

COMMUNITY INDICATORS

Increased Fuel Expenditures Flowing Out-of-State

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.

Center for Community Economic Development
University of Wisconsin Extension
610 Langdon Street, Room 334
Madison, WI 53703
(608) 265-8136, cced@uwex.edu,
<http://www.uwex.edu/ces/cced/>

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By: Andy Lewis &
Matt Kures

The Labor Department's most recent survey on consumer spending indicates that the average American household spends about 19% of their income on transportation costs.

See:
<ftp://ftp.bls.gov/pub/special.requests/ce/share/2002/income.txt>

With gasoline prices up 34% over last year 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 (2002) on consumer spending, the average American household spent about 16% of their income (before taxes) on transportation costs². Only 2.5% of their income went to pay for gasoline and motor oil. Even with a 34% increase in fuel prices, Wisconsin households are now spending nearly 1% of their income just for the higher price of gasoline. If we assume that consumption patterns do not change, the average Wisconsin household will now be spending about 3.3% of their income on gasoline and motor oil (See Table 1 below). Assuming that Wisconsin household expenditure patterns mirrored the national average, Wisconsinites would now be spending about \$1,687 for fuel this year, or \$435 more than they did last year. And yet, total

¹ AAA Daily Fuel Gauge Report (5-17-04), <http://www.fuelgauge.com/WIavg.asp>

² U.S. Department of Labor Survey of Consumer Spending (2002), <http://www.bls.gov/cex/2002/Standard/income.pdf>

expenditures for gasoline represent less than households spend on items such as entertainment or dining out.

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

Ave. Household Income before taxes (2002)	\$49,430 ²
2002 Average annual expenditures per household spent on gasoline and motor oil (transportation)	\$1,252 ² (2.5% of income)
Current Wisconsin Unleaded Average	\$2.103 ¹
Year ago average for Wisconsin Unleaded	\$1.561 ¹
Average annual fuel increase per gallon in Wisconsin	.542
% Increase	34.72%
2004 Estimated average household expenditures for gasoline and motor oil	\$1,252 x <u>1.3472%</u> \$1,687
Estimated 2004 average annual expenditures per Wisconsin household spent on gasoline and motor oil (transportation) using C.P.I. adjusted household income.	\$1,687/ <u>\$51,656</u> ³ (3.3% of income)
Estimated increase in household expenditures for gasoline and motor oil (2002-2004)	\$1,687 <u>- \$1,252</u> \$435
# of Households in Wisconsin	2,084,544 ⁴
Total estimated increase in Wisconsin household expenditures for gasoline and motor oil	2,084,544 x \$435 \$906,776,640

Furthermore, economists remind us that if we adjust fuel prices for inflation, fuel prices are low compared to the historical record of gas prices over the last 86 years (See Chart 1 below). Expressed as a percentage of household income (Income before taxes), consumer expenditures for gasoline have also been on a downward trend until this year (See Chart 2 below).

³ 2002 household income was adjusted for 2004 using the U.S. Department of Labor Inflation Calculator, <http://data.bls.gov/cgi-bin/cpicalc.pl>

Chart 1

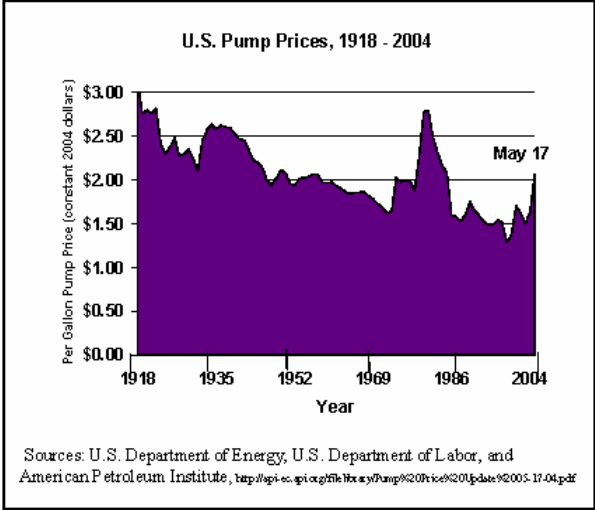
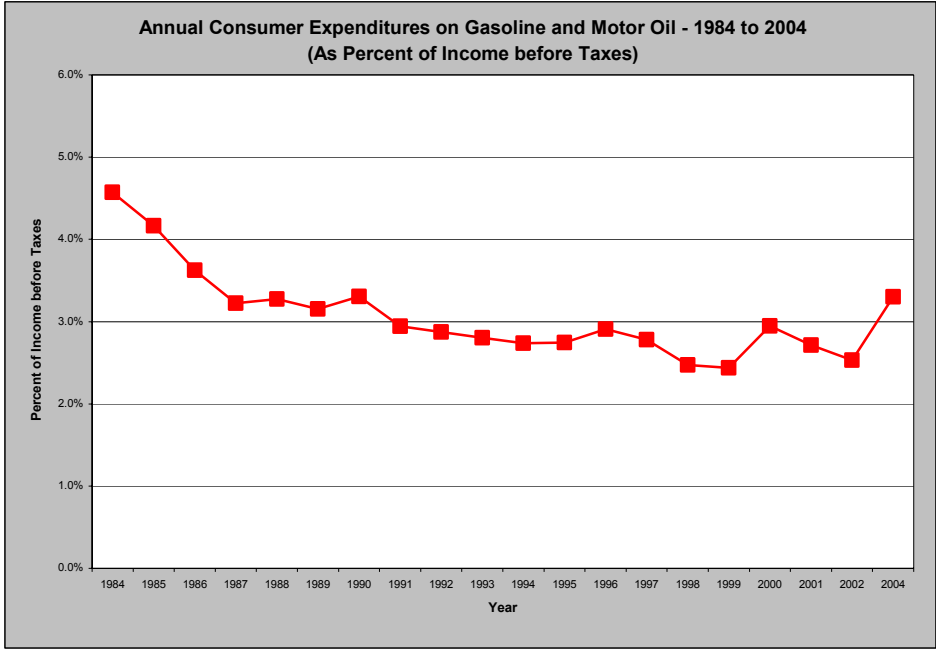


Chart 2



Looking at the bigger picture however, the 2,084,544 households in Wisconsin are likely spending an additional \$906,776,640 on gas for their automobiles this year (See Table 1 above).

⁴ U.S. Census, Table DP-1. Profile of General Demographic Characteristics: 2000
 Geographic area: Wisconsin, <http://censtats.census.gov/data/WI/04055.pdf>

Because the percentage of household income spent on gasoline varies depending on household income (The U.S. consumer survey average was 2.9% but ranged from 2.5 to 3.6%, depending on income), 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.⁶). This estimate multiplied by the increase of fifty-four cents per gallon of gas yields an additional \$1,176,571,507 in annual expenditures (See Table 2 below).

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 13,060 48,191,674,260	292,340 x 13,060 3,817,960,400
Average gallons of gas purchased annually	48,191,674,260/ 22.2 m.p.g. 2,170,796,138	3,817,960,400/ 22.2 m.p.g. 171,980,198
Total Annual Increase In Gas Expenditures	2,170,796,138 x \$.542 \$1,176,571,507	171,980,198 x \$.542 \$93,213,267

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)

Based on these three different ways of examining fuel expenditures, we think it is safe to assume that about \$1 billion will be leaving the state of Wisconsin over the next year as a result of increased household expenditures on gasoline.

Finally, we examined gas sales in Wisconsin that were subject to State motor-fuel taxes. The Federal Highway Administration reports that there were 2.52 billion gallons of gasoline sold in Wisconsin in 2002 (3.2 billion gallons if you include all motor fuels). That same level of fuel consumption in the state multiplied by the 54 cent increase amounts to \$1.4 billion in added expenditures for gasoline purchases in the state. 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 \$1 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 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) ⁷.

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 (1/10 the

⁷ Vehicles Registered by County, Wisconsin Department of Transportation, <http://www.dot.wisconsin.gov/drivers/docs/vehregcounty.pdf>

estimated increase in this analysis) . 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 more than triple the total amount of operating expenses for the 71 public transit systems in the state.

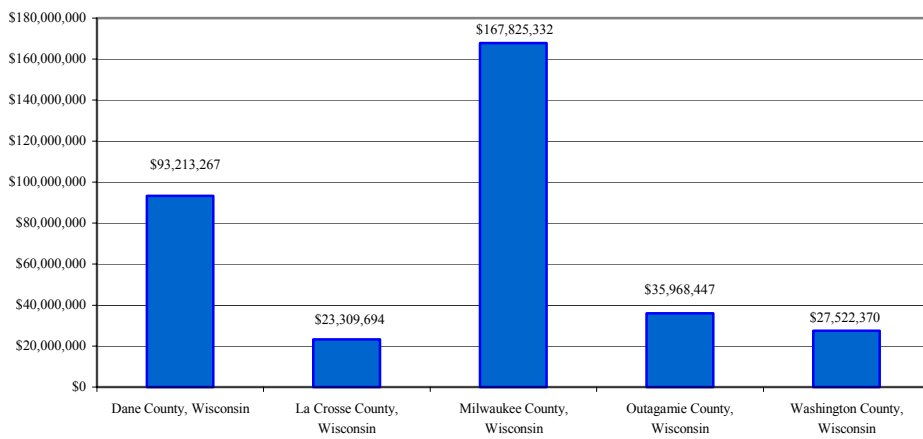
In Dane County for example, we estimate that households will be spending an additional \$93.2 million this year for gas, based on the increase of 54 cents per gallon. For a information on your village, city, or County estimates, See: http://www.uwex.edu/ces/cced/documents/fuel_all.xls

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 \$93.2 million this year for gas, based on the increase of 54 cents per gallon. For information on your village, city, or County estimates, see:

http://www.uwex.edu/ces/cced/documents/fuel_all.xls.

Chart 3

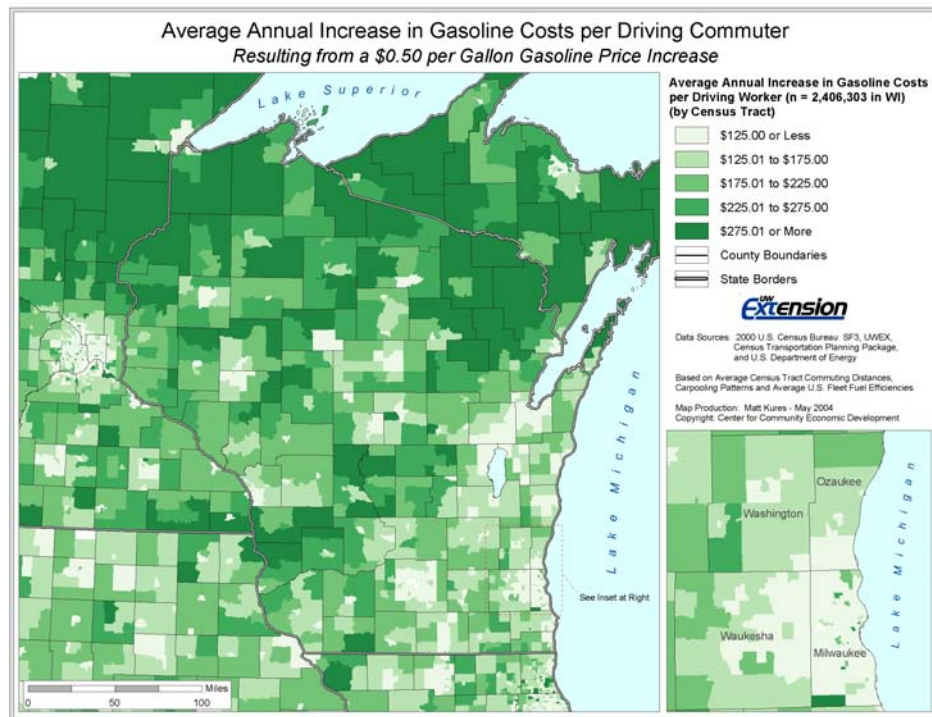
Estimated Increase In Annual Expenditures for Gas (Total)



⁸ Wisconsin Department of Transportation, 2002, <http://www.dot.wisconsin.gov/localgov/transit/index-more.htm>

Commuting patterns also vary from region to region as reported in *Community Indicator* number 3⁹. Commuting accounts for only 14.8%¹⁰ of driving trips, 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.

Chart 4



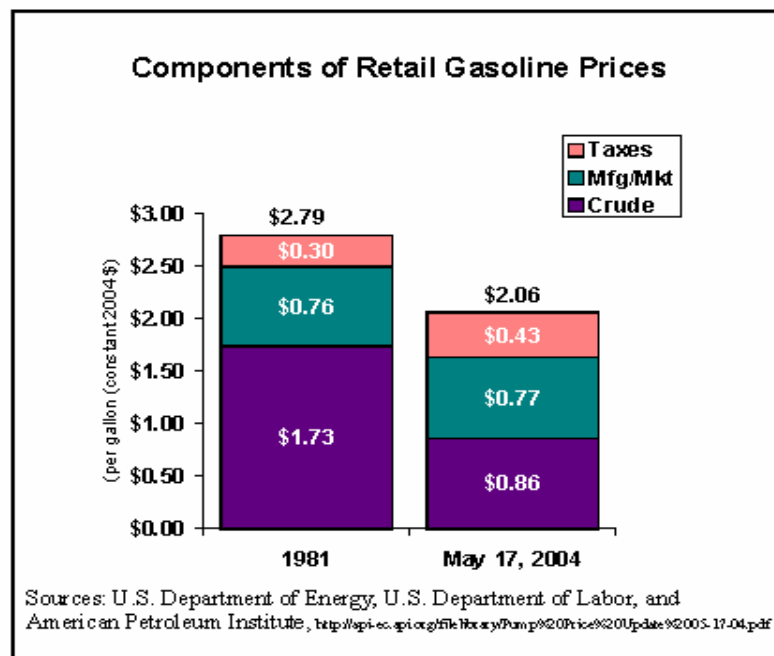
Obviously, this whole analysis focuses only on the transportation portion of the energy equation. Wisconsin residents are also facing higher costs for heating fuel, electricity, agricultural production costs, etc.

⁹ See: Understanding Worker Flow Data, http://www.uwex.edu/ces/cced/Indicators_Links.htm#workerflow

¹⁰ 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

While gas prices may only increase by pennies for the remainder of the summer, those pennies add up to amounts that illustrate our dependency on oil. Wisconsin residents may only be spending 3% of their income on fuel this year, but \$1 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. The American Petroleum Institute estimates that 62% of our crude is imported into this country¹¹. Furthermore, crude oil prices account for about 42% of the cost of a gallon of regular gasoline in 2004 (See Chart 5 below).

Chart 5



To put this leakage into perspective, we could compare the added fuel expenditures to a recent economic stimulus package. When the federal income tax rates were adjusted in 2001 for the first time in eight years, it was argued that this tax cut would stimulate the local

¹¹ *FYI on Gasoline Prices*, The American Petroleum Institute, May 19, 2004, <http://api.ec.api.org/filelibrary/FYI%20on%20gasoline%20prices%2005%2019%2004.pdf>

economy. The Tax Foundation estimates that this federal tax cut pumped about \$1.9 billion into the Wisconsin economy for the fiscal years 2001-2002 (Or about \$944 million per year). If we accept the assumption that this tax cut stimulated the economy, it might also seem reasonable to assume that this stimulation was more than offset by the \$1 billion in added annual gas expenditures, which largely leaked out of the state's economy.

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.