Sightline INSTITUTE

Peak Gas?

Northwest gasoline consumption stalled out in 1999.

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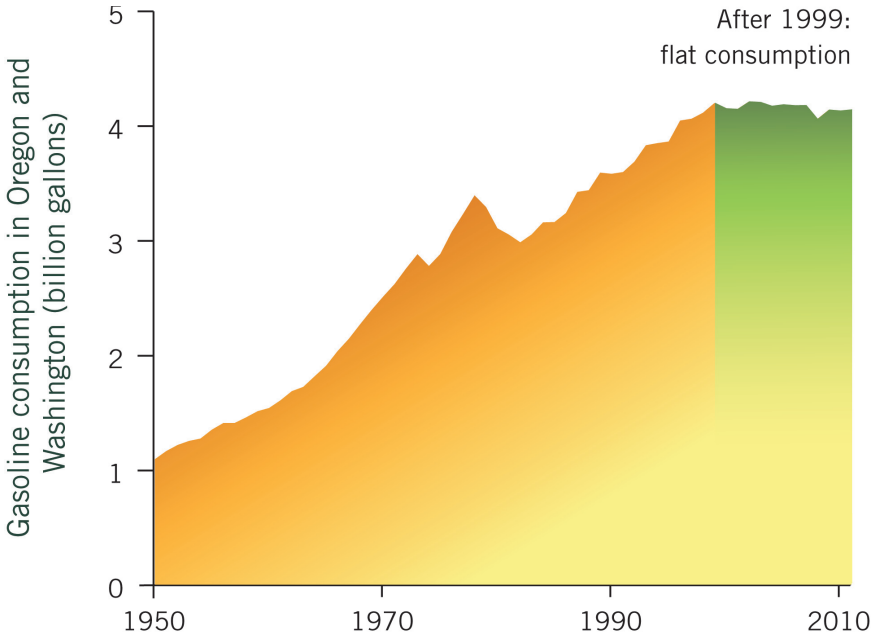
Gasoline consumption in Oregon and Washington increased slightly in 2010, and sales held steady in the first part of 2011. But minor year-to-year fluctuations mask a more important trend: despite steady increases in population, volatile gas prices, and both surges and lulls in the region's economy, gasoline use in the two Northwest states has remained essentially flat since 1999 (see Figure 1).

In 1999, fuel consumption in the two Northwest states combined hit 4.16 billion gallons. Since then, fuel sales have never exceeded 4.17 billion gallons (the 2002 high water mark) nor fallen below 4.02 billion gallons (when gas prices spiked in 2008). Last year's total consumption—4.10 billion gallons in the two states combined—continues more than a decade of flat gasoline consumption.

Figure 1. Gasoline consumption in Oregon and Washington has remained roughly flat since 1999.



The flat-lining of Northwest gasoline sales cannot be attributed to recent economic doldrums; it started long before the current recession began. In fact, it started before oil prices spiked to record highs in 2008; before the US military actions in the Middle East in the last decade; and even before the economic turmoil following the 2001 terrorist attacks. Arguably, it coincides with the beginning of the previous recession, triggered by the "dot.com bust" of 2000.

Over the same period that total gasoline consumption held steady, the two states gained more than 1.4 million new residents—a 15 percent increase. As a consequence, per capita consumption in the two states has now fallen to its lowest level since 1965 (when the 14-mpg Chevy Impala was the top-selling car in the nation).[1] Today, average gas consumption stands at roughly 7.4 gallons per person per week—down more than 25 percent from the high of 10.1 gallons per person per week reached in 1978. Recent decreases in per capita gas consumption continue the slow and fairly steady declines that began as far back as 1989 (see Figure 2).

Vehicle travel trends in Washington and Oregon match closely with gasoline consumption; both reached their all-time high in 2002.[2] Prior to that year, car and truck travel on roads, streets, and highways in the two states had increased steadily. Since then, total vehicle travel has been on a bumpy plateau (see Figure 3). The travel trends differ slightly from the gasoline consumption; the former includes the miles logged by diesel-powered trucks and buses, while gas consumption is influenced by the changing average fuel economy of the vehicle fleet.[3] Yet both point to the same conclusion: a flattening of the region's appetite for driving.

Figure 2. Per person gasoline consumption has been on a sustained decline since 1989.

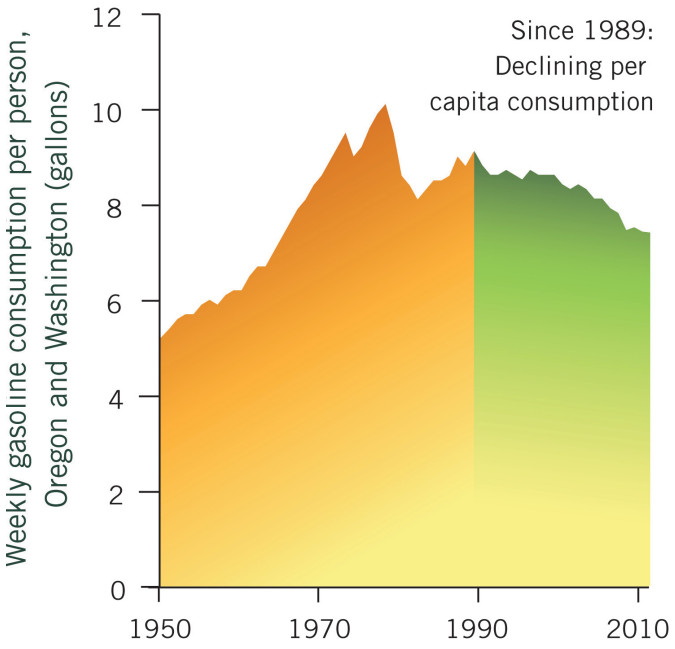
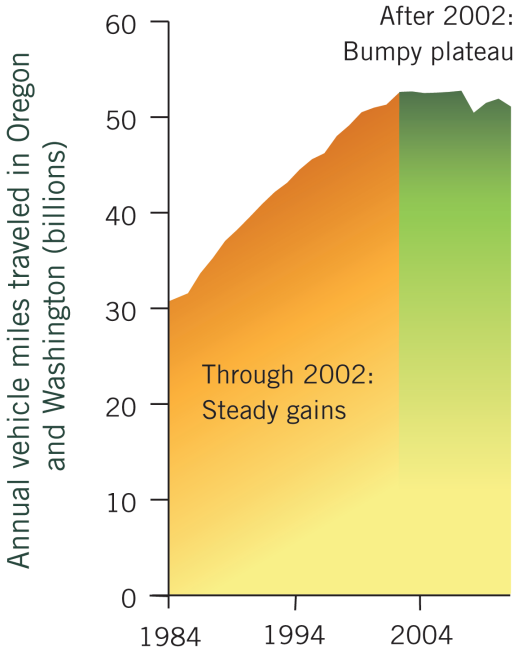


Figure 3. Vehicle travel reached a plateau in 2002.

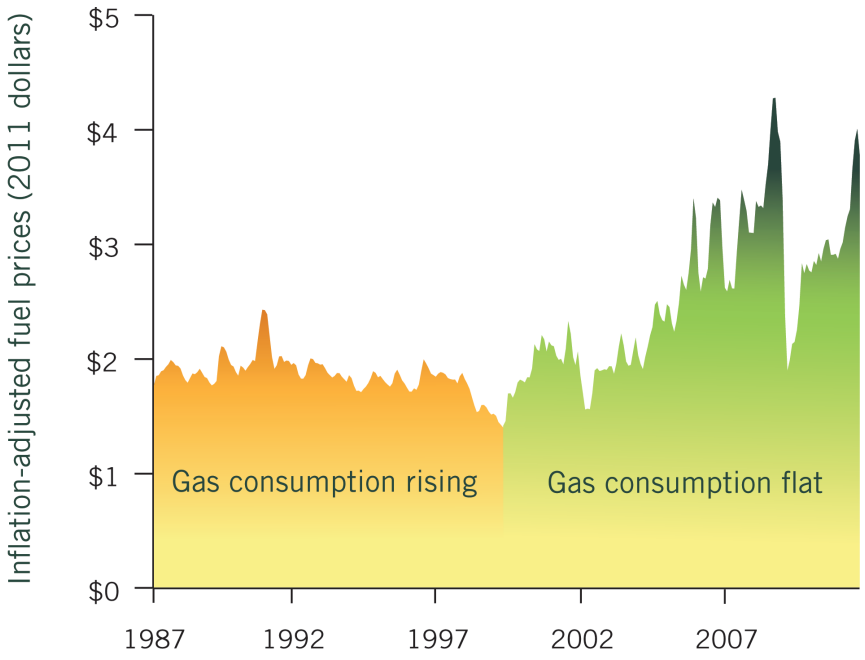


Causes

No single reason explains why gasoline consumption has remained essentially unchanged for a dozen years. Instead, the apparent peaking of gas consumption stems from an array of factors:

- **Rising and more volatile fuel prices.** The period of growing consumption in the Northwest coincided with stable and falling gas prices in the US (see Figure 4), and the period of flat consumption coincides with a new era of volatile and rising prices.

Figure 4. Northwest gas consumption plateaued when prices started to rise.



- **Slower population growth.** Population in Washington and Oregon grew 20 percent during the 1990s but just 13 percent during the 2000s.[4]
- **Economic uncertainty.** Although total economic output in Washington and Oregon has grown substantially since 1999, the average pace of growth was slower than in previous decades.[5]
- **Fuel efficiency gains.** The Northwest states are among the nation's leaders in sales of high-MPG vehicles. Through 2009, for example, Washington ranked 3rd and Oregon 11th in the nation in sales of hybrid cars.[6] And among US cities, Portland ranked 1st and Seattle 7th in per capita sales. But perhaps more importantly, when gas prices rose, the sales of the largest and least-efficient SUVs fell sharply, while families with access to more than one car increasingly chose the more efficient vehicle for more trips.
- **Demographic shifts.** As the Baby Boomers have aged, they have moved past their peak driving ages (35-54).[7] Meanwhile the smaller "baby bust" generation born in the 1970s has entered its peak driving years.[8] These two trends have combined to moderate consumption.

- **Land use changes.** Significant new housing development in urban and town centers may have put homes closer to jobs, stores and services for many families—allowing residents to take shorter (and fewer) trips by car.
- **Cultural shifts.** Some observers believe that the car's hold on popular culture has crested. Far fewer young people today obtain driver's licenses than they did a generation ago.[9] At least one survey shows that many young Americans prefer to drive less, choosing instead to navigate their social interactions online rather than by driving.[10] Similar cultural shifts are taking place in the workplace, where tele-work and flexible schedules are on the rise and in retail, where online shopping flourished in 2009 despite a sour economy.[11] Data from the National Household Transportation Survey suggest that adults under 40 sharply curtailed their driving when gas prices rose in 2008, while adults over 40 reduced their driving only modestly—evidence that suggests there may be a generational divide in attitudes towards vehicle travel.[12]
- **Saturation of urban highways.** In the Northwest's largest metro areas, many major highways are simply full during rush hour. These roads can certainly carry more traffic during evening, nighttime, weekends, and sometimes mid-day hours, but there is no spare capacity at the times when demand for road space is heaviest.[13]

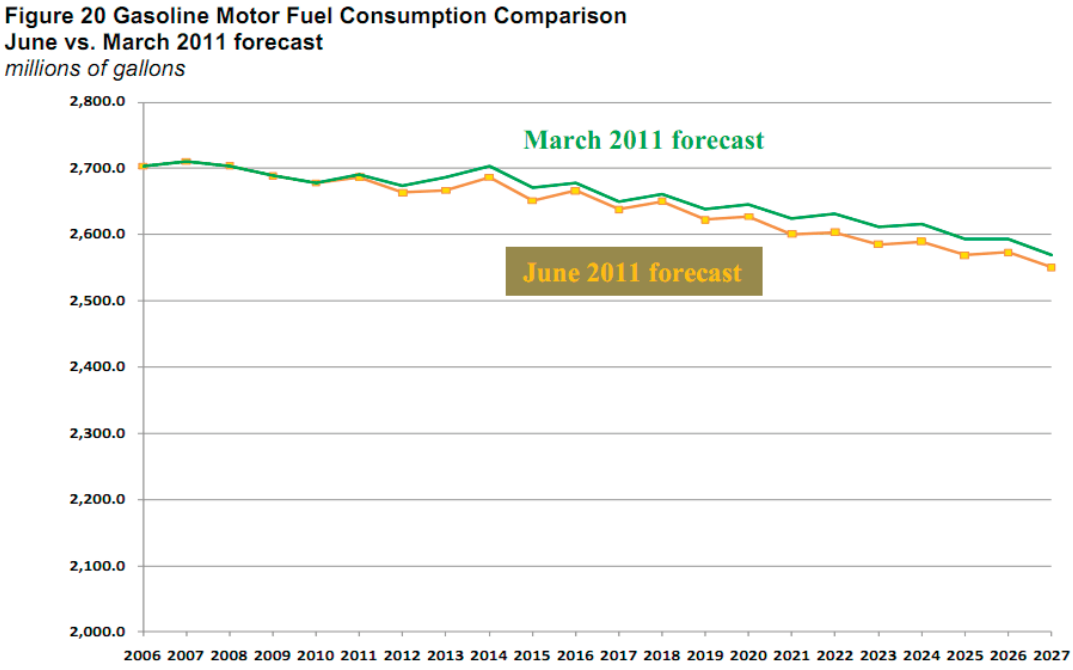
Projections

The future of gasoline sales in the Northwest is unpredictable. Perhaps an economic resurgence, or a collapse of global oil prices, will nudge gasoline consumption higher in the coming years.

But many analysts believe that gasoline consumption in the Northwest has peaked—and may never again reach its 2002 high point. The most recent assessment by the Washington State Office of Financial Management, for example, forecasts a modest but steady decline in fuel consumption through 2027 (see Figure 5).[14]

These projections may already be out of date. Recent revisions to federal vehicle efficiency standards will boost the fuel economy of new cars and light-duty trucks to 54.5 miles per gallon by 2025—lowering the overall fuel consumption of the vehicle fleet in the process.[15] And the state's fuel sales projections also presumed a modest but steady increase in vehicle travel in future years, despite the fact that the state had seen no such VMT increases over the past decade. If total vehicle travel continues to hold steady, rather than rising as OFM assumes, then the decline of gasoline consumption in the Northwest will be steeper than the state currently predicts.

Figure 5. Reprinted from the Washington State Transportation Revenue Forecast Council's "June 2011 Transportation Economic and Revenue Forecasts"



Commentary

In many ways, declining per-capita gasoline consumption is good news for the region. Although Washington is home to several major oil refineries, neither Oregon nor Washington produces any petroleum. Both import all of their oil from other parts of the US or the world. In 2010, Washington and Oregon combined paid about $16.6 billion for oil imports—over $1,550 per person, or more than $6,200 on average for a family of four. The increase in oil prices in the first part of 2011 has put the region on track for its highest level of petroleum spending ever. If oil prices remain high for the remainder of the year, the two states could spend as much as $21.9 billion for their petroleum: $14.9 billion in Washington and $6.9 billion in Oregon—a record high in each state.[16]

Despite the long-standing declines in per capita consumption, Washington and Oregon remain world-class consumers of highway fuels. Person for person, residents of the US Northwest consume two to three times as much highway fuel per capita as do residents of such developed nations as Japan, Germany, and the United Kingdom.[17] Even if current trends continue, it will be many decades before the Northwest states match the efficiency of their peers in other parts of the world.

Although declining gasoline consumption is good news for the economy overall, it poses risks for highway finance. Officials in both Washington and Oregon are planning to pay for major highway expansions in part by bonding against future gas tax revenues. If gas sales fall as the state of Washington projects, revenue shortfalls could

jeopardize the states' ability to maintain existing transportation infrastructure—let alone pay for billions of additional dollars' worth of new highways. If vehicle travel fails to grow as expected, highway expansions may prove not only costly but also unnecessary.

About Sightline

Sightline Institute is a not-for-profit research and communication center—a think tank—based in Seattle. Founded in 1993 by Alan Durning, Sightline's mission is to make the Northwest a global model of sustainability—strong communities, a green economy, and a healthy environment.

Endnotes

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3. Washington State Department of Transportation, "2010 Traffic Volume Report," http://www.wsdot.wa.gov/mapsdata/travel/pdf/Annual_Traffic_Report_2010.pdf; and Washington State Department of Transportation, "2004 Annual Traffic Report," http://www.wsdot.wa.gov/mapsdata/travel/pdf/Annual_Traffic_Report_2004.pdf.

4. Population for 1990 to 1999 from US Census Bureau, "Intercensal Estimates: Time Series of Intercensal Estimates by County," http://www.census.gov/popest/archives/2000s/vintage_2001/CO-EST2001-12/. Population for 2000 to 2010 from US Census Bureau, "Preliminary Vintage 2010 Population Estimates and 2010 Census Counts," http://www.census.gov/popest/eval-estimates/eval-est2010.html. All figures refer to July 1 estimates (not to the Apr 1 "population estimates base" sometimes called the "census population").

5. Measured per person, and adjusted for inflation, Gross State Product during the 2000s grew one-fourth as fast in Washington, and one-fifth as fast in Oregon, as it did during the 1990s. Unemployment was higher during the 2000s than the 1990s—with unemployment spikes in 2003 and 2009 that were higher than at any time during the 1990s. (See US Bureau of Economic Analysis, "Regional Economic Accounts," http://www.bea.gov/regional/index.htm; US Bureau of Labor Statistics, "Consumer Price Index," http://www.bls.gov/CPI/#data; and US Bureau of Labor Statistics, "Local Area Unemployment Statistics," http://www.bls.gov/lau/.

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7. Steven E. Polzin, "The Case for Moderate Growth in Vehicle Miles of Travel: A Critical Juncture in U.S. Travel Behavior Trends," US Department of Transportation, April 2006, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.149.3851&rep=rep1&type=pdf, figure 6.

8. US Census Bureau, "Population Pyramids of Washington," http://www.census.gov/population/projections/48PyrmdWA1.pdf; and US Census Bureau, "Population Pyramids of Oregon," http://www.census.gov/population/projections/38PyrmdOR1.pdf.

9. Jack Neff, "Is Digital Revolution Driving Decline in U.S. Car Culture?" Ad Age, May 31, 2010, http://adage.com/article/digital/digital-revolution-driving-decline-u-s-car-culture/144155/.

10. Jim Motavalli, "Millennials prefer texting to driving (though they'll consider car-sharing)," Mother Nature Network, November 22, 2010, http://www.mnn.com/green-tech/transportation/blogs/millennials-prefer-texting-to-driving-though-theyll-consider-car-sha.

11. Telecommuting from Telework Research Network, "The Latest Telecommuting Statistics," http://www.teleworkresearchnetwork.com/telecommuting-statistics. Online shopping from US Census Bureau, "E-Commerce 2009," May 26, 2011, http://www.census.gov/econ/estats/2009/2009reportfinal.pdf. Note, however, that neither telecommuting nor internet use necessarily reduces total vehicle travel.

12. Steven E. Polzin et al., "Exploring Changing Travel Trends," http://onlinepubs.trb.org/onlinepubs/conferences/2011/NHTS1/Polzin2.pdf.

13. For examples, see Sightline Institute's blog series "Dude, Where Are My Cars?" http://daily.sightline.org/blog_series/dude-where-are-my-cars/.

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15. "Obama Raises U.S. Fuel Efficiency Standard to 54.5 mpg," Environment News Service, August 2, 2011, http://www.ens-newswire.com/ens/aug2011/2011-08-02-091.html.

16. Fossil fuel spending calculated by Sightline Institute from fossil fuel price and consumption from the US Energy Information Administration.

17. World Bank, "Road sector gasoline fuel consumption per capita (kt of oil equivalent)," http://data.worldbank.org/indicator/IS.ROD.SGAS.PC; and World Bank, "Road sector diesel fuel consumption per capita (kt of oil equivalent)," http://data.worldbank.org/indicator/IS.ROD.DESL.PC. This figure includes both gasoline and diesel, to account for the higher level of diesel fuel consumption in other nations.