

RANKING STATES' OIL VULNERABILITY: ASSESSING THE CONTINUED THREAT OF GAS PRICE SPIKES

MARCH 2010 WHITE PAPER

PREPARED FOR NRDC BY DAVID GARDINER & ASSOCIATES, LLC



INTRODUCTION

Americans are struggling to pull themselves out of an economic recession. While gasoline prices are now lower than the highs of July 2008, prices remain higher than they were last year. In these difficult times, gasoline prices pinch more than usual, and rising gasoline prices could be a drag on economic recovery. This reality reminds us that America's addiction to oil continues to threaten not only our national security and global environmental health, but also our economic strength.

America's dependence on oil is problematic in several ways:

- The United States has less than 2 percent of the world's oil supplies but is responsible for about a quarter of the world's oil consumption.¹ We currently import almost two-thirds of our crude oil supply from foreign countries,² and more and more of the world's future supply will come from regions that are either politically unstable or unfriendly to U.S. interests.
- Our dependence on unstable oil supplies threatens our national economy, particularly since about 96 percent of our transportation system is reliant on oil.³
- Oil consumption is a leading contributor to the greenhouse gas (GHG) emissions that cause global warming. In the United States, the oil-based transportation system is responsible for roughly one-third of our carbon pollution.⁴

This analysis updates NRDC's previous research to identify the states that were most economically vulnerable to oil prices in 2009. It also explores a hypothetical scenario: What would happen if another price spike like the one in 2008 happened now, in the midst of a recession? The purpose of presenting this scenario is not to predict its likelihood of occurring, but rather to highlight the fact that oil price spikes do happen. During those unpredictable periods, America's addiction to oil leaves us vulnerable to serious negative impacts on our household economies.

Together, the data clearly show that oil vulnerability affects all states, but some states' drivers are hit harder economically than others—a cost they should have options for avoiding.

METHODOLOGY

NRDC's 2009 vulnerability rankings are based on the average percentage of the average driver's income spent on gasoline in each state. To calculate this percentage, the amount of motor gasoline consumed in each state is multiplied by the average price in 2009 to produce the total amount spent in each state on gasoline. This figure is then divided by the total number of licensed drivers to produce the amount spent on gasoline (including taxes) per driver. Finally, this number is divided by per capita income and multiplied by 100 to produce the average percentage of drivers' income spent on gasoline. For the hypothetical price spike scenario, the average price in 2009 was replaced with the price in July 2008, when gasoline prices peaked.⁵

WHO WAS HIT HARDEST IN 2009?

The rankings in Table 1 (mapped in Figure 1) clearly show that oil vulnerability hit the drivers of certain states harder than it did others in 2009.

**FIGURE 1:
MAP OF U.S. OIL
VULNERABILITY
IN 2009**

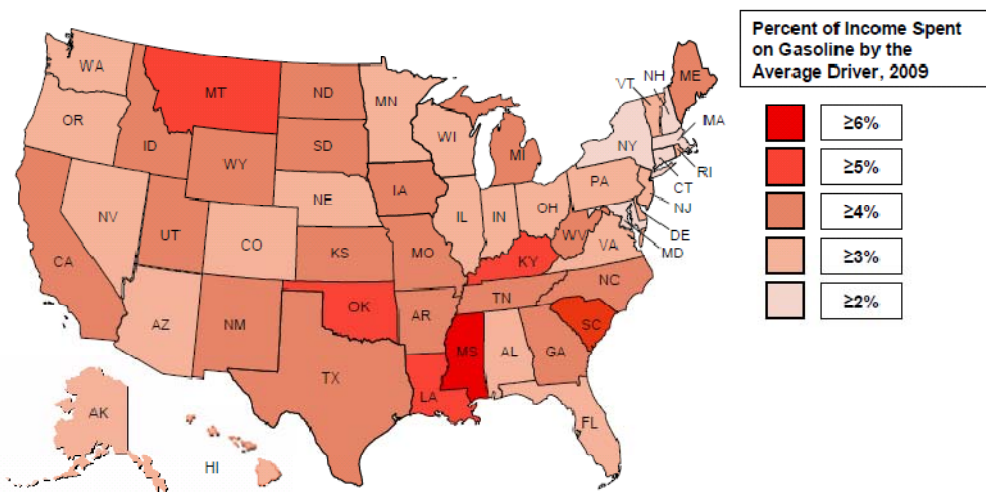


TABLE 1: RANKING OF THE MOST VULNERABLE STATES - 2009

Rank	State	Percent of Income (and Dollar Amount) Spent on Gasoline by the Average Driver, 2009	Rank	State	Percent of Income (and Dollar Amount) Spent on Gasoline by the Average Driver, 2009
1	Mississippi	6.22% (\$1880.95)	26	Wisconsin	3.91% (\$1461.35)
2	Montana	5.88% (\$2017.96)	27	Hawaii	3.91% (\$1649.52)
3	Louisiana	5.26% (\$1908.72)	28	Ohio	3.88% (\$1383.68)
4	Oklahoma	5.12% (\$1830.77)	29	Minnesota	3.78% (\$1601.12)
5	South Carolina	5.06% (\$1638.98)	30	Alabama	3.76% (\$1257.58)
6	Kentucky	5.02% (\$1583.50)	31	Vermont	3.75% (\$1446.03)
7	Texas	4.87% (\$1818.89)	32	Indiana	3.70% (\$1264.65)
8	Maine	4.65% (\$1700.66)	33	Virginia	3.67% (\$1264.48)
9	Georgia	4.64% (\$1595.08)	34	Oregon	3.60% (\$1302.80)
10	Idaho	4.54% (\$1467.33)	35	Nevada	3.54% (\$1403.87)
11	Arkansas	4.52% (\$1459.02)	36	Arizona	3.53% (\$1188.45)
12	Tennessee	4.49% (\$1568.96)	37	Delaware	3.52% (\$1419.34)
13	Utah	4.44% (\$1400.80)	38	Illinois	3.44% (\$1434.47)
14	North Dakota	4.33% (\$1717.29)	39	Nebraska	3.39% (\$1309.37)
15	South Dakota	4.32% (\$1626.29)	40	Alaska	3.39% (\$1475.74)
16	New Mexico	4.30% (\$1437.33)	41	Florida	3.36% (\$1291.67)
17	Michigan	4.20% (\$1436.89)	42	Washington	3.31% (\$1409.14)
18	Kansas	4.13% (\$1585.31)	43	Pennsylvania	3.27% (\$1315.34)
19	North Carolina	4.10% (\$1440.40)	44	New Jersey	3.23% (\$1635.08)
20	Wyoming	4.07% (\$1930.68)	45	Colorado	3.00% (\$1266.50)
21	West Virginia	4.06% (\$1311.61)	46	New Hampshire	2.96% (\$1279.05)
22	California	4.04% (\$1727.67)	47	Maryland	2.90% (\$1425.42)
23	Missouri	4.02% (\$1463.53)	48	Massachusetts	2.60% (\$1318.18)
24	Iowa	4.00% (\$1486.22)	49	New York	2.56% (\$1216.06)
25	Rhode Island	3.94% (\$1622.61)	50	Connecticut	2.52% (\$1391.18)

WHO WOULD BE HIT HARDEST IF PRICES SPIKED AGAIN?

The rankings in Table 2 (mapped in Figure 2) show that drivers in many of the same states – but also a few different ones – would be very hard hit if gas prices spiked again.

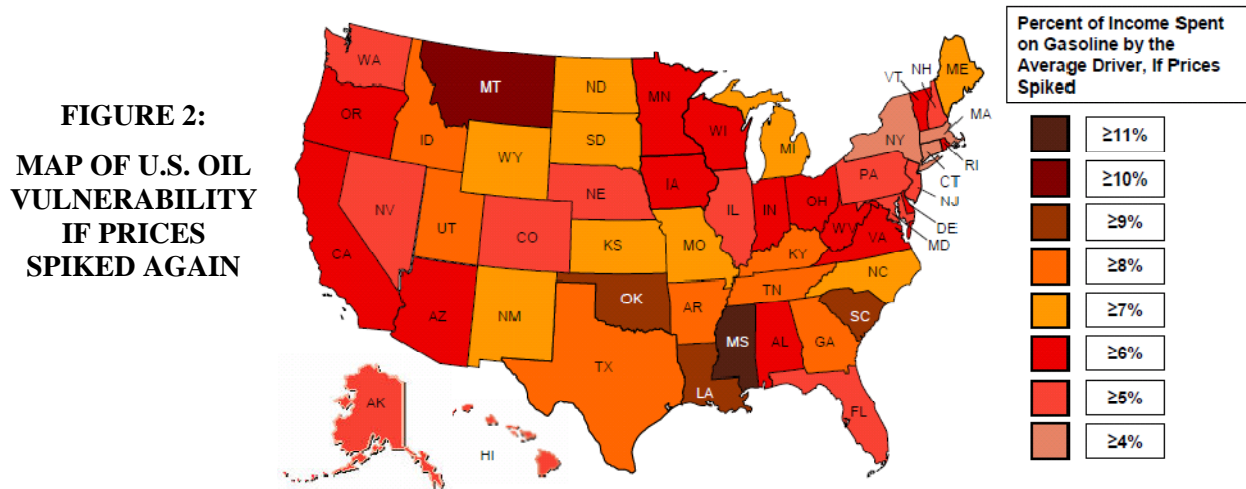


TABLE 2: RANKING OF THE MOST VULNERABLE STATES – IF PRICES SPIKED

Rank	State	Percent of Income (and Dollar Amount) Spent on Gasoline by the Avg Driver, if Prices Spiked	Rank	State	Percent of Income (and Dollar Amount) Spent on Gasoline by the Avg Driver, if Prices Spiked
1	Mississippi	11.07% (\$3345.38)	26	Ohio	6.70% (\$2391.99)
2	Montana	10.50% (\$3602.32)	27	Wisconsin	6.62% (\$2470.92)
3	Louisiana	9.31% (\$3376.67)	28	California	6.60% (\$2823.54)
4	Oklahoma	9.18% (\$3278.16)	29	Minnesota	6.52% (\$2762.43)
5	South Carolina	9.09% (\$2945.99)	30	Virginia	6.51% (\$2883.11)
6	Kentucky	8.75% (\$2758.46)	31	Vermont	6.46% (\$2490.32)
7	Texas	8.74% (\$3263.88)	32	Delaware	6.28% (\$2535.07)
8	Arkansas	8.33% (\$2688.36)	33	Arizona	6.28% (\$2112.67)
9	Georgia	8.32% (\$2861.38)	34	Indiana	6.28% (\$2147.57)
10	Utah	8.17% (\$2580.07)	35	Oregon	6.14% (\$2219.61)
11	Idaho	8.12% (\$2623.44)	36	Hawaii	5.91% (\$2494.22)
12	Tennessee	8.02% (\$2803.58)	37	Nevada	5.90% (\$2342.13)
13	Maine	7.86% (\$2878.68)	38	Nebraska	5.86% (\$2262.64)
14	Wyoming	7.63% (\$3618.88)	39	New Jersey	5.79% (\$2934.53)
15	South Dakota	7.47% (\$2811.81)	40	Illinois	5.76% (\$2399.07)
16	New Mexico	7.42% (\$2479.87)	41	Florida	5.72% (\$2201.41)
17	North Dakota	7.29% (\$2892.46)	42	Pennsylvania	5.60% (\$2250.86)
18	Kansas	7.23% (\$2774.89)	43	Washington	5.53% (\$2359.50)
19	Missouri	7.22% (\$2631.43)	44	Colorado	5.37% (\$2267.90)
20	North Carolina	7.19% (\$2523.73)	45	Alaska	5.35% (\$2332.01)
21	Michigan	7.10% (\$2429.71)	46	New Hampshire	5.14% (\$2221.54)
22	Iowa	6.97% (\$2592.71)	47	Maryland	5.10% (\$2502.62)
23	West Virginia	6.89% (\$2225.36)	48	Massachusetts	4.51% (\$2292.33)
24	Rhode Island	6.76% (\$2784.33)	49	Connecticut	4.31% (\$2373.66)
25	Alabama	6.72% (\$2248.93)	50	New York	4.29% (\$2037.24)

KEY RESULTS

The data show that the five most vulnerable states in 2009 (Mississippi, Montana, Louisiana, Oklahoma, and South Carolina) and the five least vulnerable states (Connecticut, New York, Massachusetts, Maryland, and New Hampshire) would also hold their positions in the vulnerability ranking in the event of a gasoline price spike (note that New York and Connecticut swap places). These overall positions remain unchanged from our 2008 analysis. In fact, the relative vulnerability of all states now to gasoline prices is generally very similar to their relative vulnerability to a price spike.

But the economic impacts on drivers in those states are starkly different. Drivers in Mississippi last year spent more than 6 percent of their income on gasoline, while citizens in Connecticut and New York spent only about 2.5 percent of theirs. If prices spiked again, Connecticut and New York drivers' spending on gasoline would go up moderately, to around 4.3 percent; Mississippi drivers, on the other hand, could see their spending on gasoline skyrocket to more than 11 percent.

CONCLUSION: STATES MUST TAKE ACTION AND THE FEDERAL GOVERNMENT MUST LEAD

Drivers in all states are dependent on oil for their transportation needs, but some states are more vulnerable to oil price increases than others. And the wallets and pocketbooks of drivers in those vulnerable states will be particularly hard hit in the event of another spike in the price of gasoline, which is one of the economic risks we face because of our oil dependence.

The impacts of gasoline prices in the midst of a struggling economy make clear the need for this country to reduce its dependence on oil. By promoting more efficient vehicles, clean fuels, smart growth, and public transportation, governments can put an end to an unhealthy addiction that pinches our wallets and threatens our national security, economy, and environment.

States continue to be critical players in creating less oil-intensive transportation habits, and responsible states are making efforts to promote these solutions. The federal government, however, must lead in taking strong and necessary actions to reduce our nation's oil dependence. In particular, Congress must:

- Pass comprehensive climate and energy legislation that limits carbon dioxide emissions, helps us break our oil addiction, and invests in creating millions of clean energy jobs here in the United States.
- Fundamentally reform federal transportation policy to support smart, public transportation-oriented development; assist states and regions in saving oil; and provide ample funding for energy-efficient transportation alternatives including rail and bus lines, bike paths, sidewalks, and other alternatives to driving.

Drivers in many states are hurting, and if gasoline prices spike again, they will be hurting even more. We have the ability at both the state and national levels to reduce oil dependence and drive progress toward energy security. Solutions to our oil addiction are available today and we must take advantage of them.

ENDNOTES

¹ Energy Information Administration, World Proved Crude Oil Reserves, February 2009, at <http://www.eia.doe.gov/pub/international/iealf/crudeoilreserves.xls>; Total Consumption of Petroleum Products, 2008, at <http://tonto.eia.doe.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=54&aid=2>

² Energy Information Administration, U.S. Crude Oil Supply & Disposition, updated June 29, 2009, at http://tonto.eia.doe.gov/dnav/pet/pet_sum_crdsnd_adc_mbb1_a.htm

³ Energy Information Administration, *Annual Energy Review 2008*, Transportation Sector Energy Consumption, <http://www.eia.doe.gov/emeu/aer/txt/ptb0201e.html>

⁴ Energy Information Administration, *Annual Energy Review 2008*, Carbon Dioxide Emissions from Energy Consumption by Sector, <http://www.eia.doe.gov/emeu/aer/txt/ptb1202.html>.

⁵ The oil vulnerability rankings are based on data from the following sources. *Licensed drivers by state (2008)*: Federal Highway Administration, <http://www.fhwa.dot.gov/policyinformation/statistics/2008/dl22.cfm>; *Gasoline Prices by State (2009)*: Energy Information Administration, http://tonto.eia.doe.gov/dnav/pet/pet_pri_allmg_a_EPM0_PTC_cpGal_m.htm; *Gasoline Taxes (2009)*: American Petroleum Institute, http://www.api.org/statistics/fueltaxes/upload/January_2010_gasoline_and_diesel_summary_pages.pdf; *State Population*: Census Bureau, <http://quickfacts.census.gov/qfd/states>; *State Personal Income (2009)*: Bureau of Economic Analysis, <http://www.bea.gov/newsreleases/regional/spi/2009/spi1209.htm>; *Motor Gasoline Consumption (2009)*: Energy Information Administration, http://tonto.eia.doe.gov/dnav/pet/pet_cons_prim_dcu_nus_m.htm; *Price Spike Peak Prices (July 2008)*: Energy Information Administration, http://tonto.eia.doe.gov/dnav/pet/pet_pri_allmg_d_SMA_PTA_cpGal_m.htm