



# Transportation Planning and Climate Change

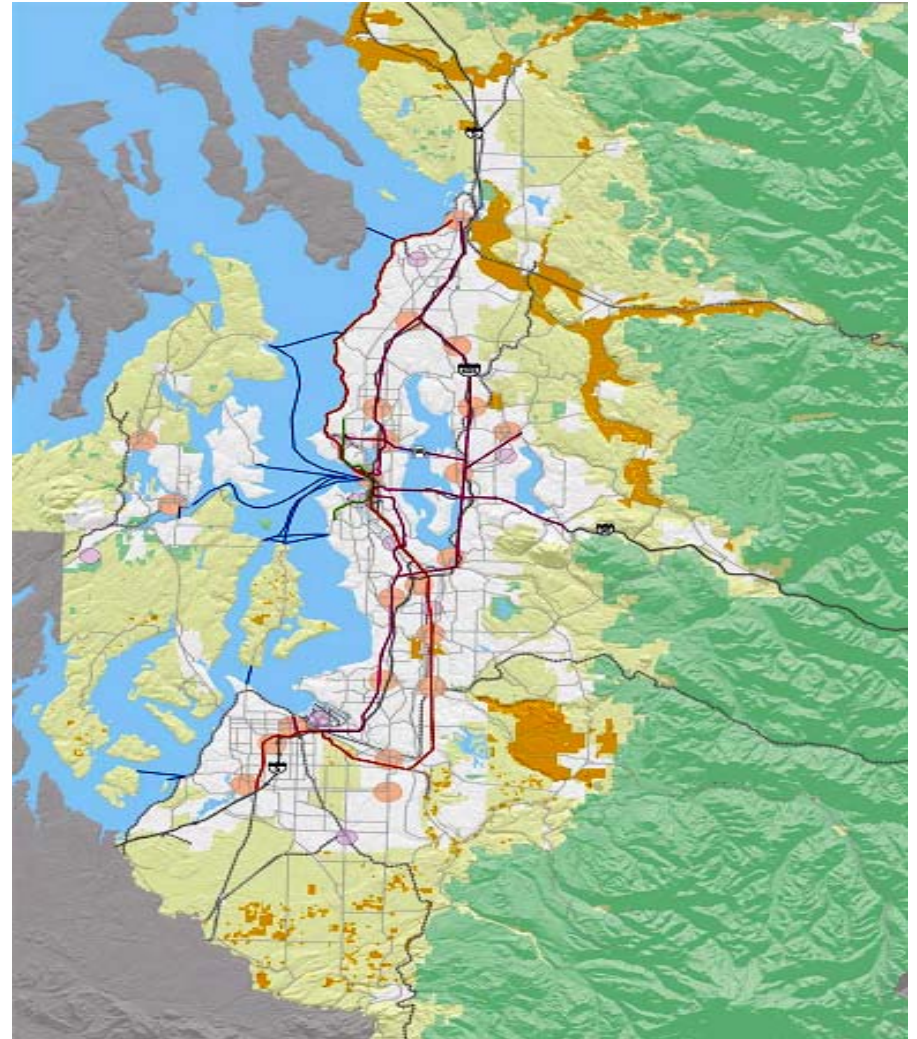
New Partners for Smart Growth Conference  
February 5, 2010

Puget Sound Regional Council  


# PSRC Region

Four Counties – King, Kitsap, Pierce, Snohomish

- Major cities include Seattle, Tacoma, Bellevue, Everett, Bremerton
- Approx. 55% of the state's population
- Located between the Cascade and Olympic mountain ranges, bisected by Puget Sound





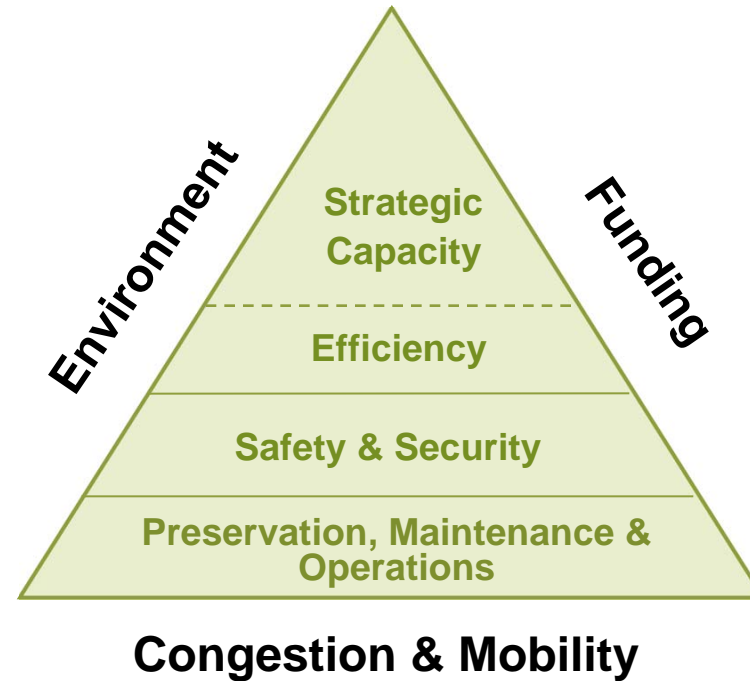
# PSRC: Who We Are

## Metropolitan Planning Organization for the Central Puget Sound Region

- 90 Member Agencies/Organizations: counties, cities/towns, ports, transit agencies, tribes, Washington State Department of Transportation, Washington State Transportation Commission
- Transportation, Growth Management, Economic Planning
  - VISION 2040 – regional growth, transportation and economic strategy
  - Destination 2030 – 30-year long-range metropolitan transportation plan
  - Prosperity Partnership – coalition of government, business, labor and community organizations to develop and implement a regional economic strategy



# Transportation 2040 Plan Framework



VISION 2040 - the foundation for T2040  
Sustainable Growth and Economic Development

# Transportation 2040

What is different about this plan?

Developed through a 3 year process involving over 400 meetings with groups and organizations

Transportation 2040 is the region's plan to sustainably support Vision 2040 the region's adopted growth and economic strategy by improving the:

- Mobility for all users and the movement of goods,
- Environment including air (all regulated and GHG emissions) and water quality, and
- Transportation funding sufficient to sustain and improve the system:

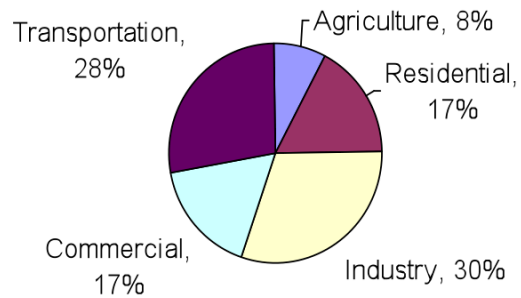
# Transportation 2040

Transportation 2040 relies on 4 integrated strategies:

- Land Use: Supporting the development of a more concentrated development pattern that is more walkable, bikeable and easier to support with transit and that balances jobs and housing.
- Efficiency: Efficient transportation starts with a fully maintain and operating system that is Safe and Secure and manages facilities to achieve their optimum performance.
- Strategic Investments: Moves the region from single focused investments to integrated strategies that are more cost effective and support all forms of travel.
- Pricing: Begins moving from traditional forms of funding to a more sustainable user based funding that improves mobility and the environment

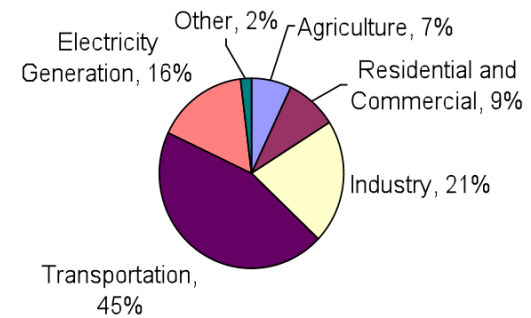
# Washington State and Climate Change

**US Greenhouse Gas Emissions by Sector, 2004**



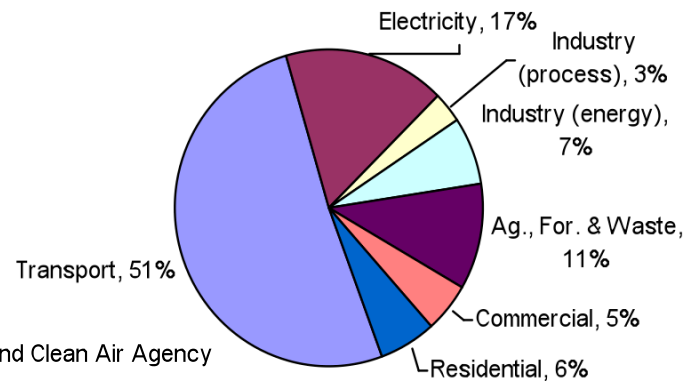
Source: Pew Center on Global Climate Change

**Washington State Greenhouse Gas Emissions by Sector, 2004**



Source: WA Dept. of Community, Trade and Economic Development

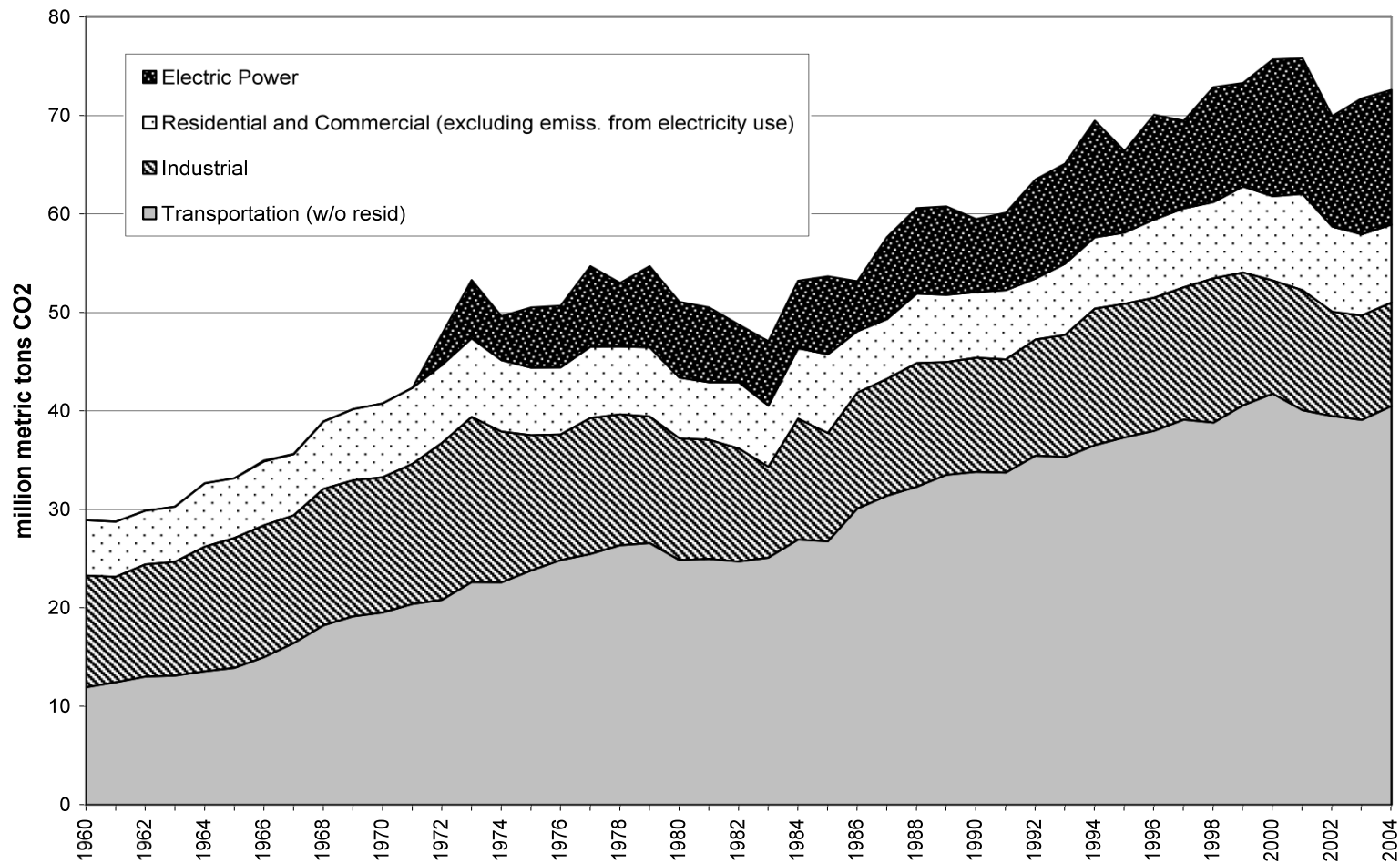
**2002 Greenhouse Gas Emissions for the Puget Sound Region**



Source: Puget Sound Clean Air Agency

# Washington State and Climate Change

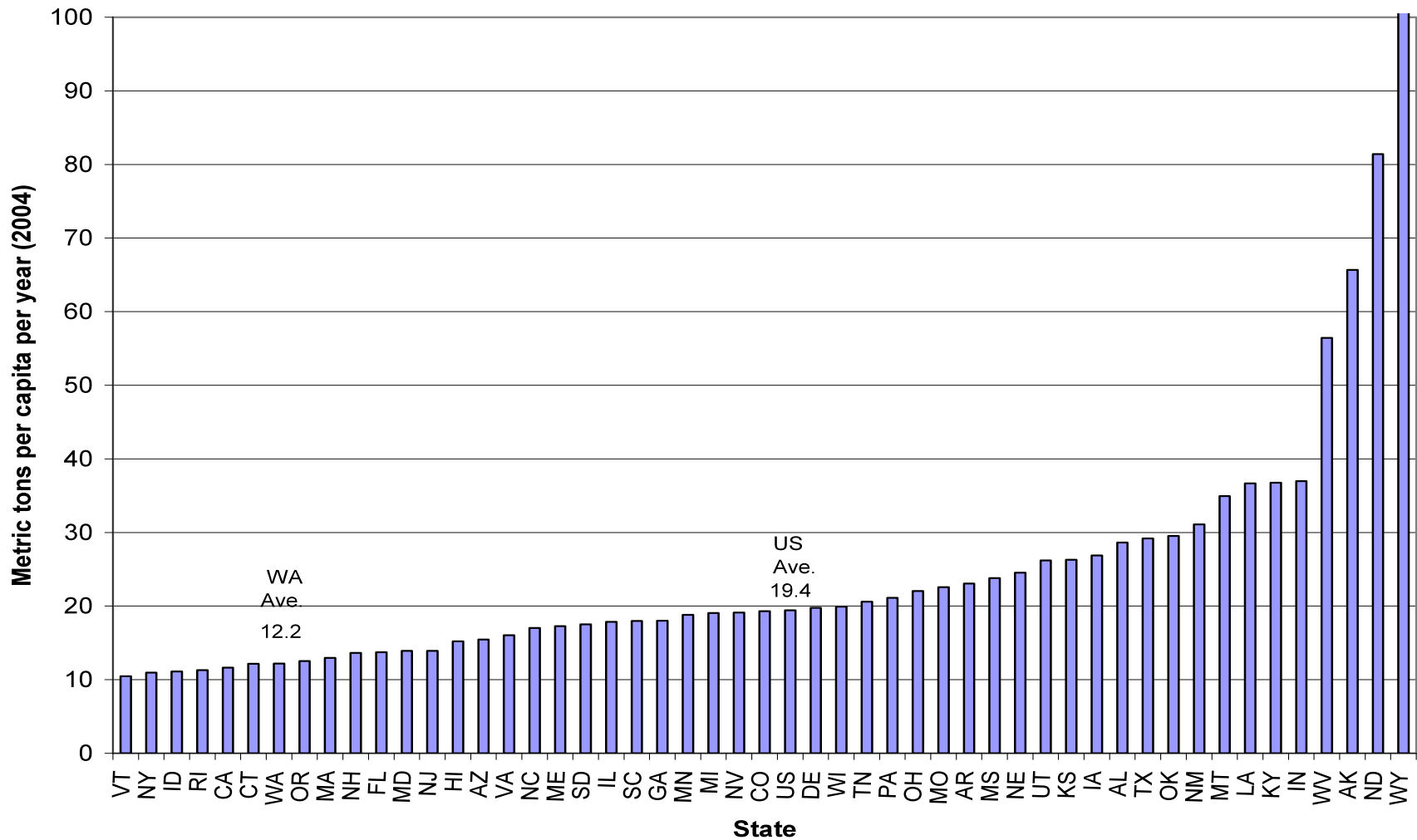
**Cumulative Energy-Related CO<sub>2</sub> Emissions by Sector in Washington State (CTED)**





# Washington State and Climate Change

Washington State per capita CO2 emissions for 2004 (CTED)





# Greenhouse Gas Strategy

Land Use	User Fees
Technology	Choices

## Land Use

Implement VISION 2040

- Jobs Housing Balance (macro)
- Centers, Transit Oriented Development & efficient communities (micro)

## User Fees

Implement Roadway Pricing to support VMT reduction and reduce travel delay emissions

## Choices

Expand transportation choices that reduce GHG emissions <sup>(1)</sup>

## Technology

Support development of technology to dramatically reduce tailpipe emissions <sup>(2)</sup>

- (1) Post plan work item designed to better understand the cost and benefits of strategies
- (2) State, local and regional action item--white paper being developed



# Greenhouse Gas Strategy

## Technology

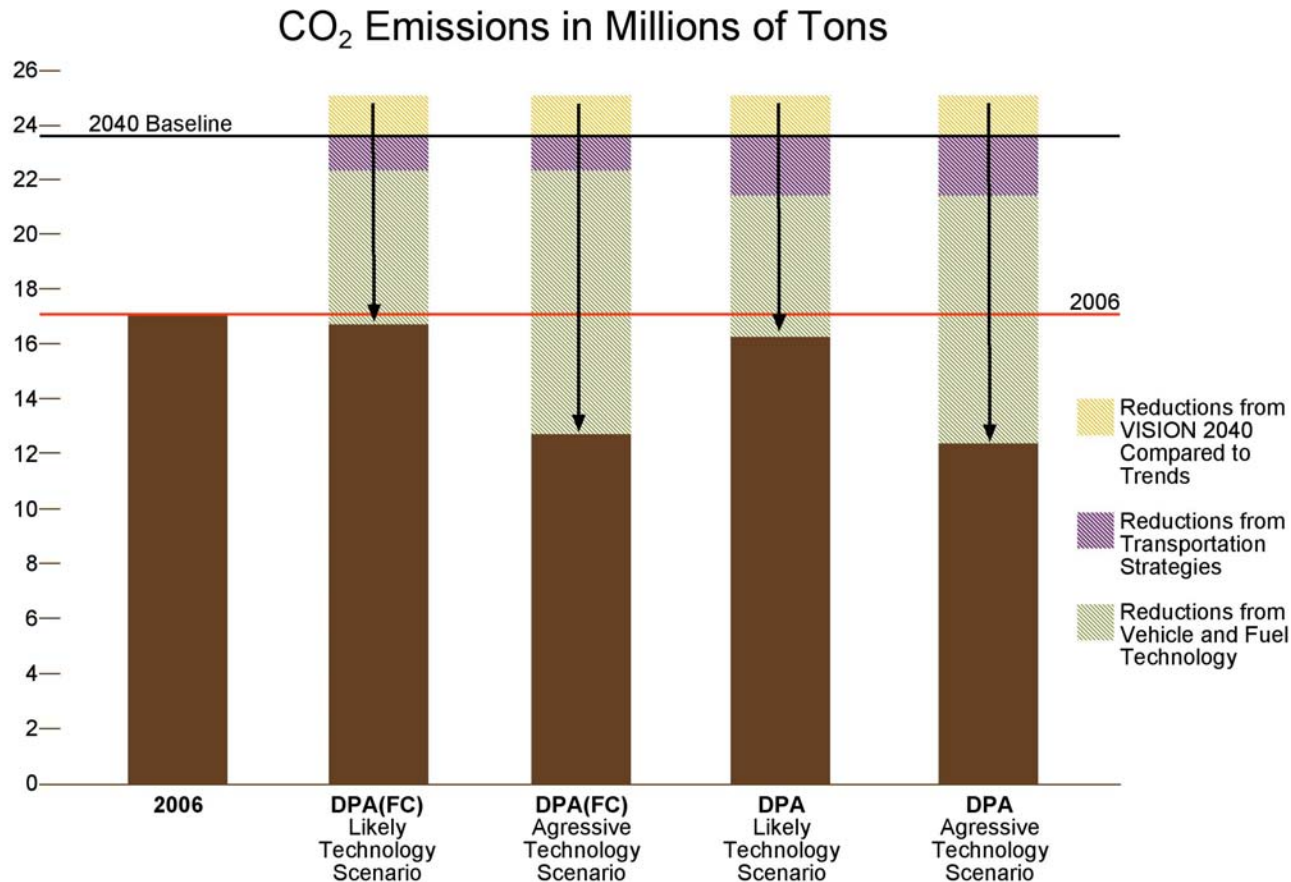
Support development of technology to dramatically reduce tailpipe emissions

In partnership with Ecology, we have developed the following assumptions for the 2040 vehicle fleet, from “likely” improvements to “aggressive” improvements:

	LIKELY SCENARIO <sup>1</sup>	AGGRESSIVE SCENARIO <sup>2</sup>
Percent of Electric Vehicles in Fleet	20%	45%
Improvements to Fuel Economy	40 mpg	50 mpg
Reduction of Carbon Intensity of Fuel	10%	25%
Improvements to Heavy Duty Vehicles	5%	10%

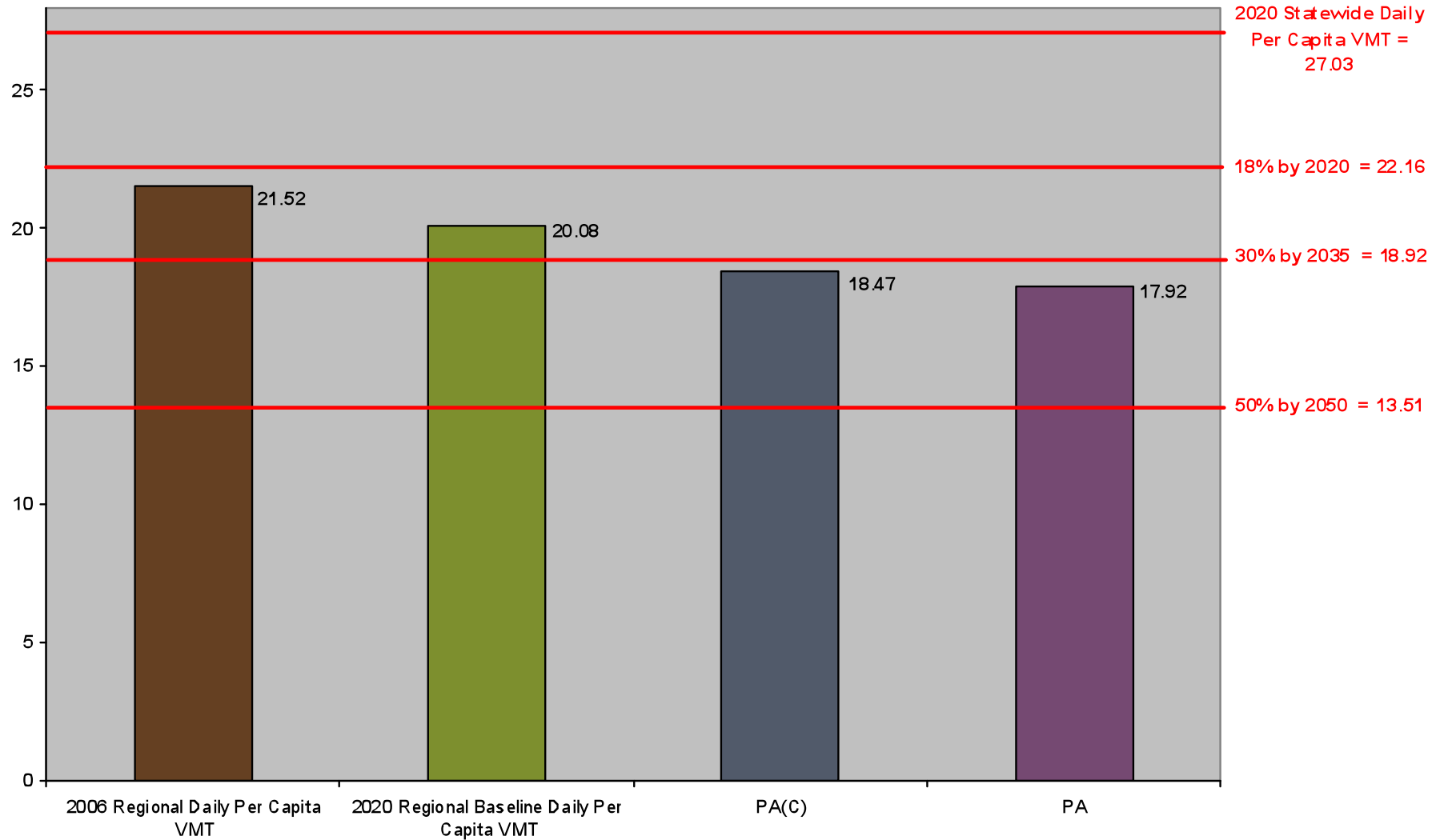
# Greenhouse Gas Strategy

- Land Use: VISION 2040 resulted in a 6% reduction in GHG emissions from the trend
- User Fees and Choices: the transportation investments in the DPA result in a 9% reduction in GHG emissions from the Baseline
- With the application of likely and aggressive technology improvements, the DPA results in a total GHG emissions reduction from the Baseline of 31% (5% below 2006 levels) to 48% (28% below 2006 levels)



# VMT Per Capita

## Daily Per Capita VMT





# Greenhouse Gas Strategy

## Summary of GHG Analysis:

- Investments and strategies through land use, user fees and providing transportation choices result in GHG emission reductions from the Baseline of 6% [DPA(FC)] to 9% [DPA]
- With assumptions for vehicle and fuel technology improvements by 2040, *additional* reductions of GHG emissions in the range of 25-43% are possible
  - *All four components of the GHG Strategy combined result in GHG emissions 5-28% below 2006 levels*
- These results are consistent with state and national research related to transportation GHG emissions reductions

All four components of the strategy are necessary to achieve reductions; the region and the state will continue to work together to pursue options for reducing GHG emissions from the transportation sector

# Greenhouse Gas Strategy: What More Can Be Done?

- Land Use: VISION 2040 resulted in a 6% reduction in GHG emissions from the trend
  - Further focusing growth in metropolitan and larger cities could result in a 9% reduction in GHG emissions
- User Fees and Choices: the transportation investments in the DPA result in a 9% reduction in GHG emissions from the Baseline
  - Higher assumptions of vehicle operating costs would result in additional reductions
    - The toll rates in Alternative 5 were higher (25¢ per mile) and resulted in a 10% reduction in GHG emissions from the Baseline
    - *Moving Cooler* analyzed fees equivalent to an *additional* \$5.00 a gallon which resulted in a 28% reduction in GHG emissions from their study baseline by 2050
  - The alternatives analysis conducted for Transportation 2040 included significant investments in alternatives to single occupant vehicle travel, consistent with the 2008 Climate Action Team's recommendations
    - Additional research can be conducted regarding the impact of the region's "short trips," as well as the benefits of localized bicycle and pedestrian investments, active traffic management, transportation demand programs, etc.
- Technology: the application of likely and aggressive technology improvements to the DPA results in a total GHG emissions reduction from the Baseline of 31% (5% below 2006 levels) to 48% (28% below 2006 levels)
  - The region can consider opportunities to influence the direction of vehicle and fuel improvements over the next 30 years, to ensure these potential emissions reduction benefits are achieved (e.g., through legislation, incentives, etc.)



# Questions?

**Puget Sound Regional Council**

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