

COMMUNITY INDICATORS

Increased Fuel Expenditures Flowing Out-of-State - Revisited

Community Indicators are intended to stimulate thoughtful dialogue about your community. They can help identify potential issues, opportunities and problems facing your community. This communication piece is also intended to increase use and understanding of readily accessible demographic data on the web.

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The Labor Department's most recent survey (2003) on consumer spending indicates that the average American household spends about 16% of their income on transportation costs. Increasing fuel costs over the past two years will likely increase consumer spending to 18% of their income (before taxes)

With gasoline prices up 92% over the past 15 months in Wisconsin¹ some people are wondering about the impact of rising fuel prices on the local economy. According to the Labor Department's most recent survey (2003) on consumer spending, the average American household spent about 16% of their income (before taxes) on transportation costs². At that time, only 2.6% of their income went to pay for gasoline and motor oil. However with a 92% increase in fuel prices, Wisconsin households are now spending nearly 4.8% of their income just for gasoline and motor oil. If we assume that consumption patterns do not change and prices remain stable, the average Wisconsin household will now be spending about \$2,592 a year on gasoline and motor oil (See Table 1 below) or \$1,239 more than they

¹ AAA Daily Fuel Gauge Report (5-17-04), <http://www.fuelgauge.com/WIavg.asp> Note: This survey is based on the credit card transactions of over 60,000 self-serve stations. Because of the rapidly increasing prices at the time of this indicator, and the lag in credit card receipts, the Fuel Gauge under-reports the true average. On 9-2-05, the report showed an average gas price of \$2.99 in Wisconsin, even though consumers were reporting prices ranging from \$2.74 to \$3.59 at www.WisconsinGasPrices.com

² U.S. Department of Labor Survey of Consumer Spending (2003), <http://www.bls.gov/cex/2003/Standard/income.pdf>

did in 2003. Total expenditures for gasoline now exceeds the amount of money households were spending in 2003 on out-of-pocket health care costs (\$2,495), entertainment (\$2,155), or dining out (\$2,358).

TABLE 1: Estimated Increase in Wisconsin Fuel Expenditures Based on Consumer Expenditure Survey

Ave. Household Income before taxes (2002)	\$51,128 ²
2003 Average annual expenditures per household spent on gasoline and motor oil (transportation)	\$1,353 ² (2.6% of income)
Current Wisconsin Unleaded Average	\$2.990 ¹
Average for Wisconsin Unleaded 15 months ago (5-17-04)	\$1.561 ¹
Average annual fuel increase per gallon in Wisconsin	\$1.429
% Increase	91.54%
2005 Estimated average household expenditures for gasoline and motor oil (If prices remain at the current level of \$2.99)	\$1,353 x <u>1.9154%</u> \$2,592
Estimated 2005 average annual expenditures per Wisconsin household spent on gasoline and motor oil (transportation) using C.P.I. adjusted household income.	\$2,592/ <u>\$54,298³</u> (4.77% of income)
Estimated increase in household expenditures for gasoline and motor oil (2003-2005)	\$2,592 <u>- \$1,353</u> \$1,239
# of Households in Wisconsin (2005)	2,190,230 ⁴
Total estimated increase in Wisconsin household expenditures (2003-2005) for gasoline and motor oil	2,190,230 x \$1,239 \$2,713,694,970

Economists remind us that if we adjust fuel prices for inflation, fuel prices are low compared to the historical record of gas prices over time (See Chart 1 below). Expressed as a percentage of household income (Income before taxes), consumer expenditures for gasoline

³ 2003 household income was adjusted for 2005 using the U.S. Department of Labor Inflation Calculator (\$51,128 x 1.062=\$54,298), <http://data.bls.gov/cgi-bin/cpicalc.pl>

have been on a downward trend until recent years (See Chart 2 below). With increases in fuel prices approaching 100% over the last 15 months, that trend no longer holds true.

Chart 1

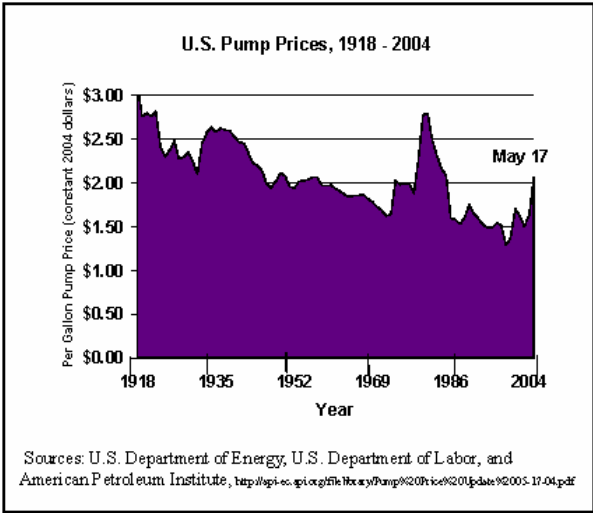
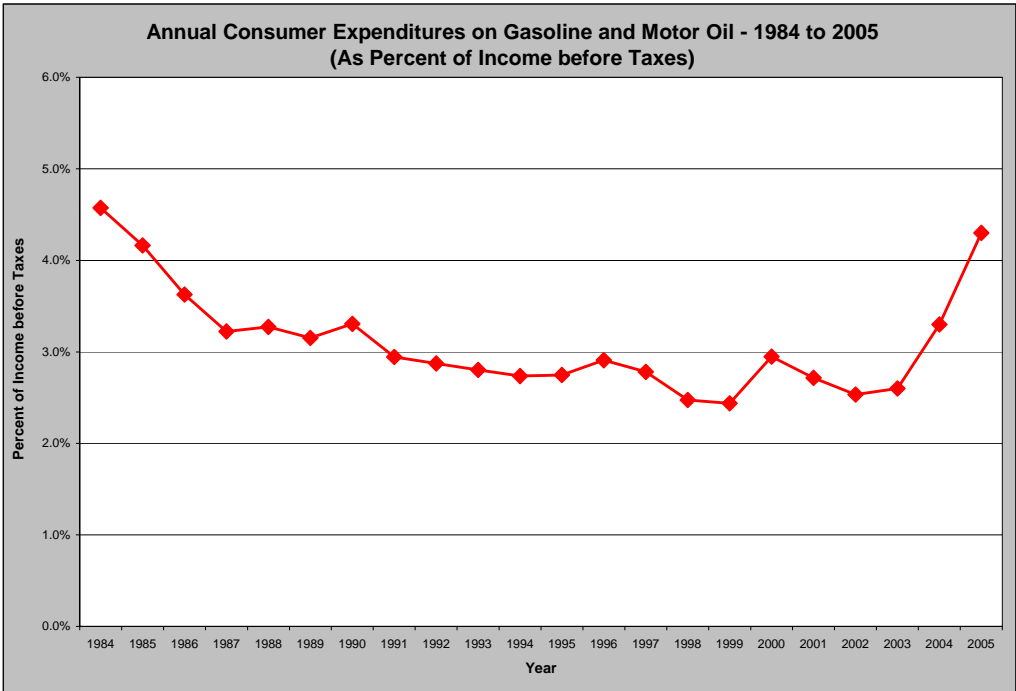


Chart 2



Looking at the bigger picture, if prices remain at their current levels the 2,190,230 households⁴ in Wisconsin will likely be spending \$2.7 billion dollars more on gas for their automobiles this year when compared to 2003 (See Table 1 above).

Because the percentage of household income spent on gasoline varies depending on household income (The 2003 U.S. consumer survey average was 2.6%), and because commuting distances vary substantially across the country, we double checked this estimate against transportation data for the state of Wisconsin.

We examined the number of vehicles (3,690,021⁵) reported by Wisconsin households in the 2000 Census and multiplied those numbers by the average number of miles driven by Wisconsin autos (13,060 miles⁵) divided by the average auto miles per gallon of gasoline (22.2 m.p.g.⁵)⁶. This estimate multiplied by the increase of \$1.43 per gallon of gas yields an additional \$3.1 billion in annual expenditures (See Table 2 below).

⁴ Wisconsin Department of Administration households projection for 2005, http://www.doa.state.wi.us/docs_view2.asp?docid=2029

⁵ U.S. Census 2000 Summary File 3, H46. Aggregate number of vehicles available by tenure. These data show the number of passenger cars, vans, and pickup or panel trucks of 1-ton capacity or less kept at home and available for the use of household members.

⁶ Wisconsin Energy Statistics 2003, p. 82, http://www.doa.state.wi.us/docs_view2.asp?docid=771, Ave. Annual miles per auto in WI = 13,060, Ave. auto miles per gallon of gasoline in WI = 22.2 (This is auto miles per gallon and does not include minivans, pickups or sport utility vehicles....thus the mileage would decline with the entire fleet of vehicles)

**TABLE 2: Estimated Increase in Wisconsin Fuel Expenditures
Based on Number of Vehicles**

	Wisconsin	Dane County, WI
# of Household Vehicles	3,690,021	292,340
Average # of miles Driven per Year	3,690,021 x <u>13,060</u> 48,191,674,260	292,340 x <u>13,060</u> 3,817,960,400
Average gallons of gas purchased annually	48,191,674,260/ <u>22.2 m.p.g.</u> 2,170,796,138	3,817,960,400/ <u>22.2 m.p.g.</u> 171,980,198
Total Annual Increase In Gas Expenditures	2,170,796,138 x \$1.429 \$3,102,067,681	171,980,198 x \$1.429 \$245,759,703

In Dane County for example, we estimate that households will be spending an additional \$245.7 million more for gas than they did in 2003, based on the increase of \$1.43 per gallon. For information on your village, city, or County estimates, See:

http://www.uwex.edu/ces/cced/economics/communityindicators/fuel_all.xls

These three different ways of examining fuel expenditures, yield estimates that indicate that Wisconsin households will be spending \$2.7 to \$3.6 billion more for fuel than they did in 2003.

Finally, we examined gas sales in Wisconsin that were subject to State motor-fuel taxes. The Federal Highway Administration reports that there were 2.53 billion gallons of gasoline sold in Wisconsin in 2003⁷ (3.27 billion gallons if you include all motor fuels). That same level of fuel consumption in the state multiplied by the \$1.43 increase amounts to \$3.6 billion in added expenditures for gasoline purchases by Wisconsin households. Because of the tourism industry in Wisconsin, we suspect that there is slightly more gasoline being purchased by non-state residents than there are Wisconsin residents purchasing gas in other states. Based on these three different ways of examining fuel expenditures, we think it is safe to assume that about \$3 billion will be leaving the state of Wisconsin over the next year because of increased household expenditures on gasoline.

It is also important to note that the 22.2 miles per gallon estimate from the Wisconsin Department of Transportation is for autos and does not include minivans, pickups or sport utility vehicles, which would obviously consume more gas. We would also note that this analysis focuses on the impact of increased fuel prices on households. While

⁷ Motor-Fuel Volume Taxed – 2003, Federal Highway Administration, <http://www.fhwa.dot.gov/policy/ohim/hs03/pdf/mf2.pdf>

households reported having access to 3.7 million vehicles in the 2000 Census, the Wisconsin Department of transportation reports that there were more than 5.1 million vehicles registered in the state in 2003. This figure includes vehicles registered by individuals and businesses and less than half of these vehicles were autos (2,412,197 autos)⁸.

Ronald Reagan once tried to use a visual aid on television to illustrate what a pile of one billion dollars looked like. We will try a different example that puts this into perspective. According to the Wisconsin Department of Transportation, the 71 public transit systems in Wisconsin received \$96.7 million in state support in 2002 (1/30 the estimated increase in this analysis)⁹. Wisconsin ranks 10th among states in the level of transit operating aids funded with State assistance. This state aid funds 42% of the operating costs for the largest transit systems in Milwaukee and Madison. It also covers 35-37% of the operating costs for the other 24 urban bus systems and 43 shared-ride taxi systems. Said another way, the increased fuel costs in Wisconsin are about ten times the total amount of operating expenses for the 71 public transit systems in the state.

Based on average auto mileage, fuel efficiency and the number of automobiles reported in the census, we are also able to estimate the impact of higher gas prices at the municipal and county level (See Chart 3 below). In Dane County for example, we estimate that households will be spending an additional \$246 million this year for gas, based on the increase of \$1.43 per gallon. For information on your village, city, or County estimates, see:

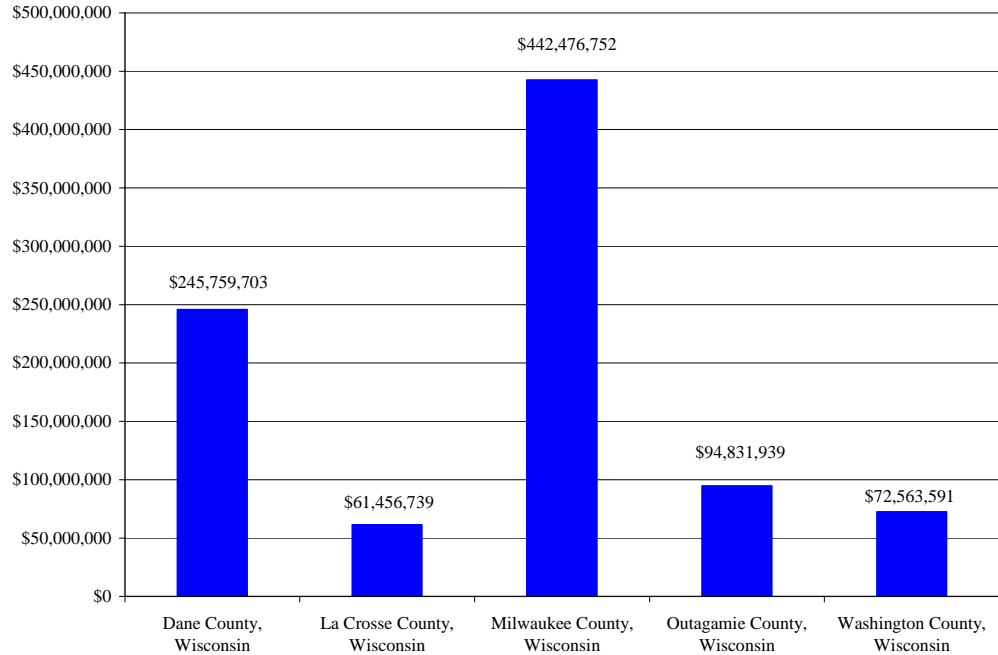
http://www.uwex.edu/ces/cced/economies/communityindicators/fuel_atl_05.xls.

⁸ Vehicles Registered by County, Wisconsin Department of Transportation, <http://www.dot.wisconsin.gov/drivers/docs/vehregcounty.pdf>

⁹ Wisconsin Department of Transportation, 2002, <http://www.dot.wisconsin.gov/localgov/transit/index-more.htm>

Chart 3

Estimated Increase in Annual Expenditures for Gas (Total 2003-2005)

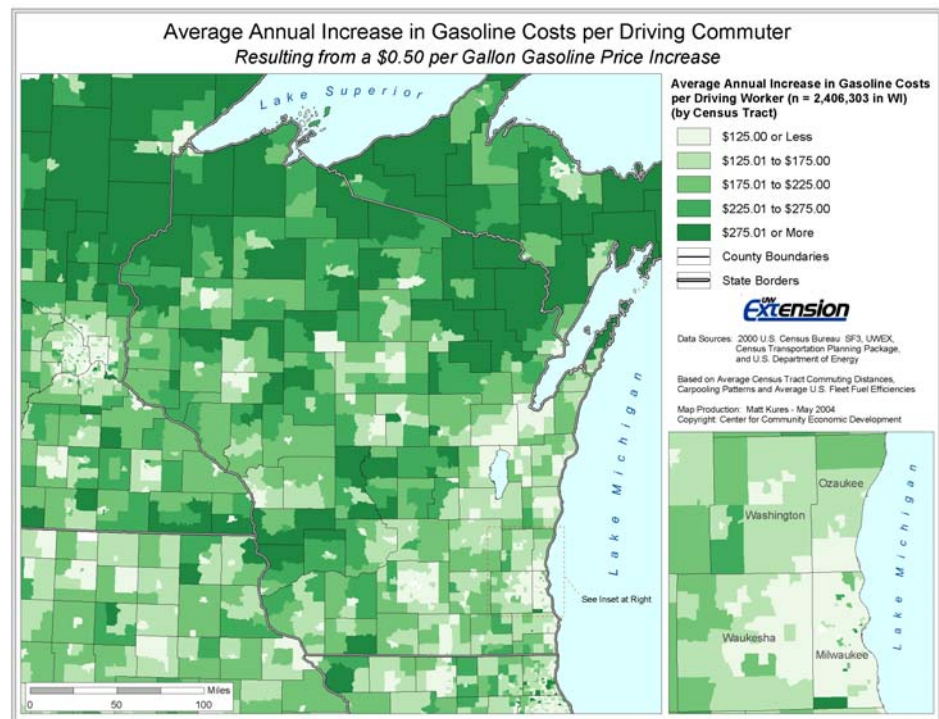


Commuting patterns also vary from region to region as reported in *Community Indicator* number 3¹⁰. Commuting accounts for only 14.8% of driving trips¹¹, but for every \$0.50 per gallon gasoline price increase, Wisconsin residents are now paying an estimated \$316 million more just for commuting to employment. To see how these costs vary across the state based on actual commuting data, see Chart 4 below.

¹⁰ See: Understanding Worker Flow Data, http://www.uwex.edu/ces/cced/economies/communityindicators/Indicators_Links.cfm#workerflow

¹¹ The 2001 National Household Travel Survey, daily trip file, U.S. Department of Transportation, http://www.bts.gov/publications/national_household_travel_survey/highlights_of_the_2001_national_household_travel_survey/html/figure_07.html

Chart 4



Obviously, this whole analysis focuses only on the household transportation portion of the energy equation. Wisconsin residents are also facing higher costs for heating fuel, electricity, agricultural production costs, etc.

While gas prices may only increase by pennies for the remainder of the fall, those pennies add up to amounts that illustrate our dependency on oil. Wisconsin residents may only be spending 4.8% of their income on fuel this year, but \$3 billion in extra fuel expenditures are dollars that cannot be spent at local businesses. This is one expenditure where the majority of the money leaks out of the community and into regions where oil is produced and refined.

In a fossil-fuel dependent state like Wisconsin, communities could minimize this leakage by promoting fuel efficient transportation alternatives, and by creating jobs locally that minimize commuting

distances. Communities interested in adding jobs and income in their region need to focus on more than just the inflow of dollars coming into the community. They also need to consider the basic community economic development strategy of plugging leakages out of the local community's economy.