

# Transportation 2040

*Update to the Regional Transportation Plan*

## Baseline Report

## Transportation Policy Board

September 11, 2008

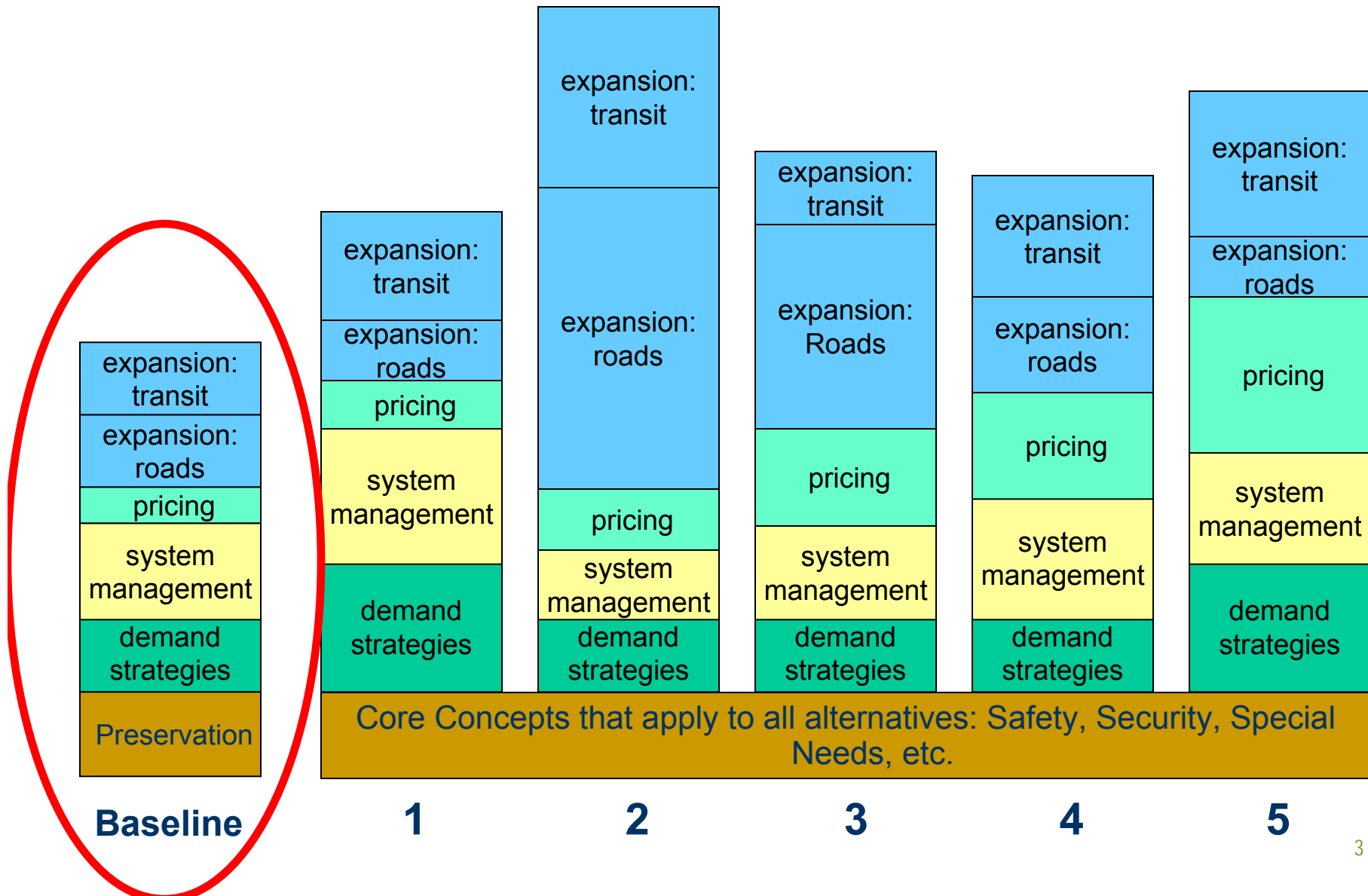
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# Presentation Outline

- **Presentation Objective: *Provide draft initial findings of comparison bt. 2006 and 2040 Baseline Transportation System***
  - ***Baseline definition***
  - ***Congestion Management Process (CMP) outputs***
    - Land use/demographic data
    - Mode Share/Freight Volumes
    - VMT
    - Travel Times
  - ***Implications to the things we care about***
  - ***Discussion***

# Alternatives



# Baseline Assumptions

DRAFT

<b>Finance</b>	<b>“Current Law” Revenue Forecast to 2040 (with higher regional RoR on state funds)</b>
<b>Preservation</b>	<b>All current capacity will be maintained (including I-5 repave, thus RoR assumption)</b>
<b>Roadway System</b>	<b>Current (4-lane 520 bridge, current AWW) <i>plus</i> funded future investments (I-405 Nickel/TPA, some SR 99 HOV/BAT, etc.)</b>
<b>Regional Transit (including Vanpools)</b>	<b>Current <i>plus</i> funded future investments (Link LR Airport to Husky Stadium, planned Sounder additional service)</b>
<b>Local Transit</b>	<b>Current <i>plus</i> KC “Rapid Ride,” CT “Swift”, and very minor service expansion in some areas</b>
<b>Ferries</b>	<b>Existing WSF service <i>plus</i> KC Passenger-Only</b>
<b>Tolling</b>	<b>Nothing other than ferries (TN Bridge and SR 167 tolls conclude prior to 2040)</b>
<b>HOV practice (2+, 3+)</b>	<b>Existing Practice</b>

# D2040 Baseline Report

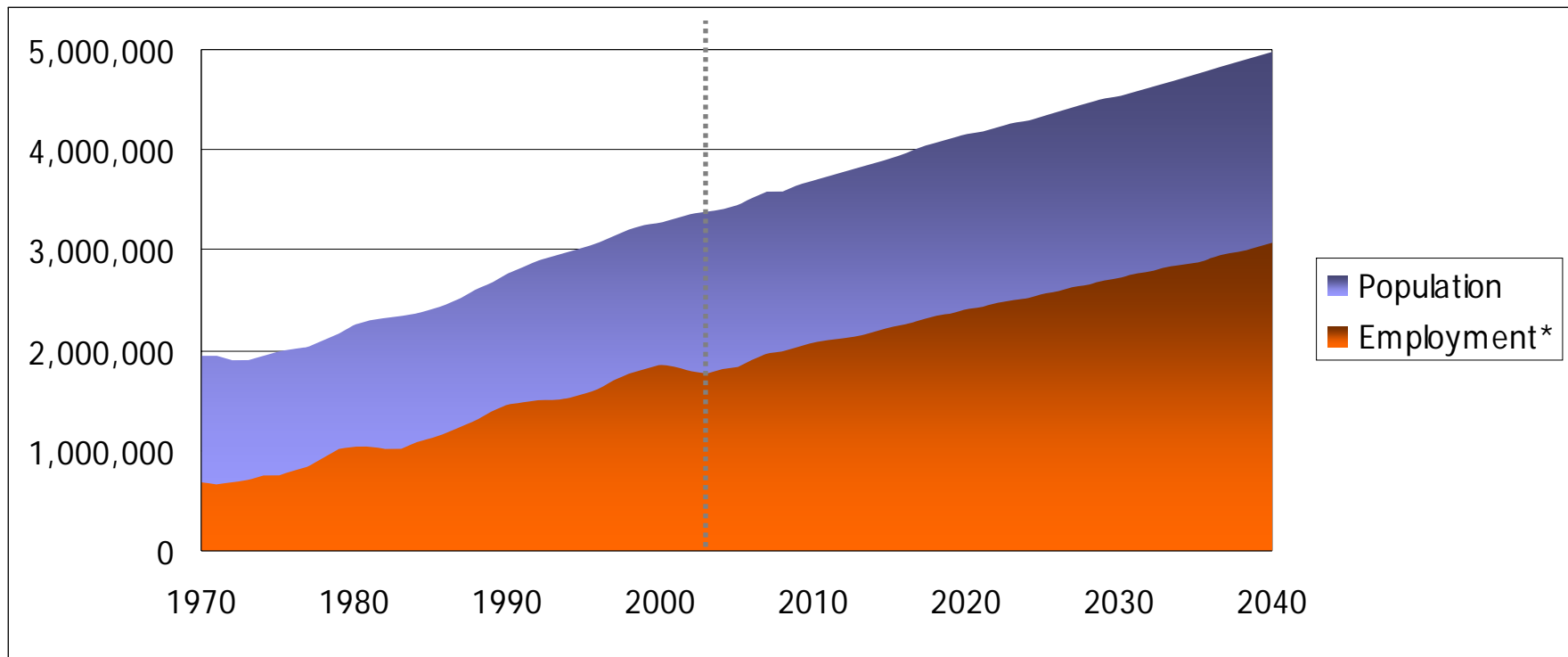
# Congestion Management Process



# Regional Forecast of Population & Jobs

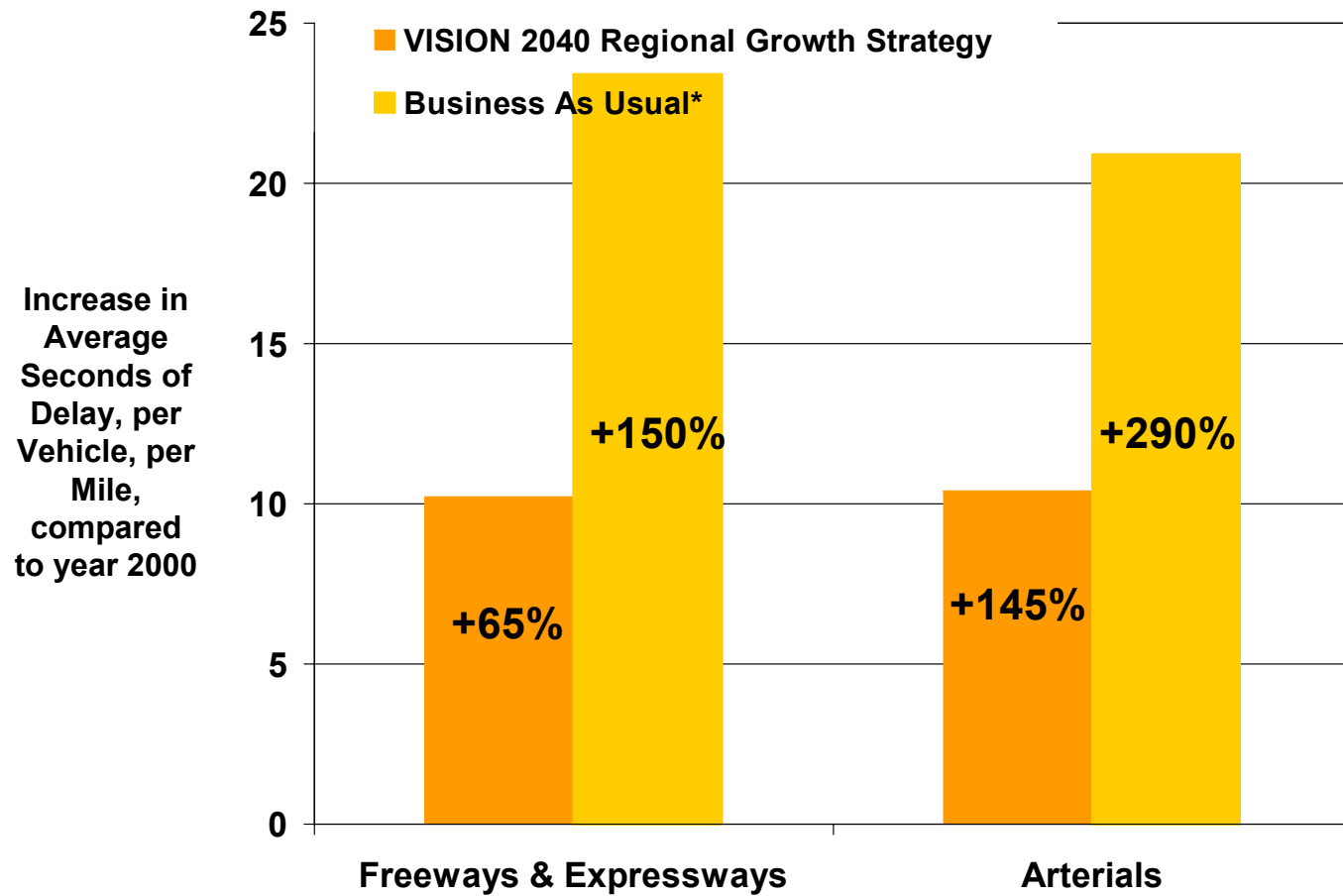
Region expects to add 1.4 million people and 1.1 million jobs by 2040

- Smaller household sizes
- Fewer households with children
- More racially & ethnically diverse
- Older population
- Different travel needs & preferences
- Different housing needs & preferences



# Land Use Matters: Forecasts – Change from 2000 to 2040

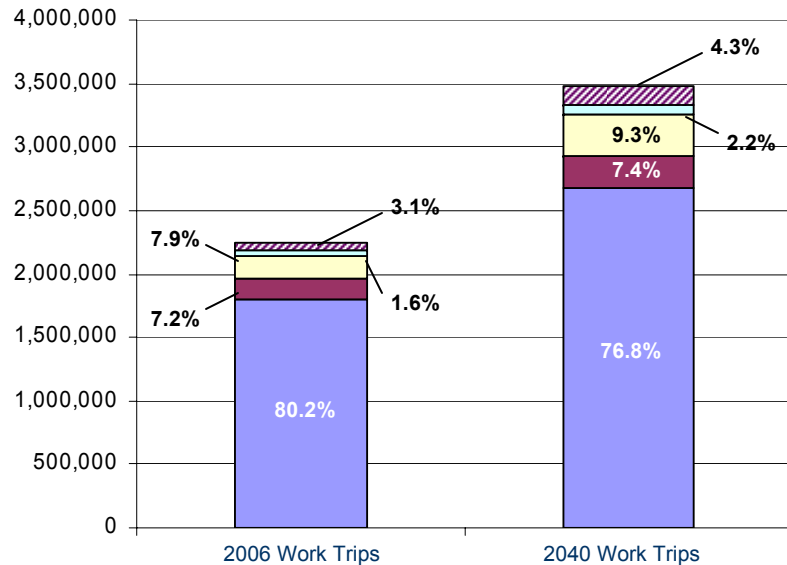
Smaller increases in key travel variables forecast under the Regional Growth Strategy



Source: PSRC, VISION 2040 EIS  
\*Growth Targets Extended Alternative

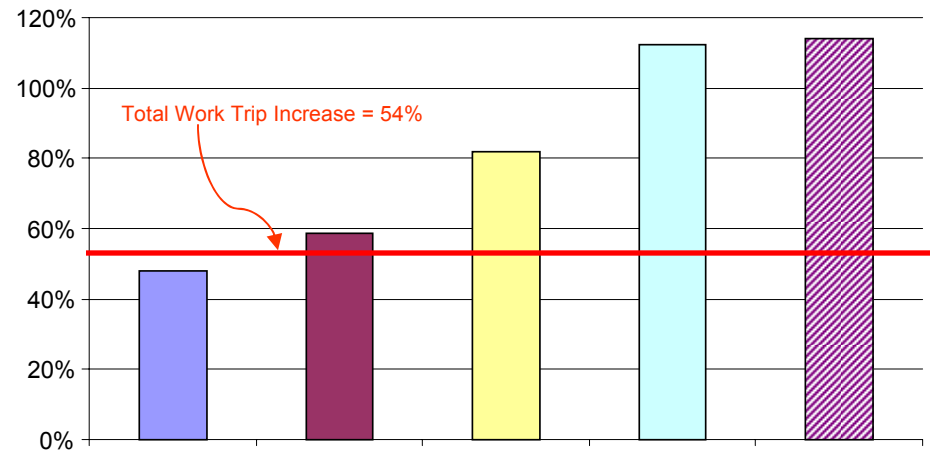
# Regional Work Trip Mode Share – 2006 and 2040

Work Trips by Mode 2006 & 2040 (Baseline)

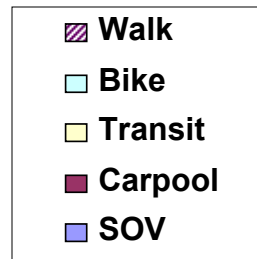


Source: PSRC Travel Demand Model

Percent Increase in Work Trips by Mode from 2006 – 2040 (Baseline)

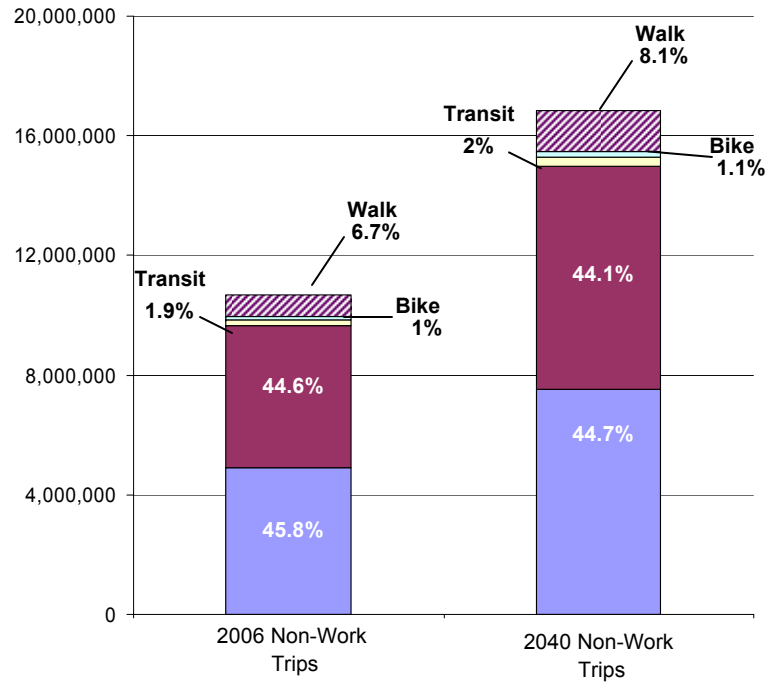


Source: PSRC Travel Demand Model



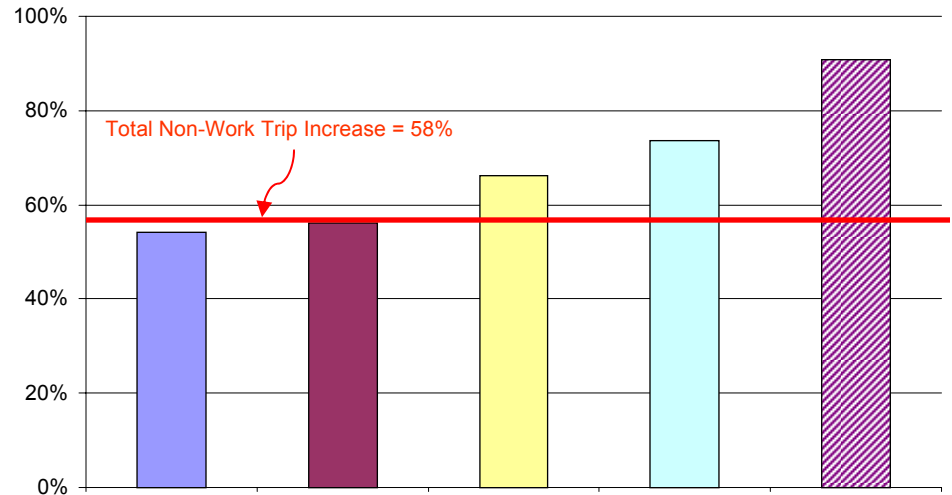
# Regional Non-Work Trip Mode Share – 2006 and 2040

Non-Work Trips by Mode 2006 & 2040 (Baseline)

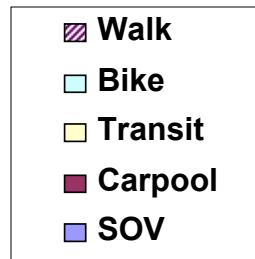


Source: PSRC Travel Demand Model

Percent Increase in Non-Work Trips by Mode from 2006 – 2040 (Baseline)



Source: PSRC Travel Demand Model



# Vanpools are on the rise...

## *Regional Vanpool Statistics*

	<b>2005 Vans in Operation*</b>	<b>2006 Vans in Operation*</b>	<b>% Increase 2005 - 2006</b>
Community Transit	263	286	8.75%
Kitsap Transit	120	119	-0.83%
Pierce Transit	261	264	1.15%
King County Metro	944	1,045	10.70%
<b>Regional Vanpools</b>	<b>1,588</b>	<b>1,714</b>	<b>7.93%</b>

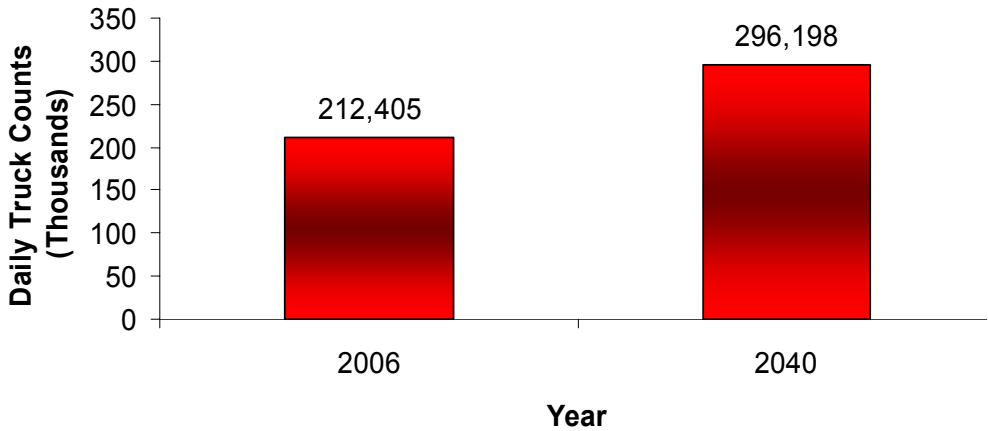
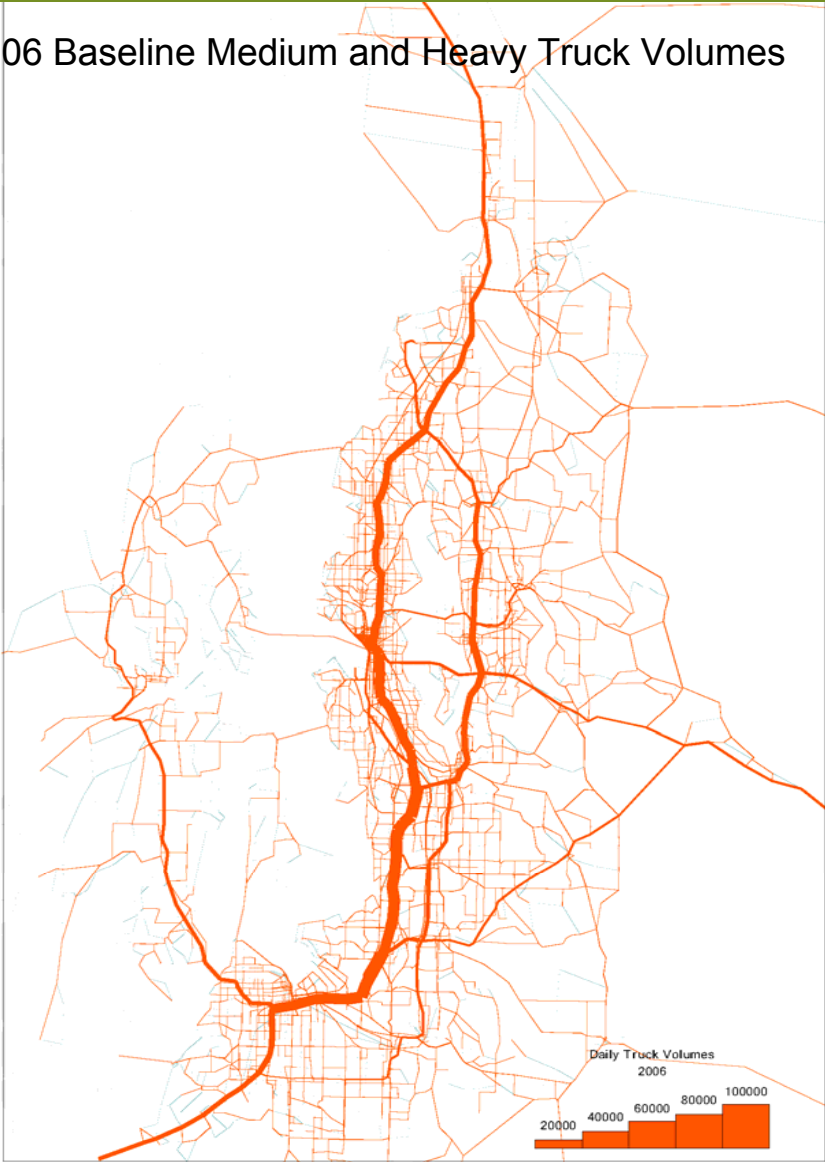
\*Source: 2005 and 2006 WSDOT Summary of Public Transportation

- Annual increase projected to be 5%

# Daily Truck Volumes

## Heavy & Medium Trucks

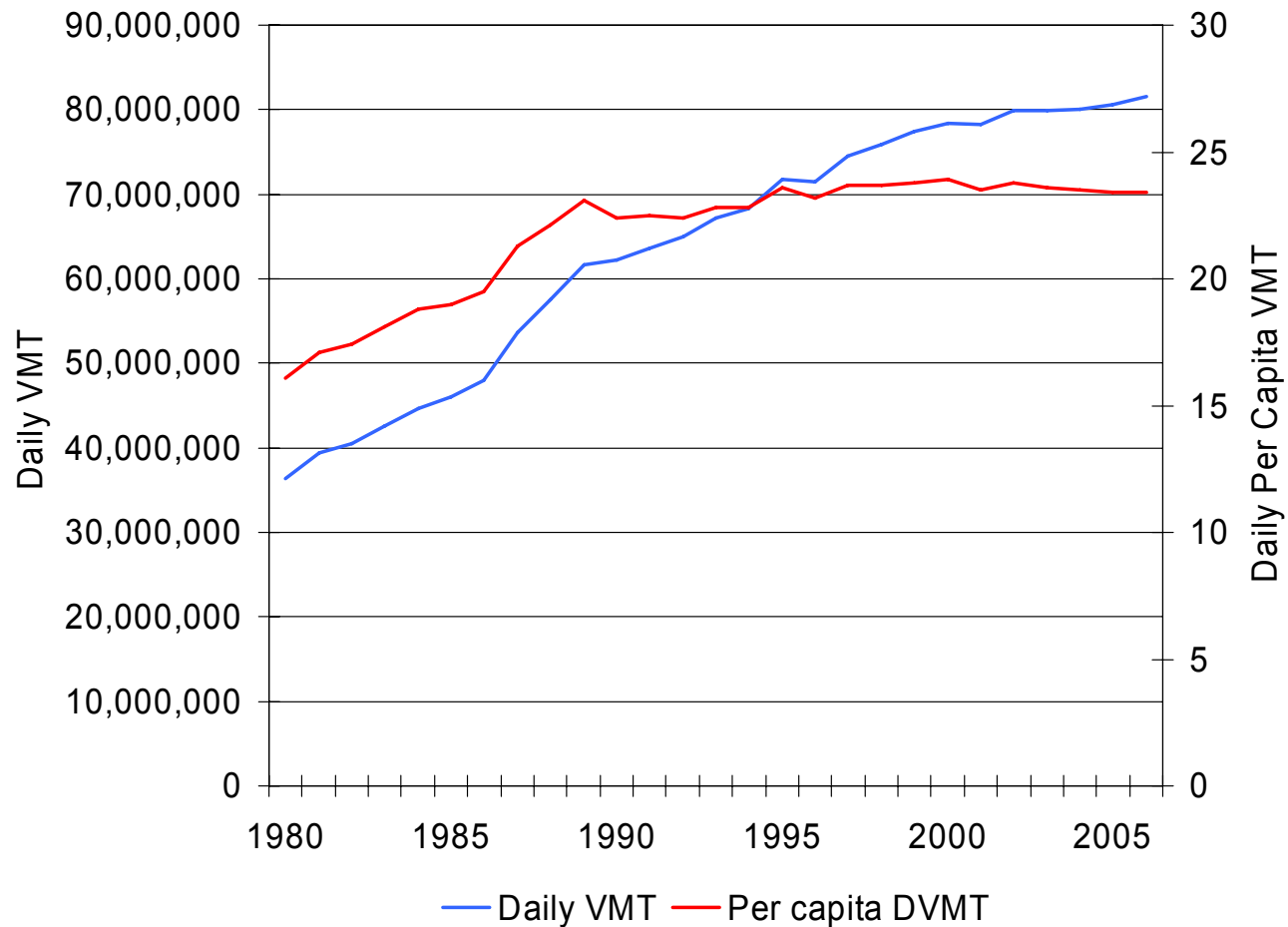
2006 Baseline Medium and Heavy Truck Volumes



2040 Volume Increase = 40%

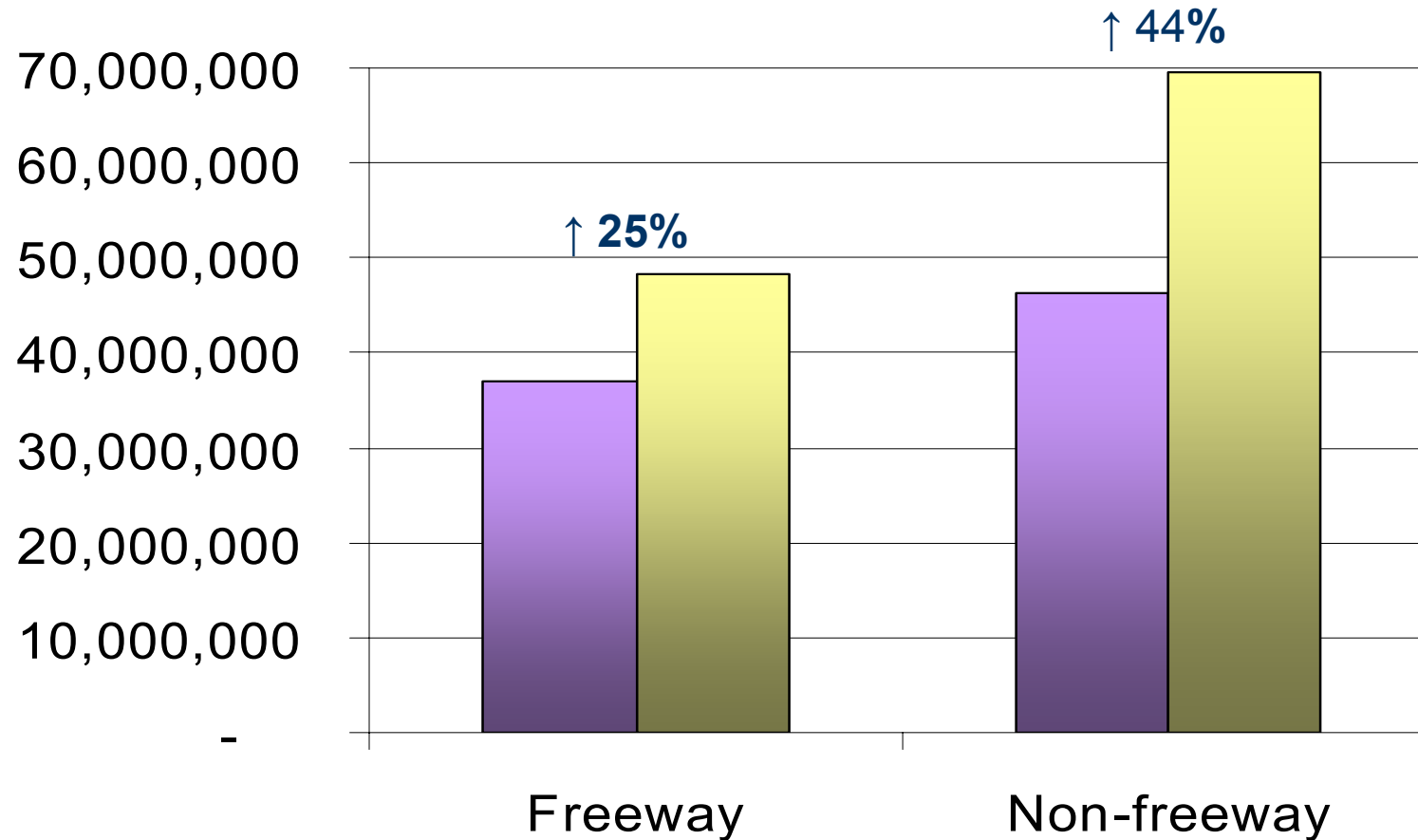
# Growth in Daily Vehicle Miles Traveled versus Per Capita Daily Vehicle Miles Traveled

**Per-capita Daily VMT has held fairly constant since the late 1980s.**



Source: HPMS, OFM, PSRC calculations

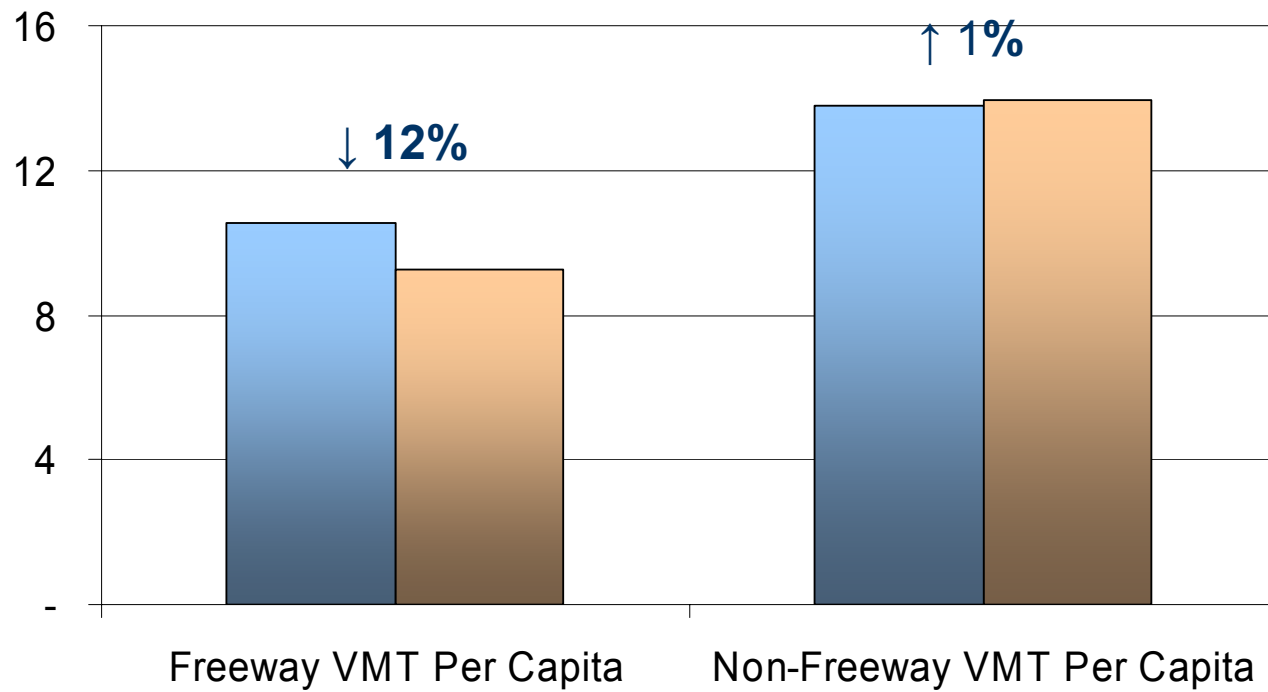
# Regional Growth in Daily Vehicle Miles Traveled (VMT) : 2006 - 2040 (Baseline)



 = 2006     = 2040

Source: PSRC Model

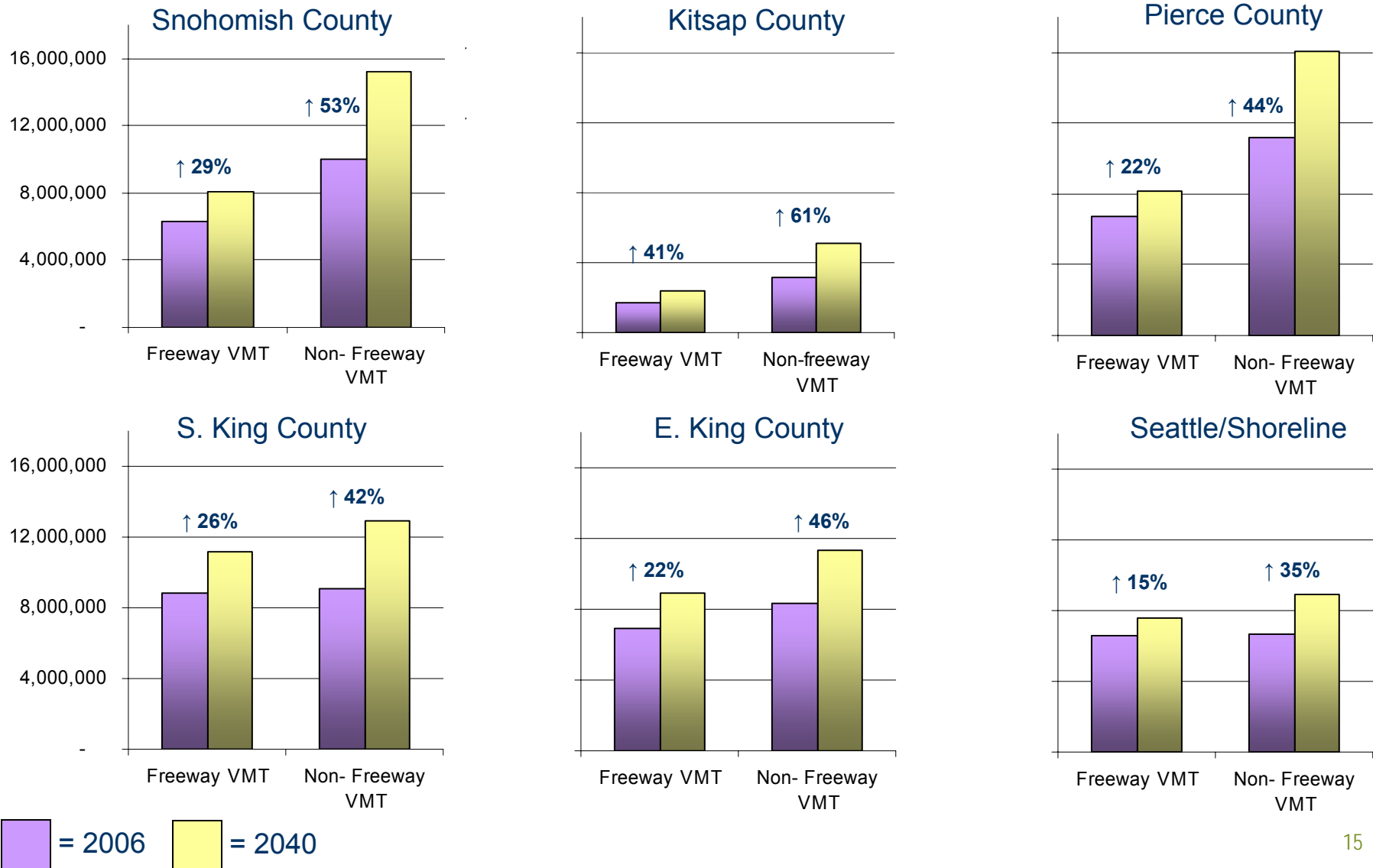
# Change in Regional Daily Vehicle Miles Traveled (VMT) Per Capita : 2006 - 2040 (Baseline)



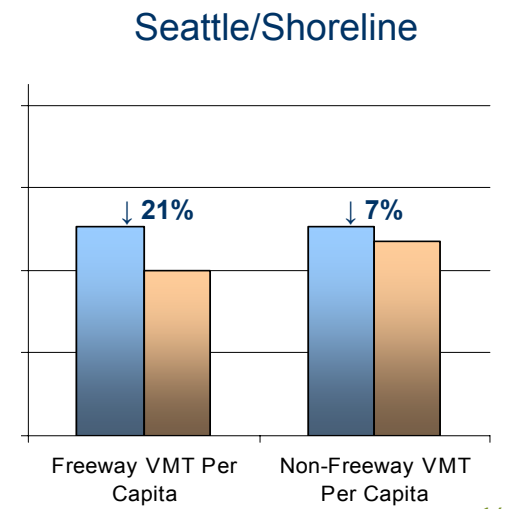
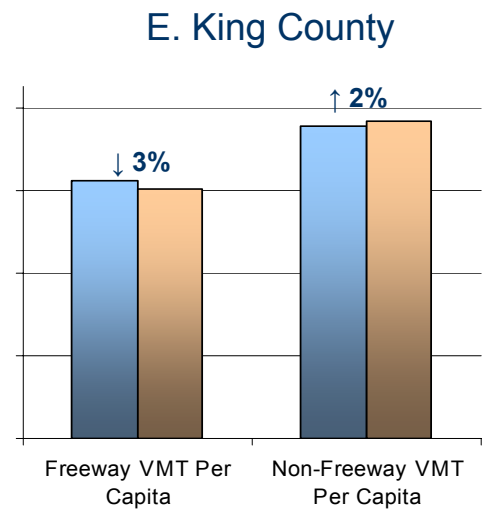
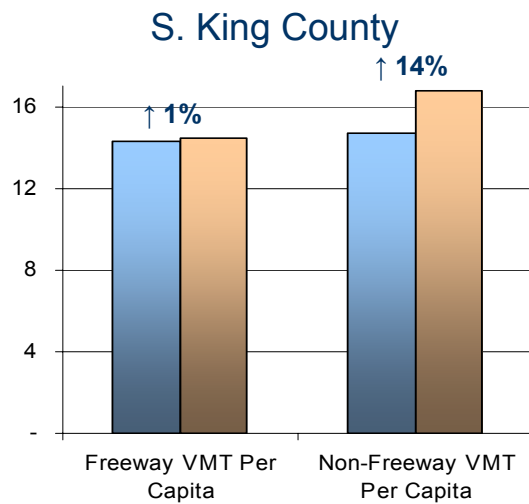
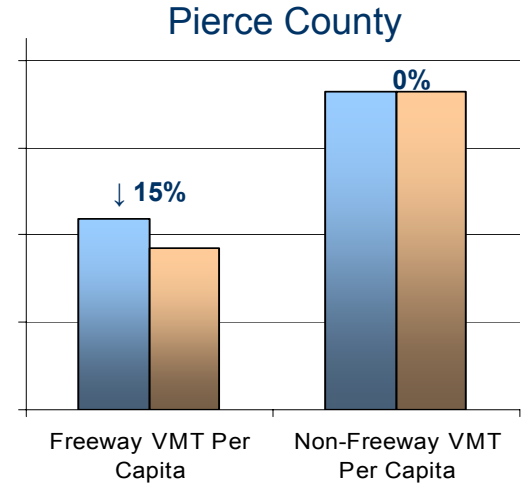
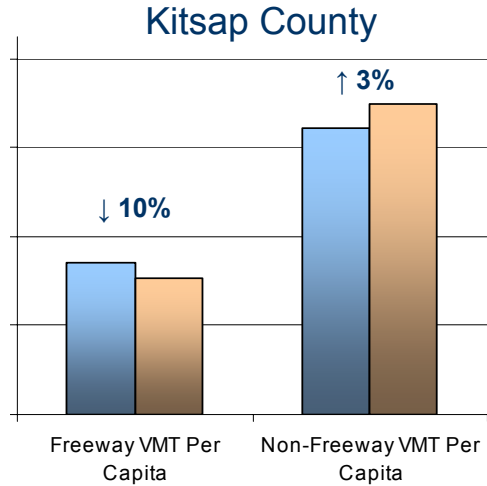
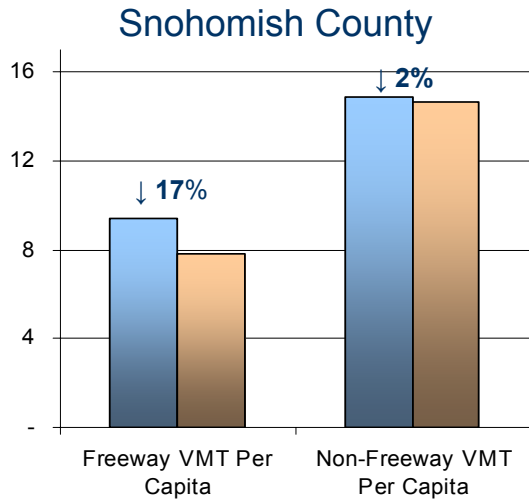
 = 2006     = 2040

Source: PSRC Model

# Subarea Growth in Daily Vehicle Miles Traveled (VMT): 2006 - 2040 (Baseline)

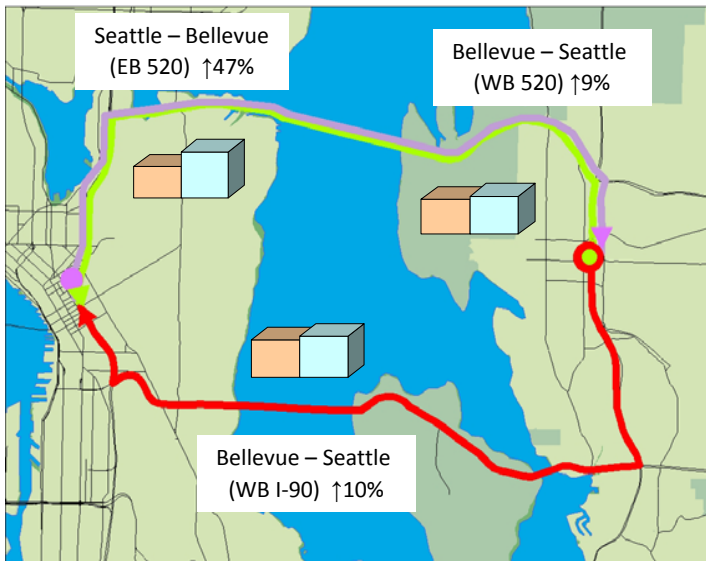
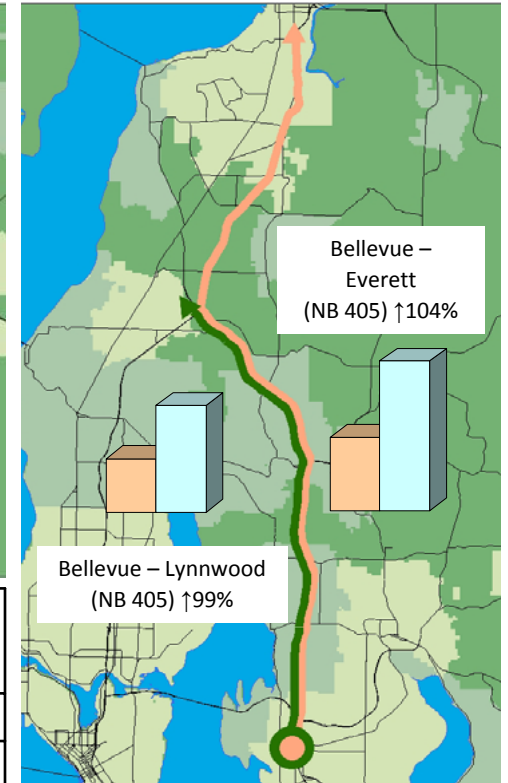
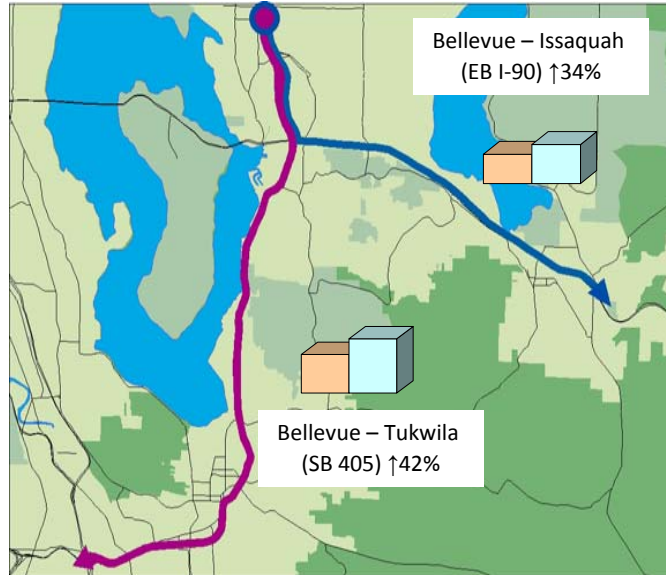
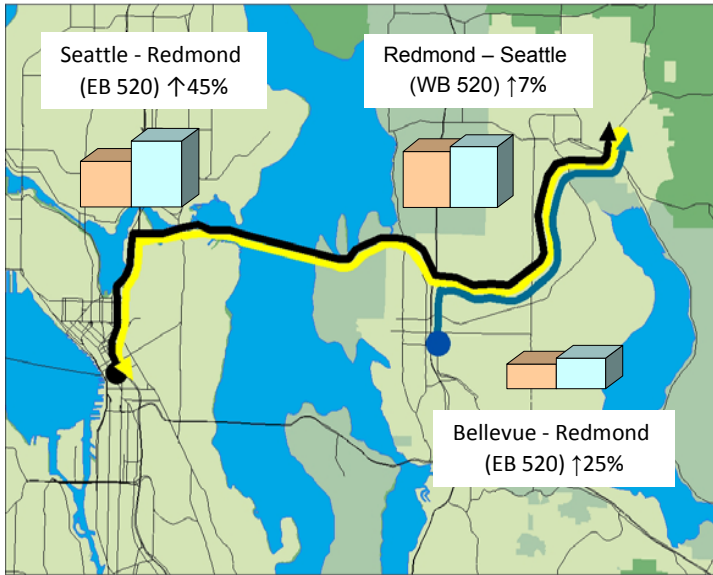


# Change in Subarea Daily Vehicle Miles Traveled (VMT) Per Capita: 2006 - 2040 (Baseline)



# WSDOT Famous Commutes: Increase in PM Peak Travel Time 2006-2040\*

\* 2006 Observed, 2040 Projected



	2006 Observed (minutes)	2040 Forecasted (minutes)
Seattle to Redmond	30	43
Redmond to Seattle	37	40
Bellevue to Redmond	15	19
Seattle to Bellevue via SR-520	21	31
Bellevue to Seattle via SR-520	26	28
Bellevue to Seattle via I-90	28	31
Bellevue to Issaquah	19	25
Bellevue to Tukwila	33	47
Bellevue to Lynnwood	32	64
Bellevue to Everett	44	90

= 2006 Observed Travel Times

= 2040 Forecasted Travel Times

# D2040 Baseline Report Implications to the Things We Care About



# Plan Update Issues to be included in Baseline (From Scoping)

**Economy** - Support the Regional Economic Strategy.

**Equity and Special Needs Transportation** – Equitably make transportation investments across the region and improve access to jobs and services for people with special needs.

**Safety & Health** - Getting to “Target Zero” and supporting healthy lifestyles.

**Security** – Supporting the region’s ability to deal with emergencies.

**Energy and the Environment** – Reduce the causes of climate change and water quality impacts on Puget Sound.

**Preservation of the System** – Making improvements to our aging infrastructure.

**Transportation Funding** - Sustainable funding for transportation investments.

**Project Prioritization** - Making the most of scarce transportation dollars.

**Land Use** - Integrating transportation and land use decisions.

**Congestion and Mobility** – Reduce congested facilities for all types of freight and personal travel.

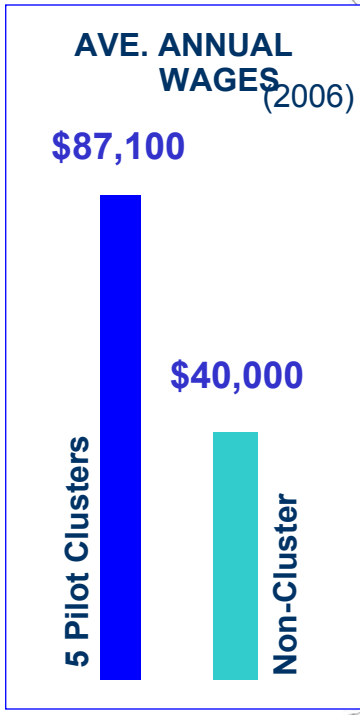
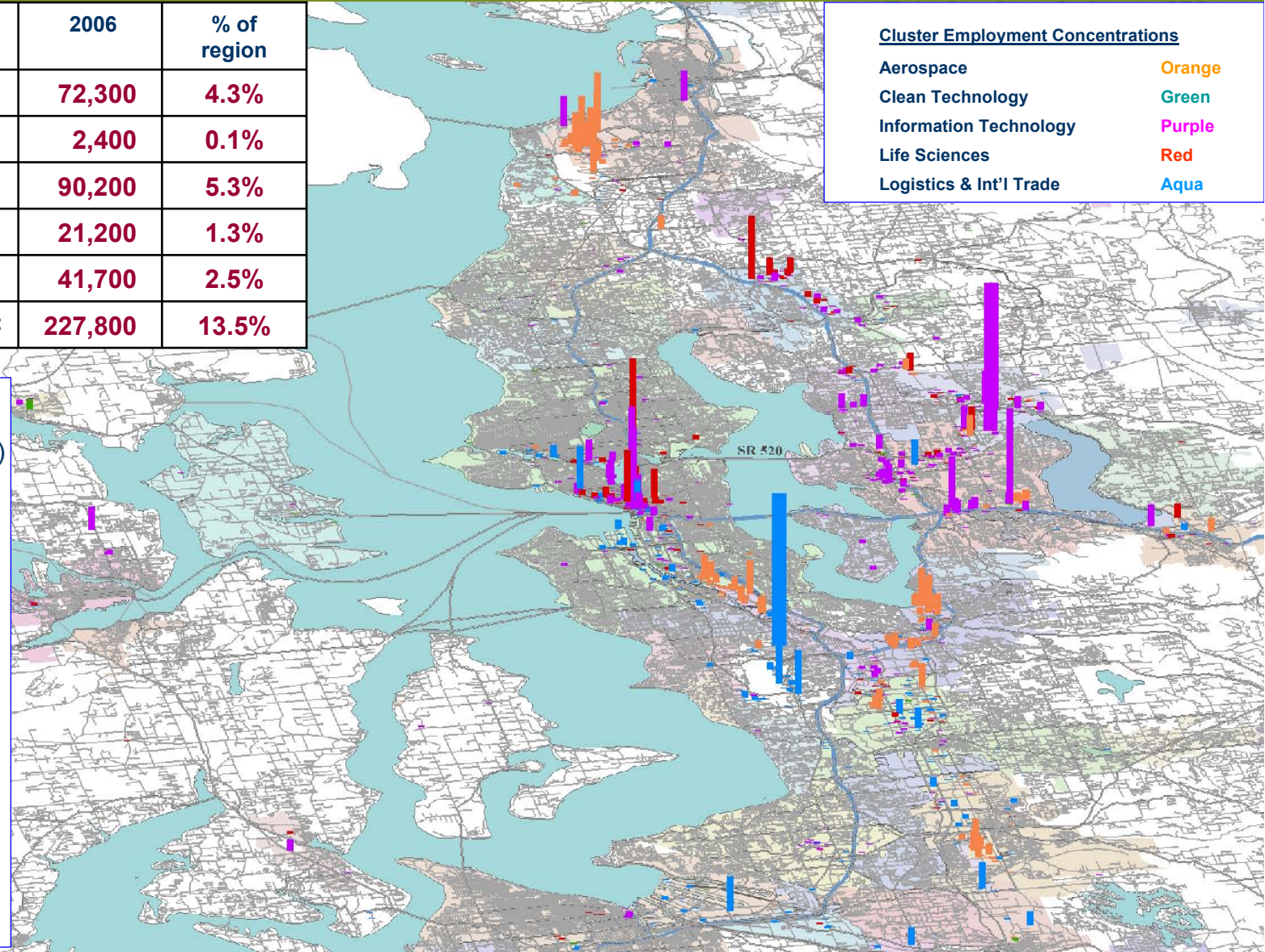
Things we care about

# Supporting the Regional Economic Strategy

Cluster Employment	2006	% of region
Aerospace	72,300	4.3%
Clean Technology	2,400	0.1%
Information Technology	90,200	5.3%
Life Sciences	21,200	1.3%
Logistics and Int'l Trade	41,700	2.5%
<b>Totals:</b>	<b>227,800</b>	<b>13.5%</b>

**Cluster Employment Concentrations**

- Aerospace Orange
- Clean Technology Green
- Information Technology Purple
- Life Sciences Red
- Logistics & Int'l Trade Aqua



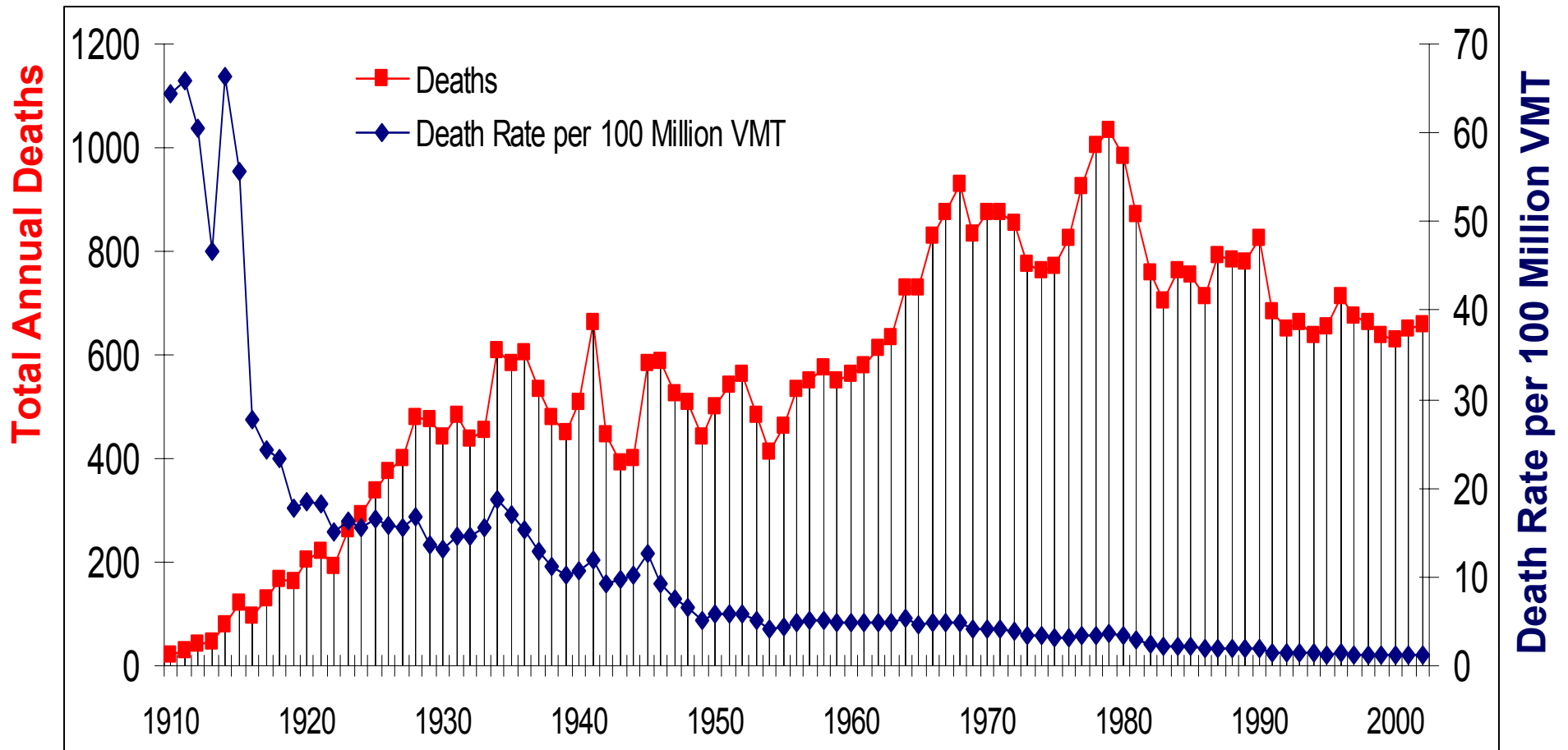
# Equity and Special Needs

- **Federal Mandates** that require providing transit service to Special Needs Population
  - People with disabilities, elderly, low income, and certain youth populations
- **Population Trend:** Special Needs population growing, for example, by 2040 the Elderly population will reach 800,000 in the region
  - 17% of Pop in 2040 vs. 10% in 2000
- Federally mandated special needs transit services contribute to **expanding deficit** in transit funding and services

# Safety:

## Historical Motor Vehicle Fatalities Total and Rate Per Million Vehicle Miles Traveled (VMT)

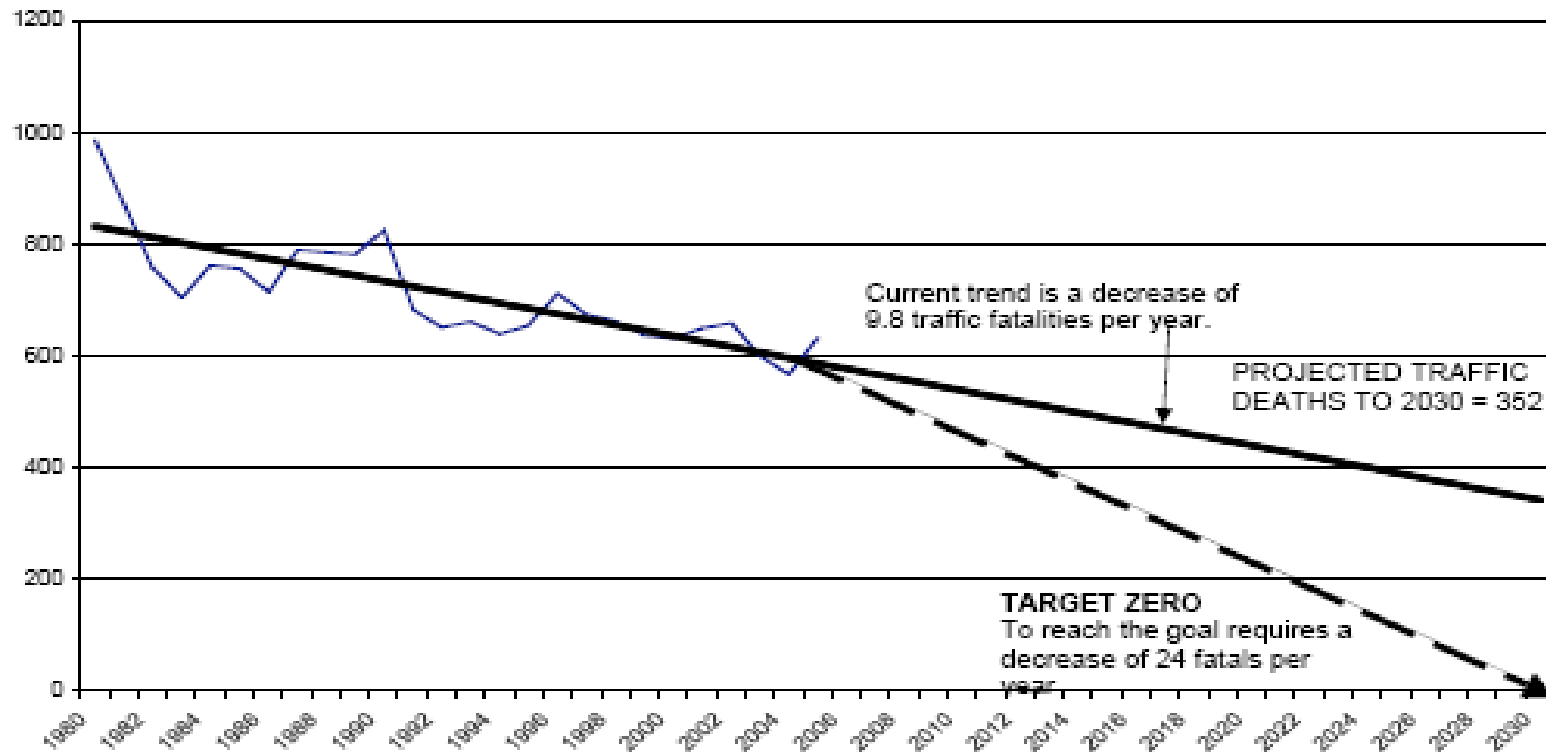
### Washington State: (1910 – 2002)



Source: TDO - WSDOT

# Safety: Target Zero Vision

Traffic Deaths WA 1980-2005 - Projected to 2030  
(preliminary data for 2005, source: FARS)  
PREPARED BY WTSC - APRIL 2006



# Health

- If the trends of the past three decades continue, it's possible that every American adult could be overweight 40 years from now, a government-funded study projects.\*
- Significant health benefits can be obtained through moderate activity such as walking and bicycling.
- Increased development in centers means more destinations people can easily walk and bike to.



\*Source USDOH Agency for Healthcare Research and Quality

# In 2040 what would be the most effective way to manage the Freeway HOV system?

## Retain the 2 person occupancy requirement?

- Many Freeway HOV lane segments already fail to meet the adopted speed and reliability standard.
- By 2040 increasing HOV congestion would result in a loss of transit reliability and decrease the incentive to travel by HOV modes.

## Increase the occupancy requirement to 3+?

- Large volumes of 2-person carpools would shift to the GP lanes, increasing general purpose congestion.
- Some 2-person carpools would split into SOVs because they would lose the HOV incentive to carpool.
- The HOV lanes would probably move fewer people than today.

**Potential Scenario:** *By 2040 neither the HOV-2 nor HOV-3+ requirement would result in efficient HOV lane operation. During much of the day the HOV lanes would either be too full or not full enough.*

# Other Freeway HOV lane management options?

## Limit peak period use to transit, vanpools and carpools with permits?

- Adds to enforcement and administrative burdens.
- Still difficult to balance peak period capacity with demand.

## Variable occupancy depending on conditions; 3+ during peaks, 2+ off-peak

- Only partially addresses the problem, peak periods could still be underutilized.

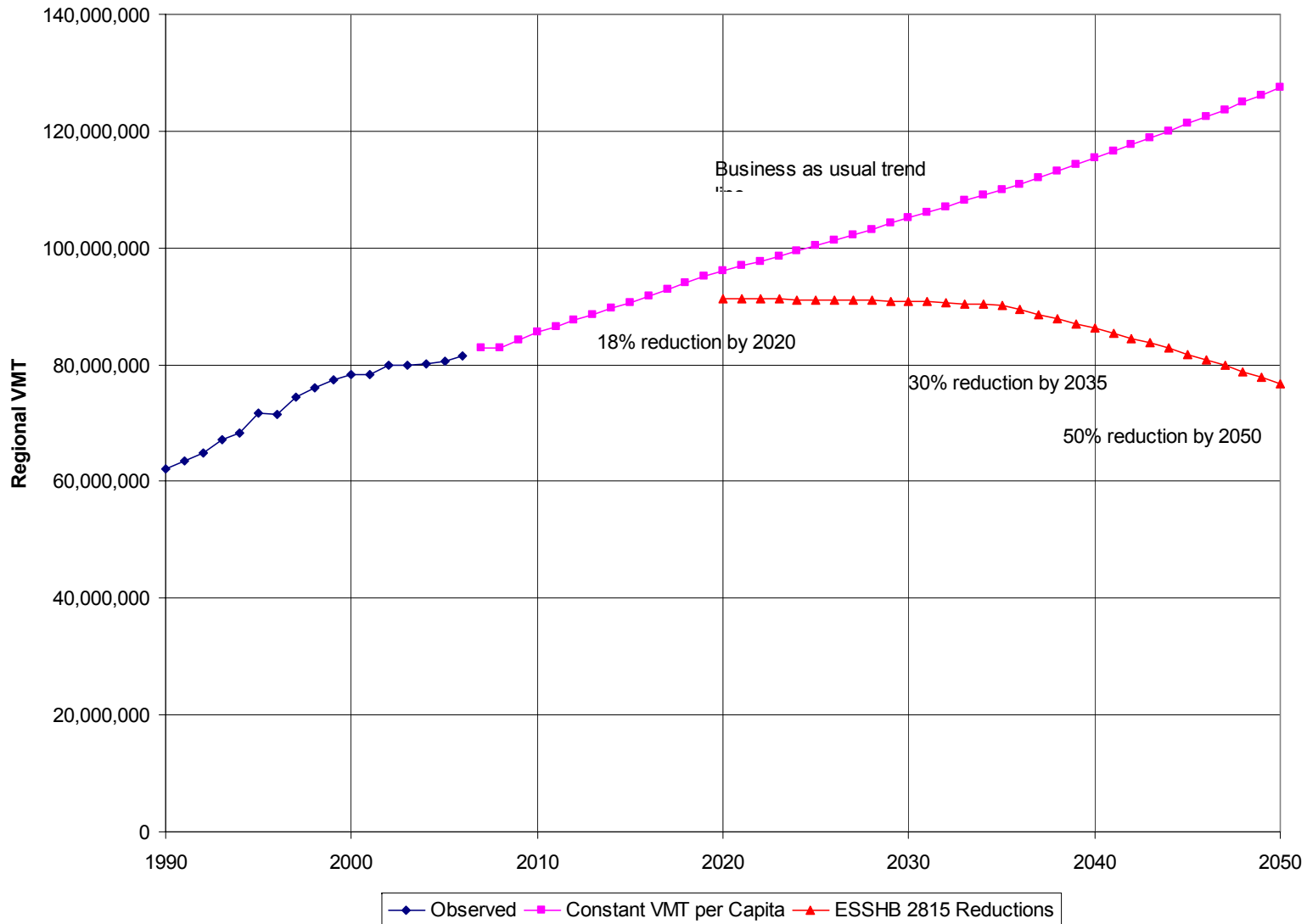
## Convert HOV lanes to High Occupancy-Toll?

- Provides a tool for balancing capacity with demand, results in more predictable and efficient operation.
- Retro-fitting the existing HOV lanes would involve a cost.
- Results from the SR 167 HOT project are encouraging but further study of operational issues is needed.

# Energy and the Environment

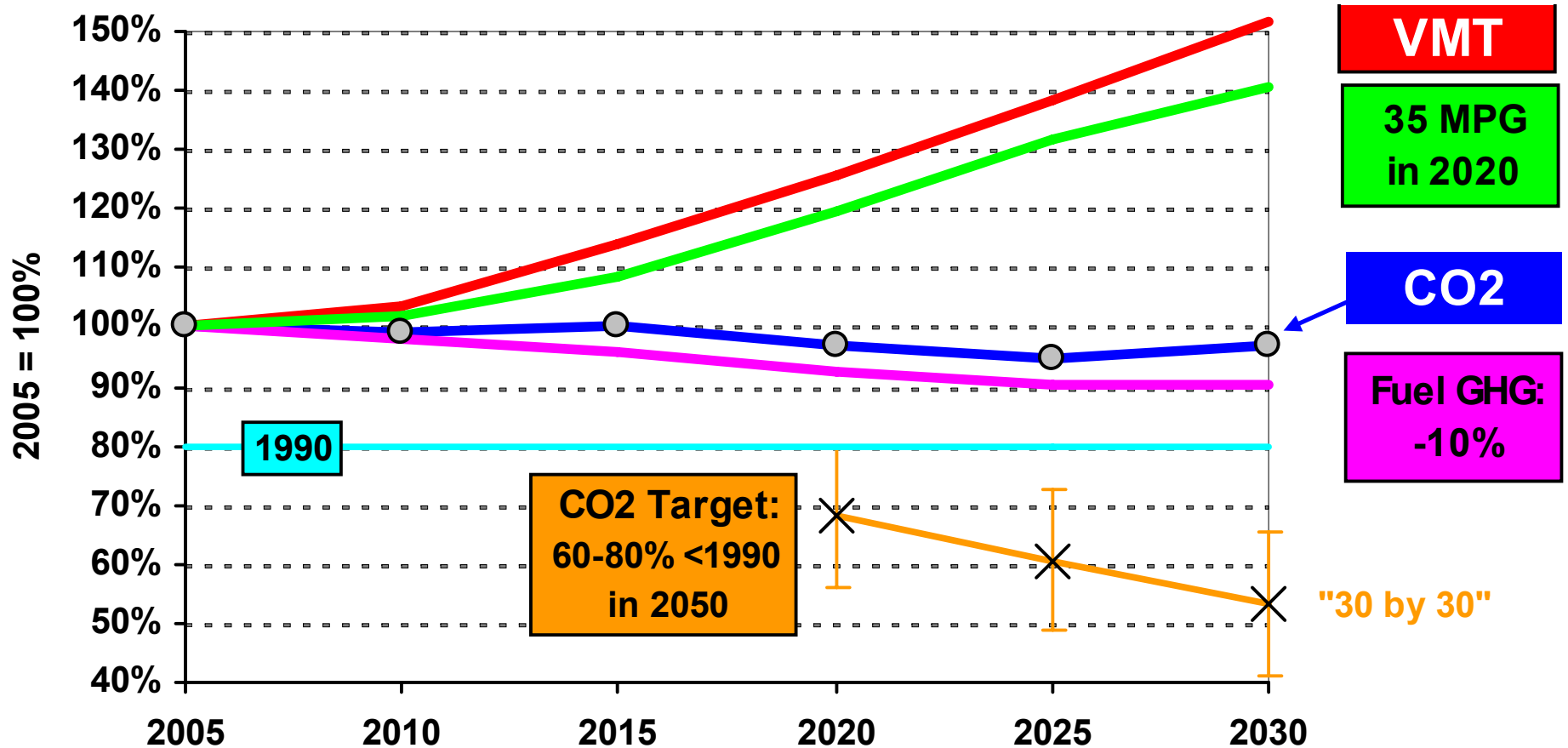
## Relevant State Legislation: VMT Reduction Benchmarks

Forecasted VMT trends, compared to VMT reduction benchmarks



# Energy and the Environment: The Technology Question: Vehicles and Fuels

Add anticipated growth in VMT = 2030 CO<sub>2</sub> at 21% above 1990 levels



Source: S. Winkelmann based on EIA, HR6 and *Growing Cooler* .

# Preserving the System: Operations & Maintenance

**Preservation (O&M) = The majority of planned investments**

**Efforts underway:**

- **Better understanding of city and county maintenance and preservations needs**
- **Ongoing efforts to estimate costs for operating existing transit services**
- **New/Developing Ferry System programming and cost assumptions**
- **Highway project costs and system basic needs costs**

# Project Prioritization: Destination 2030 Investment Principles

**First maintain, preserve, make safe, and optimize the existing system.**

**Emphasize continuity and completion of missing pieces.**

**Provide for all modes, increase choices.**

**Link to measurable transportation, environmental and land use outcomes.**

**Implemented cost effective (cost-beneficial) options.**

**Support compact development of urban centers.**

# Information & Contacts

## Transportation 2040

[www.psrc.org/projects/mtp/index.htm](http://www.psrc.org/projects/mtp/index.htm)

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