

# Cutting Carbs: Planning for Greenhouse Gas Emissions Reductions

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Reducing transportation GHG emissions will require significant changes to land use and transportation policies, plans, and investments

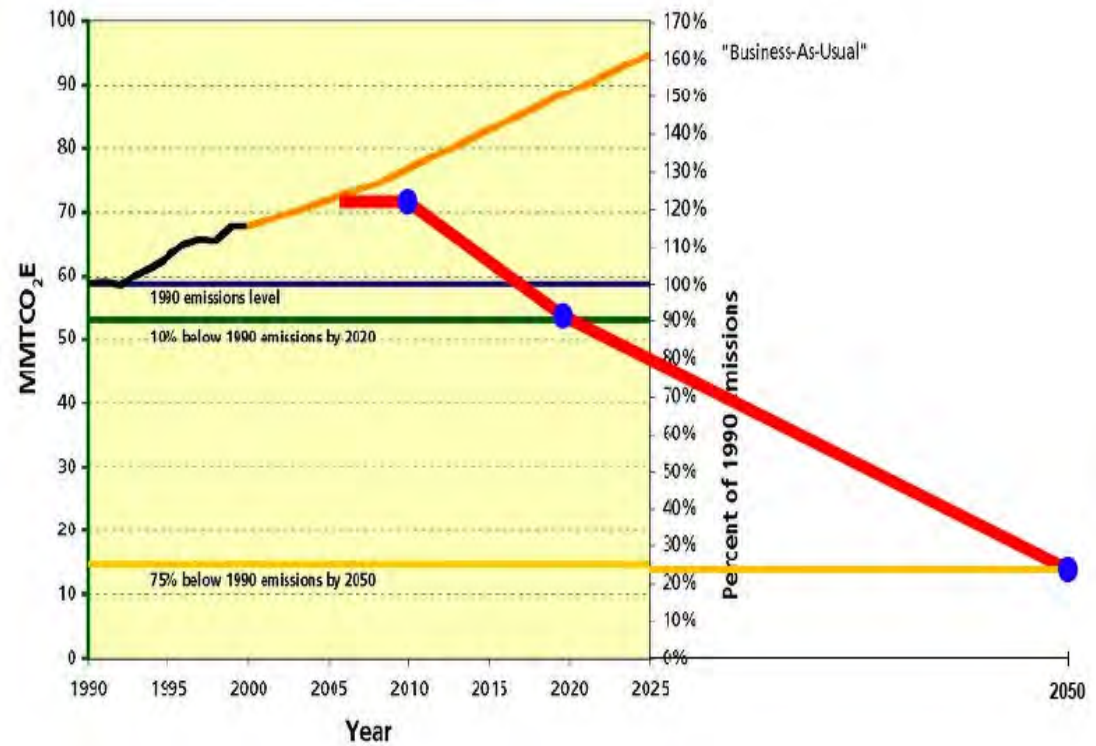


**We're going to need a bigger boat**

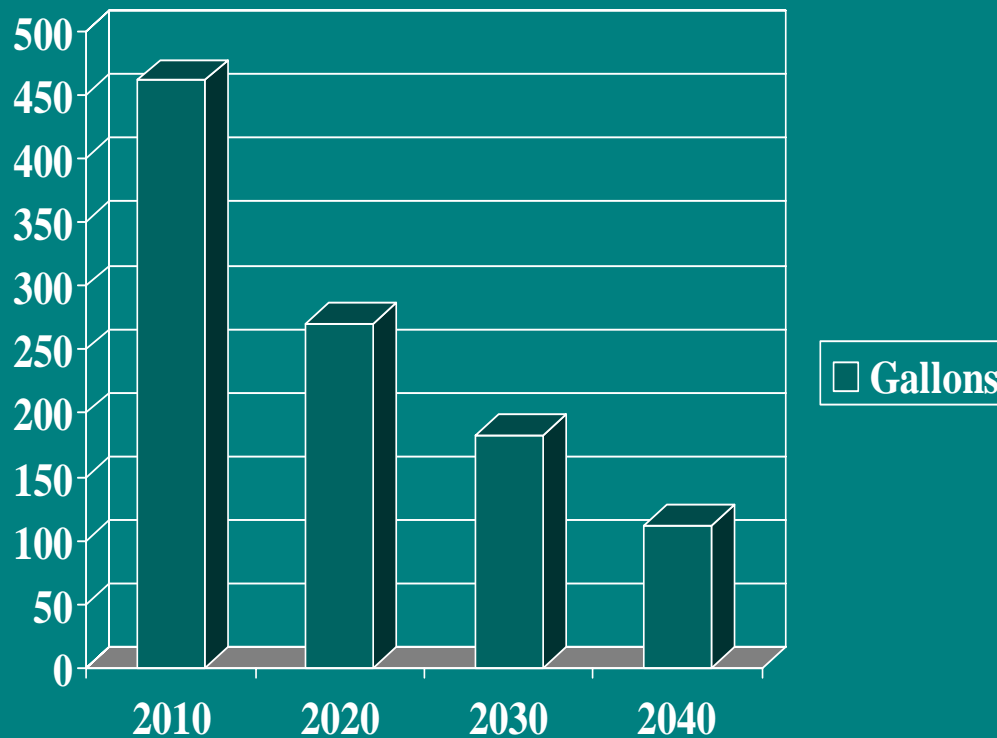
# Reduction is substantial

- 40%~ Population increase
- Goal is an absolute reduction of 70% by 2050

Historic and Forecast Gas Emissions in Oregon  
Showing Proposed Goals



# In practical terms



Meeting GHG targets means we each will use  $\frac{1}{4}$  as much gas as today

Source: Gregor (2008)

Average annual gasoline consumption per person for transportation

2010 – 435 gallons

2040 - 118 gallons

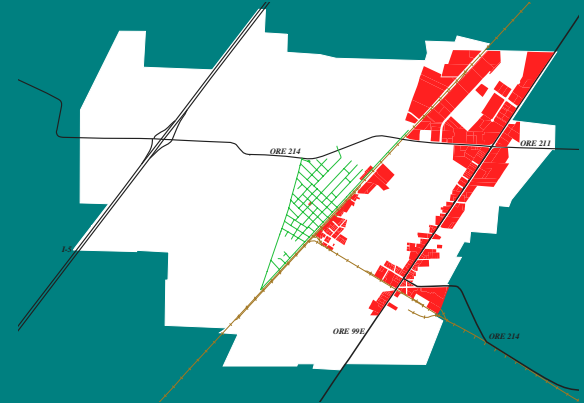
# Current plans & policies won't get us there

## Plans continue trends

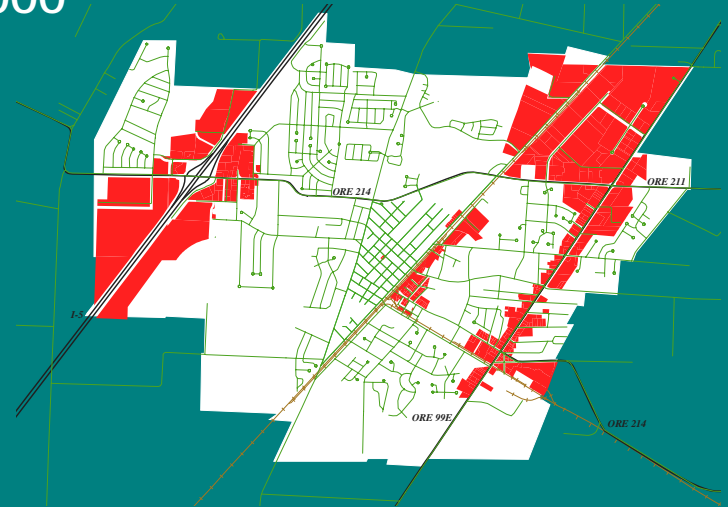
- Reflect historic patterns
- Highway & auto oriented development
- TSPs are based on acknowledged plans
- State Goals / Rules for allow assumption of relatively low density will continue

Woodburn

1960' + UGB



2000



# Plans allow many possible futures

- Zoning allows a range of uses and densities
- Plans, codes and markets well-adapted to conventional development patterns
- Private decisions & public investments shape what happens
- Mixed use development is growing but small



# Likely future ...

- Continued suburbanization of housing and employment
  - Modest increases in density
  - More infill & redevelopment
  - Mostly auto-oriented
- Modest improvements in non-auto modes

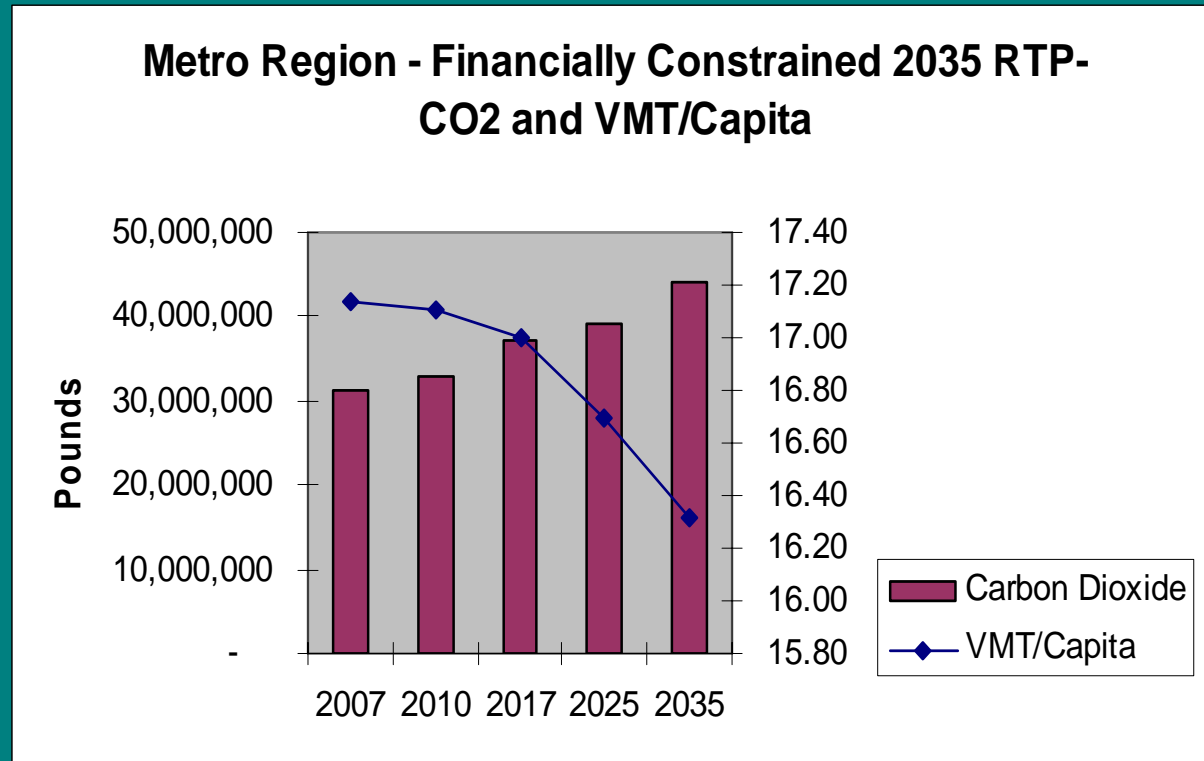


# Total VMT & CO2 will go up

(Even Metro)

Metro 2035 RTP

- 5% reduction in VMT per capita
- 39% increase in Total VMT
- 25% increase in CO2



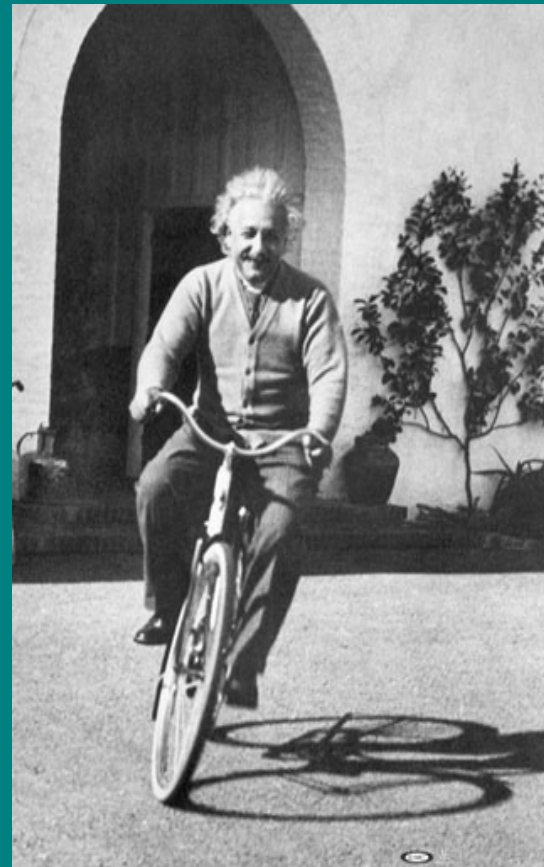
# Plans need to change

“It is critical that state and local planning not assume that the future will resemble the past ...”

Global Warming Commission to the Big Look TF, June 2008

...**Soon**

Current plans cover  $\frac{1}{2}$   
time available to meet  
GHG Reduction  
Targets



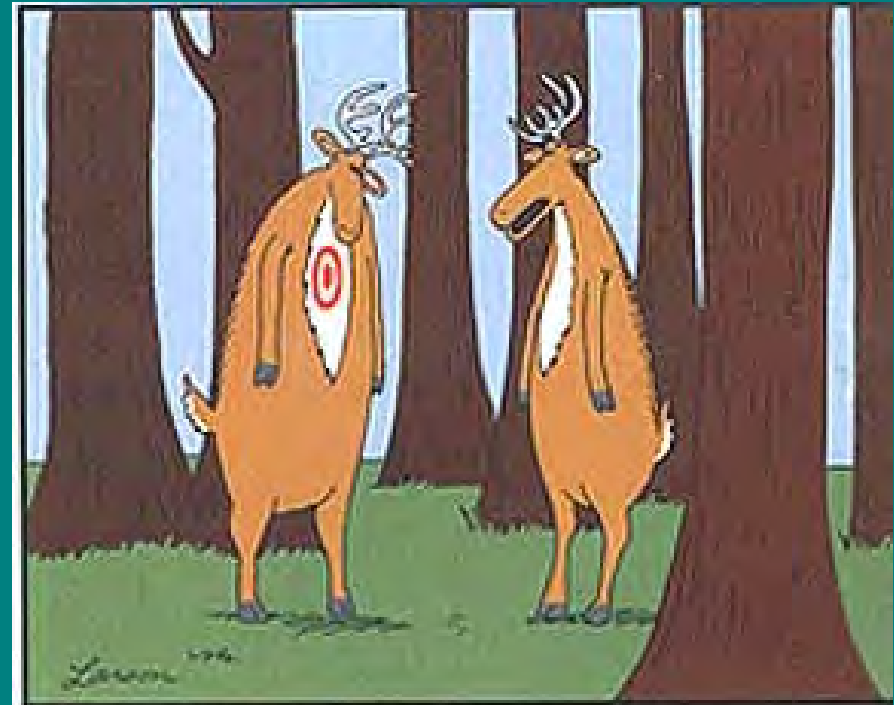
“Insanity is doing the same thing over and over again and expecting different results.”

**Einstein**

# Haven't we tried this already?

## TPR & VMT Reduction

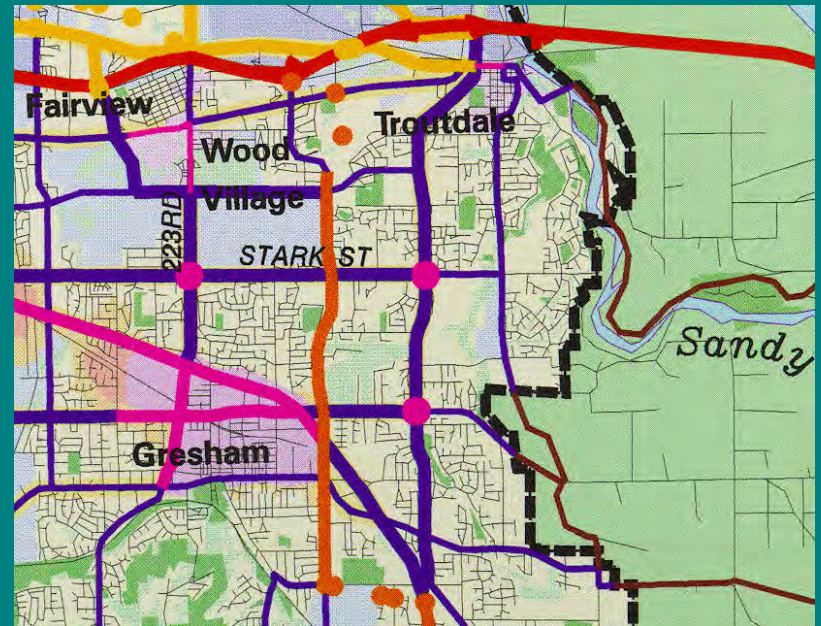
- 1991 – TPR adopted; requires MPOs to plan for a 10% reduction over 20 years; 20% over 30 years
- 1998 – VMT target reduced to 5%; alternative standards allowed
- 2001~ Metropolitan areas opt for alternatives
- 2006 - TPR amended to require locally developed standards



"Bummer of a birthmark, Hal."

# Some progress

- Better Planning for alternative modes
    - Street connectivity
    - Bike and pedestrian improvements
    - Transit service and supportive development in larger areas
  - But
    - Lots of road improvements
    - Greatly exceed likely funding
- (Especially for state highways)



# Lessons

## VMT reduction requires:

- Planning for compact growth in centers; infill, redevelopment
- Increasing local ability to make compact development happen
- Supporting investments transit, streets in centers, bike ped improvements
- State policies and investments to support compact growth



(2004 TPR Evaluation)

# Change is Coming!



# 2009 JTA - Jobs & Transportation Act



**“Reducing VMT is a critical component for reducing transportation sector GHG”**

**Governor Kulongoski,  
July 30, 2008**

- VMT Reduction Goals
  - Focused on automobiles and urban areas
- Least Cost Planning Tools
  - Evaluate alternatives, including demand reduction
  - Consider CO2 impacts

Governor’s Sustainable Transportation  
Initiatives, July 30, 2008

# Global Warming Commission



- Set GHG Targets & Benchmarks for local plans
- Develop modeling tools
- Develop “best practices” manual for local planning
- Assess carbon impact of rezoning
- More compact development
- Avoid rural sprawl in Willamette Valley

*Comments to the Big Look Task Force  
(Land Use and Transportation Committee June 20, 2008)*



# THE BIG LOOK

Oregon Tourism Commission

Preliminary Recommendations, May 2008

## Climate Change

**Oregon should establish benchmarks for reducing greenhouse gases from all sources, including transportation sources.** As part of this, the state should set targets for how land use planning can reduce greenhouse gas emissions resulting from transportation. Recommended benchmarks should be developed by the Global Warming Commission and state and local entities. There should be a corresponding effort to create better analytical tools to predict carbon emissions resulting from different land use, building and transportation alternatives.

# Likely Future

- Goals/targets for GHG/VMT Reduction
- Focus on metropolitan areas/ faster growing communities
- More resources for planning
- Funding tied to meeting GHG goals



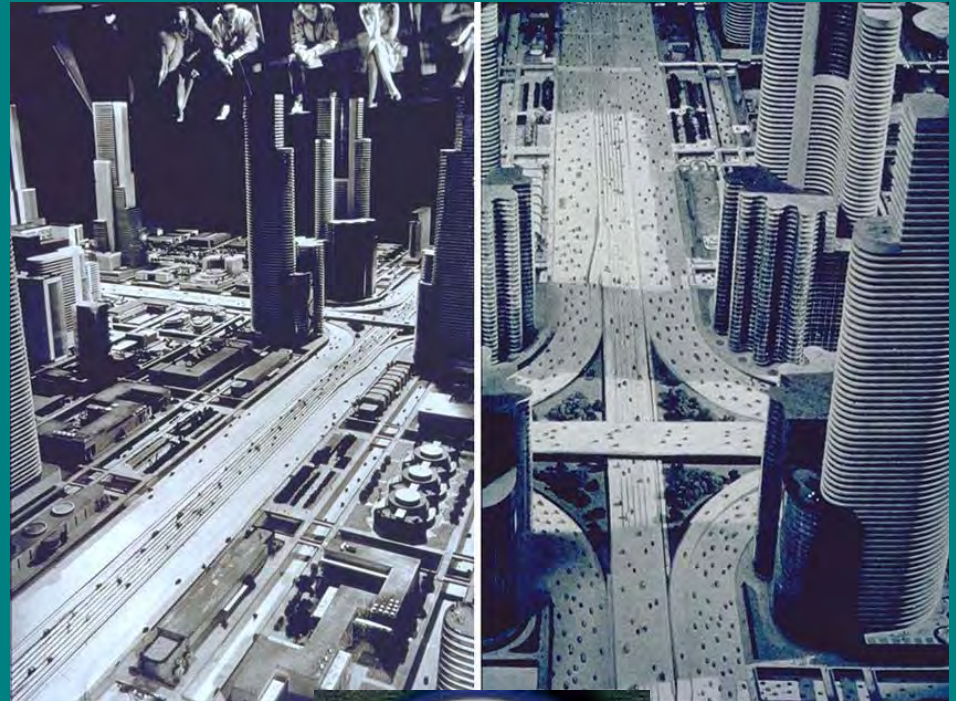
# Where to begin?

- Inform decision-makers and the public
- Emphasize planning that moves in the right direction
  - infill, redevelopment, downtown revitalization
  - high density mixed use development
  - planning for alternative modes
- Consider GHG reduction in major projects
  - UGB expansions
  - TSP updates



# Help picture the future

- Alternative Land Use & Transportation Scenarios
- Better Tools
  - Modeling & Analysis



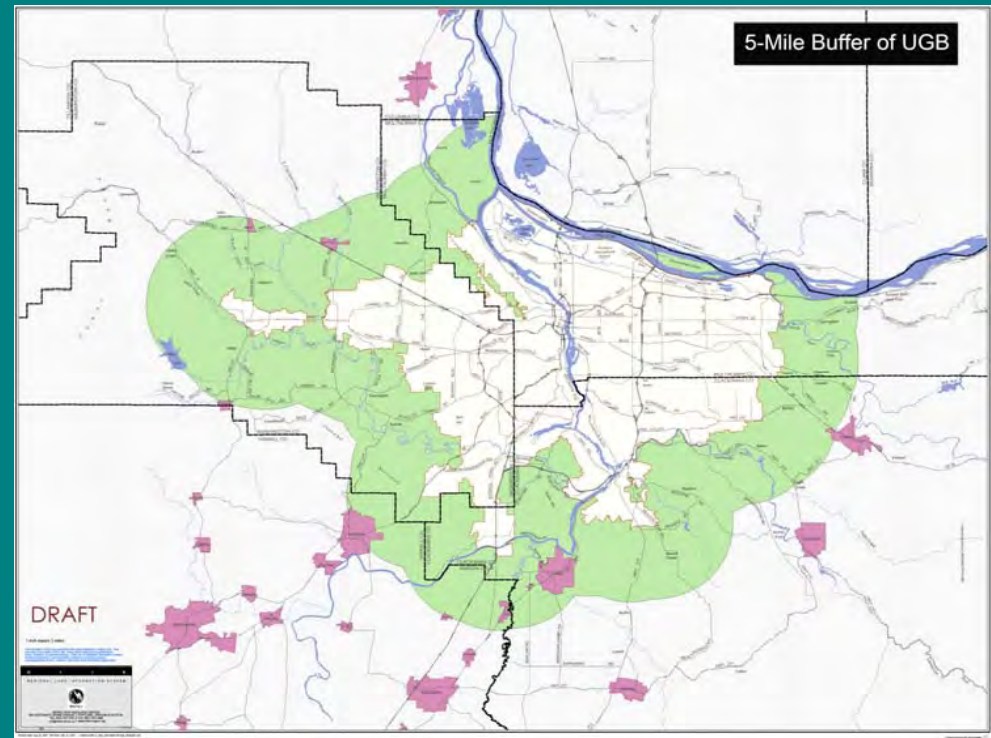
# Key Planning Decisions

## Land Use / UGB Expansion

- County population allocations
- Land Use Patterns
- Housing and Employment Densities
- Rates of infill / redevelopment

## Transportation

- Planning for alternative modes
- Fiscally-constrained TSPs
- MPO Plans



# Other Issues/Questions

- Role of MPOs
- Monitoring
- Relationship to other policies / objectives
- Incentives / Penalties
- Funding solutions
- Review of big public investments
- Plan amendments and zone changes

# Transportation & Growth Management Program

- TGM Grants
  - Preapps Due **Dec 15**
  - New criteria to address GHG reduction
  - Applications available in January 2009
- Outreach
  - Handbook of Recommended Practices for GHG reduction



# Encouraging Thoughts

## We're not alone

- VMT reduction is common theme
- Most call for changes to land use plans, smarter growth
- Washington
  - 18% VMT reduction target for 2020;
  - 50% by 2050

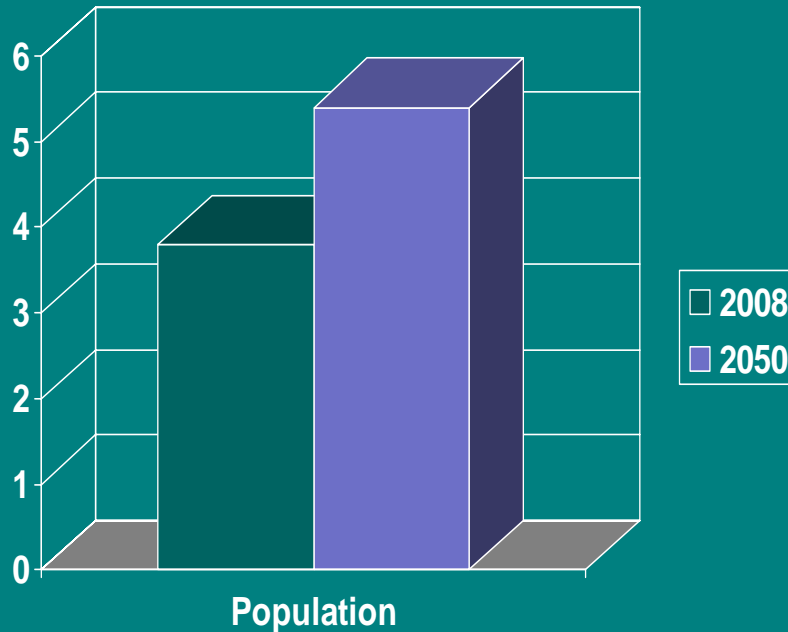


## **Montana Climate Change Action Plan**

Final Report of the Governor's  
Climate Change Advisory  
Committee

November 2007

# Lots yet to be built



**Oregon will add 1.7 million new residents by 2040**

“Nearly half of what will be the built environment in 2030 doesn’t even exist yet, giving the current generation a vital opportunity to reshape future development.”

Arthur C. Nelson, “Planning for a New Era,” *Journal of the American Planning Association*, Fall 2006

# Smaller Households

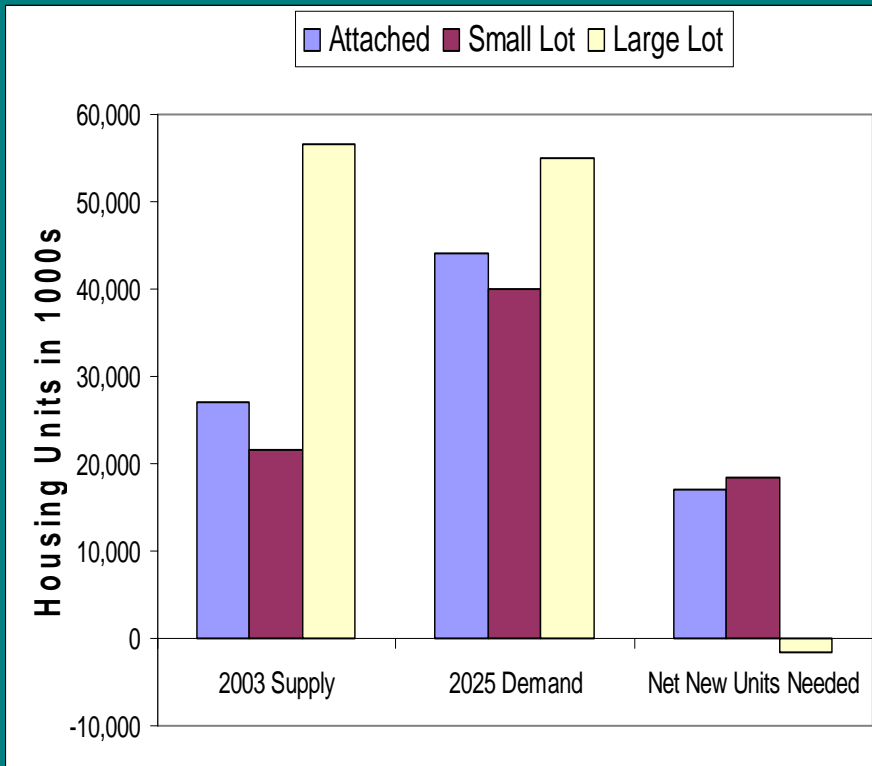
## Share of Growth 2000-2040

<u>Household Type</u>	<u>2000</u>	<u>2040</u>	<u>Change</u>	<u>%Share</u>
W/ children	35	41	6	<b>13%</b>
W/o children	71	111	40	<b>87%</b>
Single-person	26	44	17	38%

Figures in millions of households.

*Source: Chris Nelson, 2007, Adapted and extrapolated from Martha Farnsworth Riche, How Changes in the Nation's Age and Household Structure Will Reshape Housing Demand in the 21st Century, HUD (2003).*

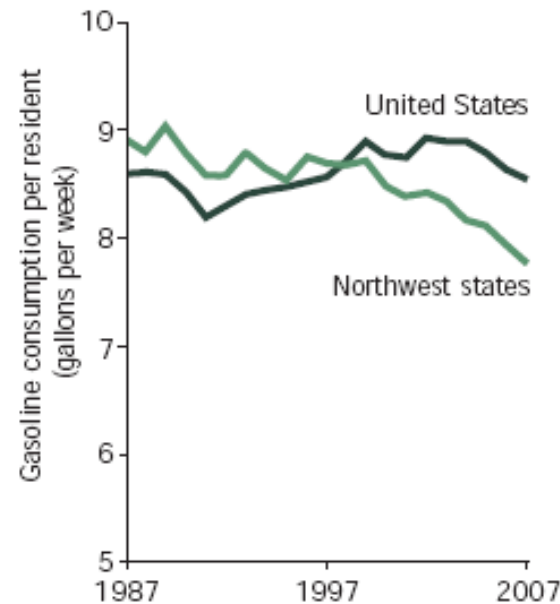
# = More Attached Housing & Smaller Lots



# VMT is down

- Already 2 vmt per capita below 1990-2003 trend
- Long-term price of gas is likely to increase

Figure 3. *The Northwest states are outpacing the national average for gasoline reductions.*

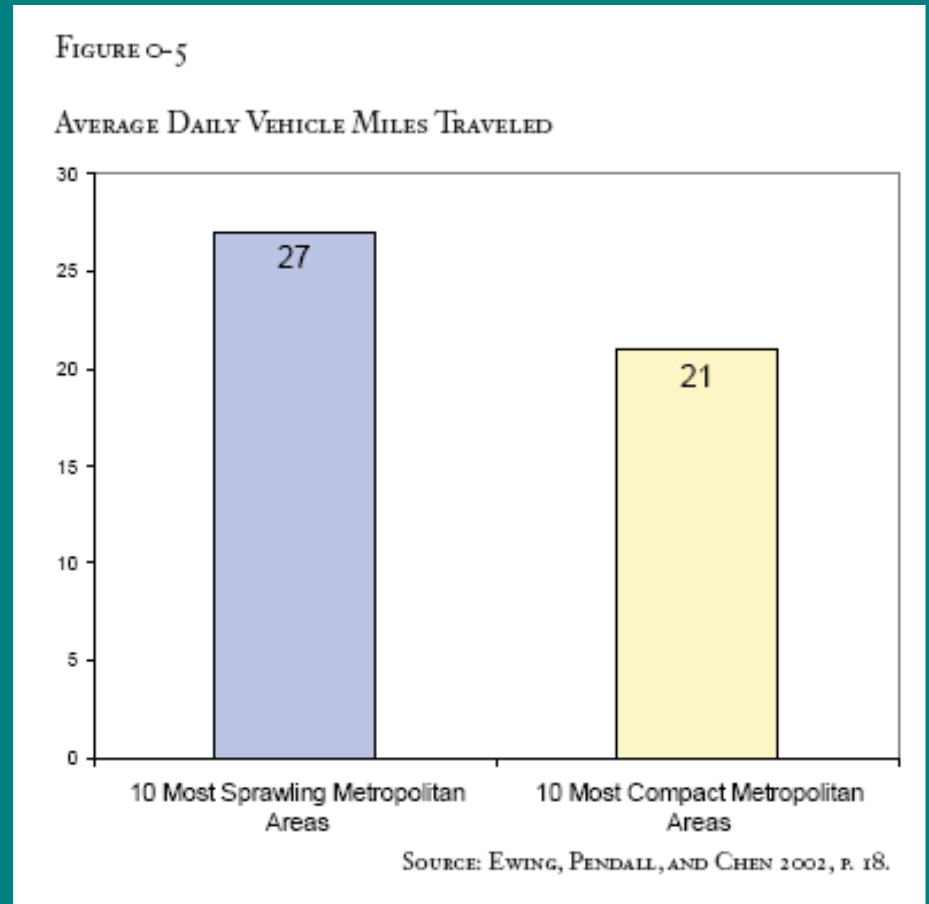


**Gas consumption down more in NW than rest of US. (Sightline, April 2008)**

# Driving Less = Saving More

## Portland's "Green Dividend"

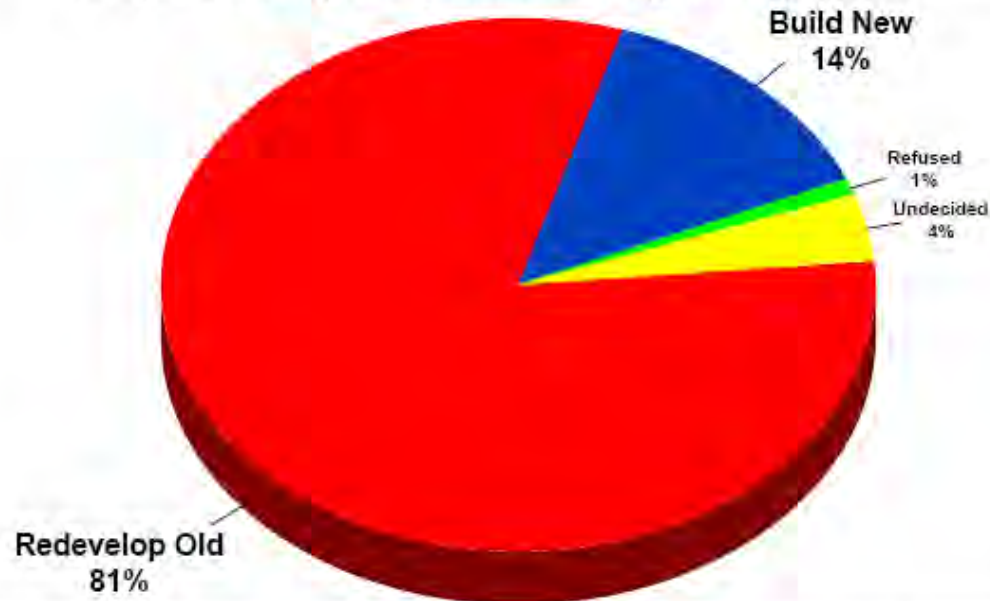
- 4 vmt less per day
  - Reduced spending
  - Time Savings
- = \$2.6 billion year



# Public Support

## Eighty-one percent of voters want to redevelop older areas rather than building new.

"The population of the United States is expected to increase from 300 million to 400 million by 2050. I am going to read you two statements, please tell me which approach do you prefer to accommodate this growth... Continue to build new suburbs on the edge of the existing suburbs ...or... Redevelop older urban and suburban areas with additional development, that is, build new housing and commercial development in already developed areas. Which approach do you prefer?"



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<http://www.oregon.gov/LCD/TGM/index.shtml>