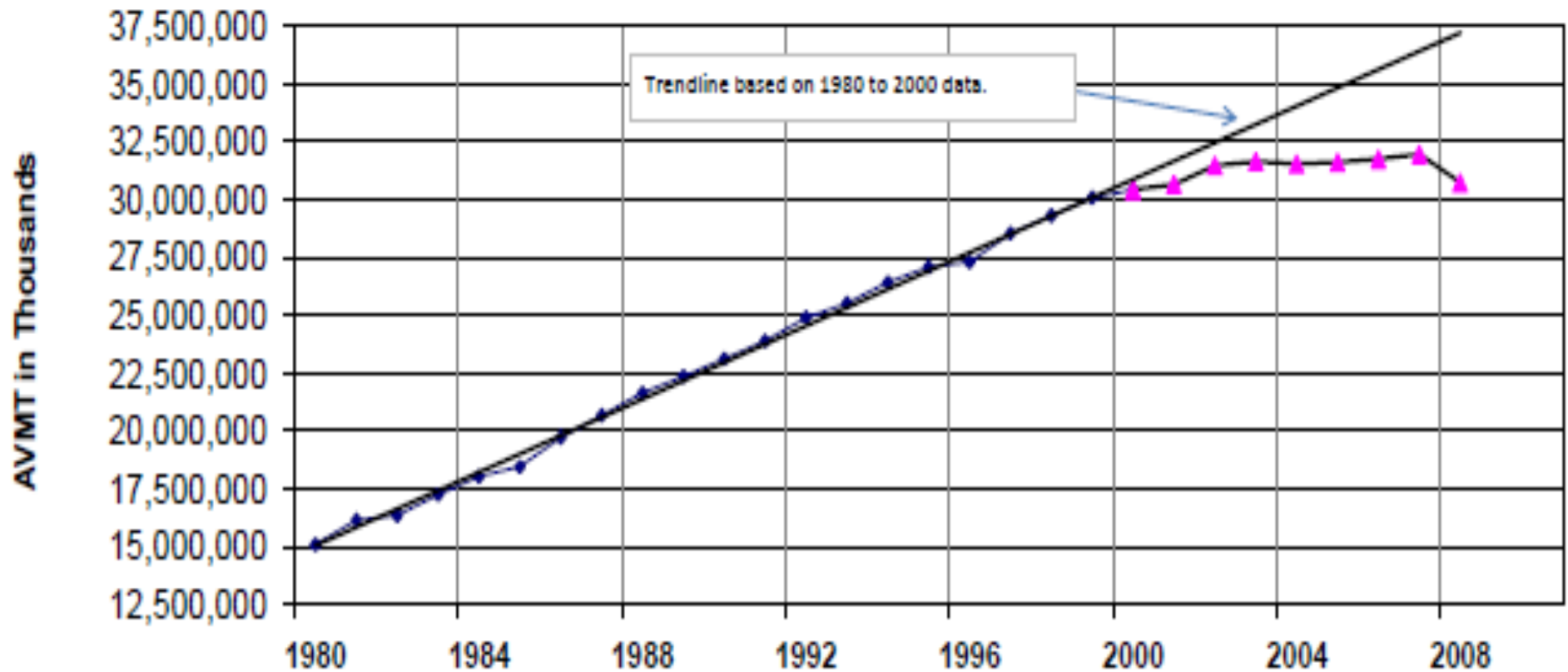


- This forecast has VMT growing by 45% from FY 2008-2025
- VMT in FY 2020 of 75 billion miles
- VMT in FY 2030 of 86.5 billion miles

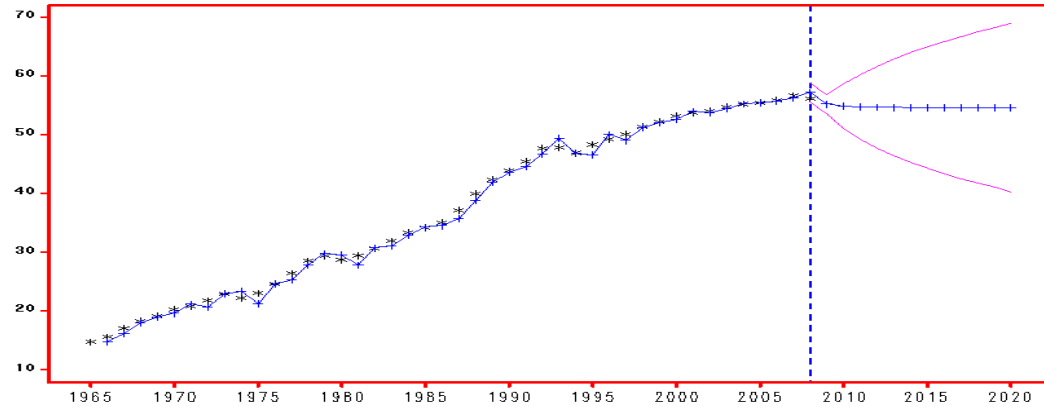
Washington State - Annual Vehicle Miles Traveled



Washington – Annual VMT on State Routes Data from 1980-2008 Annual Traffic Report

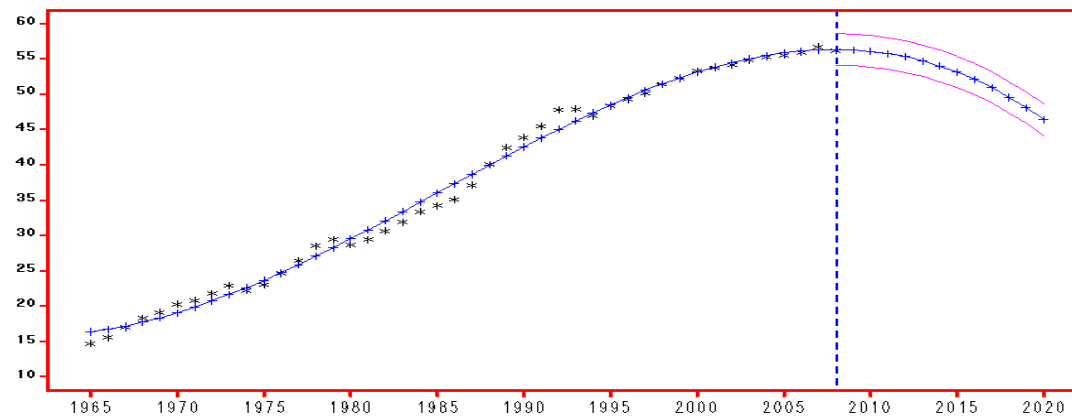


Forecasts for VMT

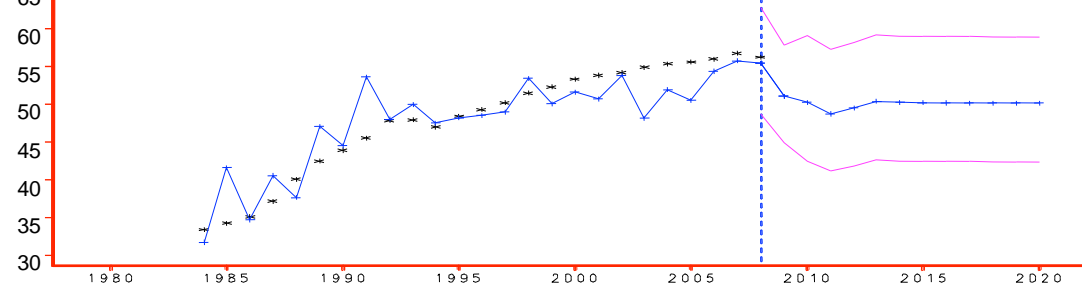


Different Variables and Methodologies can yield significantly different forecasts

Forecasts for VMT



Forecasts for VMT



EO 09-05 Working Group and VMT Technical Working Groups—looking at the data and the strategies to respond to EO 09-05

- 4 largest MPOs
- Environmental and land use agencies
- Cities and Counties
- Business

Some of the VMT reduction strategies being looked at for EO 09-05

Pricing

- CBD/Activity Center on-street parking
- Tax/higher tax on free private parking
- Residential parking permits
- Cordon Pricing
- Congestion Pricing
- Intercity Tolls
- PAYD Insurance
- VMT fee
- Carbon Pricing (VMT impact)

Land Use and Smart Growth Strategies/Nonmotorized Strategies

- Combined Land Use
- Combined Pedestrian
- Combined Bicycle

Public Transportation Strategies

- Transit Fare Measures
- Transit Frequency/LOS/Extent
- Urban Transit Expansion
- Intercity Passenger Rail
- High-Speed Passenger Rail

HOV/Carpool/Vanpool/Commute Strategies

- HOV Lanes
- Car-Sharing
- Employer-Based Commute Strategies

Regulatory Strategies

- Nonmotorized Zone
- Urban Parking Restrictions

Multimodal Freight Strategies

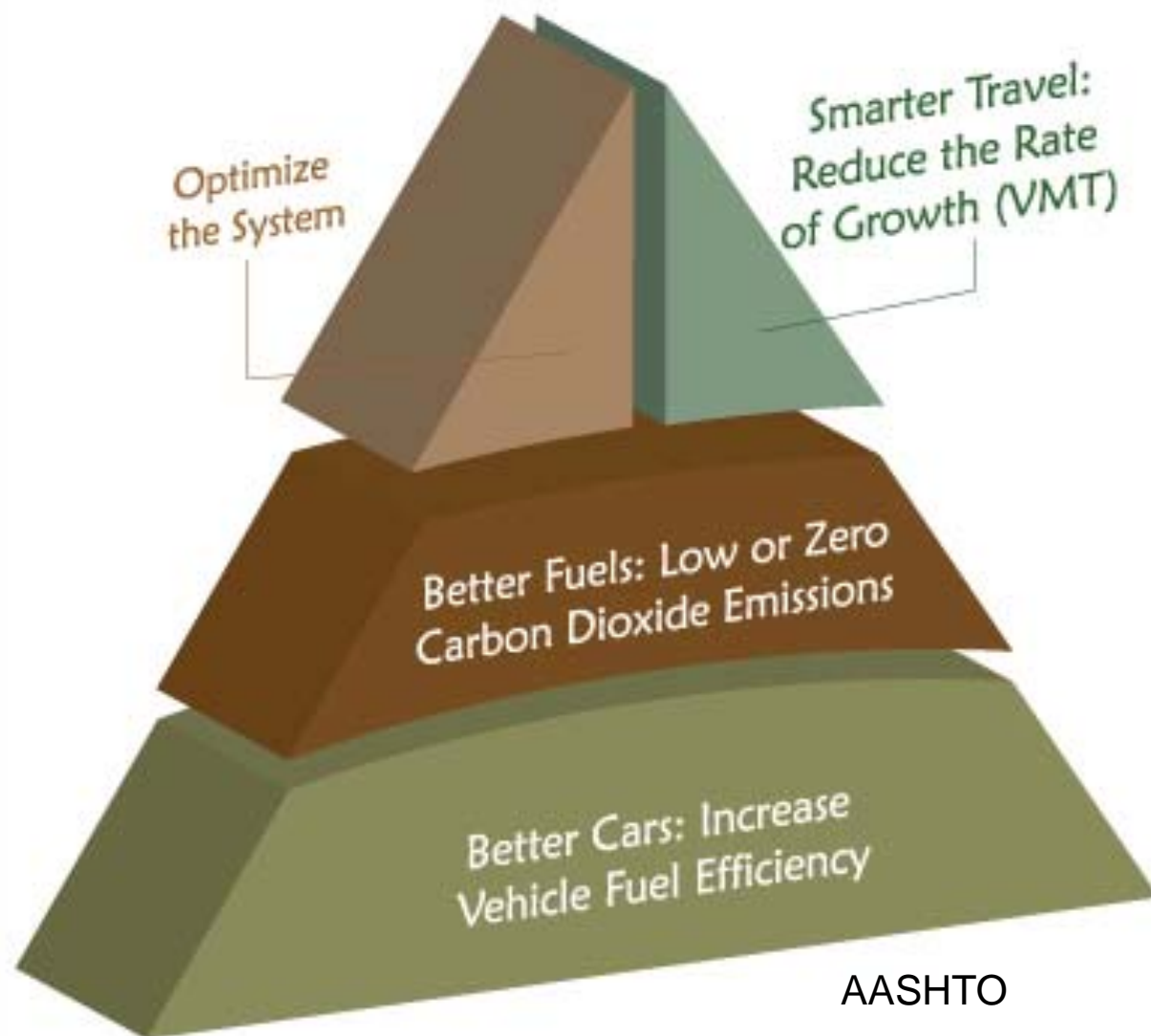
- Rail Capacity Improvements
- Marine System Improvements

EXHIBIT 5 Summary of State Climate Action Plans Approaches to Transportation Greenhouse Gas Emissions⁵

State	Year	Vehicle	Fuels	Smart Growth/ Transit (VMT)	Other	Largest GHG reduction from “Other” category
WA	2020	8%	23%	64%	5%	Transportation Pricing
VT	2028	21%	14%	49%	17%	Pay-as-you-drive insurance
MD	2025	24%	12%	45%	20%	Pay-as-you-drive insurance
NC	2020	35%	12%	38%	15%	Pay-as-you-drive insurance
RI	2020	46%	10%	31%	14%	VMT based insurance premium structures
SC	2020	14%	55%	29%	1%	Stricter enforcement of speed limits
NY	2020	59%	11%	27%	4%	Freight and aviation measures
MN	2025	15%	35%	25%	25%	Climate-friendly transportation pricing/pay-as-you-drive insurance
AZ	2020	40%	7%	25%	28%	Pay-as-you-drive insurance
CO	2020	40%	26%	22%	13%	Variable priced insurance
ME	2020	53%	25%	21%	1%	Freight
PA	2025	45%	36%	18%	>1%	Anti-idling campaign
NM	2020	31%	21%	16%	31%	Pay-as-you-drive insurance
CA	2020	60%	24%	10%	6%	Goods movement efficiency measures
CT	2020	51%	38%	8%	2%	Multistate intermodal freight initiative
MT	2020	61%	24%	8%	7%	Intermodal freight transportation
OR	2025	80%	14%	6%	0%	NA

⁵ Cindy Burbank. 2008.

Reducing Transportation GHGs



WSDOT's Big Picture—Moving Washington

Moving Washington is WSDOT's three-part strategy to address congestion. The three points of the strategy are to:

- add lanes where they are needed most
- operate our existing lanes as efficiently as possible
- give people more choices to improve their commute and reduce demand on our transportation system.



These strategies also support our efforts to reduce carbon emissions, improve air quality and address climate change by promoting alternatives to driving alone and creating more efficient operations.

In Closing....

- Reducing VMT is a necessary strategy in reducing GHG emissions related to transportation
- We are working with stakeholders to analyze:
 - Practically, how much VMT can be reduced, and should be reduced, with what benefits and costs
 - The extent to which changing land use and development patterns can realistically contribute to VMT reduction
 - The extent to which VMT reductions will contribute to GHG reductions
- VMT can be used as a measure of the effectiveness of land use and travel reduction and efficiency strategies
- To the extent that VMT and resultant GHG reductions fail to achieve established goals, other legs of the transportation “stool”, or other sectors of the economy will have to pick up the slack
- The discussion of VMT reduction strategies is both technically complex and passionate
- Transportation Funding in a reduced carbon footprint world where funding currently depends on the size of your shoe

Questions?

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