

Econ Quiz – 10/07/10

How much gas would be saved if we drove ten less miles per week?

By Bill Pinkovitz and Colette Hershey

According to 2009 data from the Federal Highway Administration, licensed drivers in the U.S. drive an average of 284 miles per week. In 2009, there were 331,506 licensed drivers in Dane County.

Question: If each licensed Dane County resident reduced their driving by 10 miles per week, how much gasoline would be saved each year?

Answer:

At the national averages of 22.6 miles per gallon and 14,769 miles drive per year per licensed driver, the typical driver would save 23 gallons per year. For Dane County that equates to 7.66 million gallons of gasoline, \$20 million (at \$2.40 per gallon) and enough gasoline to fuel 11,761 additional cars traveling the average of 14,769 miles at 22.6 miles per gallons.

HOW TO: Similar estimates for other Wisconsin counties

You will need three pieces of data to calculate the impact of driving 10 less miles per week around Wisconsin

1. average miles driven per licensed driver
2. average miles per gallon per vehicle
3. number of licensed drivers in the county

The data you will need is available from the following three sources:

1. Federal Highway Administration, [*Our Nation's Highways: 2010*](#)
2. Bureau of Transportation Statistics, [*National Transportation Statistics*](#)
3. Wisconsin Department of Transportation, [*2009 Facts and Figures*](#)

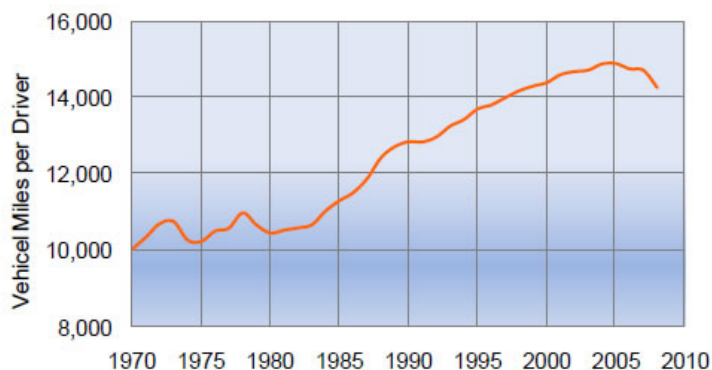
How much gas would be saved if we drove ten less miles per week?

Step 1: We begin with the average vehicle miles traveled per licensed driver. For this estimate, we will use data from the Federal Highway Administration. Simply click on the following link:

http://www.fhwa.dot.gov/policyinformation/pubs/pl10023/fig4_4.cfm

Our Nation's Highways: 2010

Figure 4-4. Annual Vehicle Miles Traveled per Licensed Driver: 1970-2008



Data available in [Excel format](#)

This webpage includes a page with the graph showing the trend in average miles traveled since the 1970s. To find the numbers you need, click on **Table in Excel Format**. This will open an Excel spreadsheet with data for the past forty years.

In 2008, U.S. licensed drivers averaged 14,734 miles driven.

32	1999	14315.61
33	2000	14410.10
34	2001	14615.60
35	2002	14696.72
36	2003	14734.74
37	2004	14895.20
38	2005	14907.94
39	2006	14768.76
40	2007	14726.33
41	2008	14273.72
42		

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Step 2. Average fuel efficiency of passenger cars can be obtained from the Bureau of Transportation Statistics *National Transportation Statistics* (Table 4.23). The latest statistic (2008) is 22.6 miles per gallon.

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Table 4-23: Average Fuel Efficiency of U.S. Passenger Cars and Light Trucks

Excel | CSV

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	(R) 2009	2010
Average U.S. passenger car fuel efficiency (mpg) (calendar year)																							
Passenger car ^a	16.0	17.5	20.3	21.2	21.0	20.6	20.8	21.1	21.2	21.5	21.6	21.4	21.9	22.1	22.0	22.2	22.5	22.1	22.5	22.5	22.6	U	U
Other 2-axle 4-tire vehicle	12.2	14.3	16.1	17.0	17.3	17.4	17.3	17.3	17.2	17.2	17.2	17.0	17.4	17.6	17.5	16.2	16.2	17.7	17.8	18.0	18.1	U	U
New vehicle fuel																							

Passenger vehicles account for less than half of all vehicles in Wisconsin. Using 22.6 MPG understates the actual cost. However, it is used in this case as it provides a conservative, yet useful estimate indicator of the cost.

http://www.bts.gov/publications/national_transportation_statistics/html/table_04_23.html

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WISCONSIN DEPARTMENT OF TRANSPORTATION
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2009 facts and figures

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All files are in Adobe PDF  format and are less than 250 K

Accidents
[Accident reporting](#)
[Safety responsibility administrative hearings](#)
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[Accident statistics](#)

Dealers
[Buyer identification \(BID\) card](#)
[Consumer complaint investigation](#)
[Dealer inspection](#)
[Dealer license](#)
[Motor vehicle salesperson license](#)
[Buyer's license](#)

Drivers
[Abstracts \(driver records\)](#)
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License types:
[Commercial driver license \(CDL\)](#)
[Commercial drivers licensed by county](#)
[Commercial driver license statistics](#) - Er
[Commercial driver license statistics](#) - Er
[Graduated driver license \(GDL\)](#)
[Instruction permit](#)
[Instruction permit statistics](#)
[Motorcycle license](#)
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[Photo identification card \(ID\)](#)
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Step 3. The number of licensed drivers in your county. This data is available on the WiDOT website at: <http://dot.wisconsin.gov/drivers/facts.htm>

Scroll down to *Drivers Licensed by county*. This will open a PDF with all the valid, withdrawn, and expired licenses per county. For this example, we're using La Crosse County. In La Crosse, there were 76,146 licensed drivers in 2009.

JEFFERSON	56,552	1,406
JUNEAU	18,175	558
KENOSHA	110,760	3,674
KEWAUNEE	14,662	256
LA CROSSE	76,146	1,844
LAFAYETTE	12,045	248
LANGLADE	15,265	317
LINCOLN	21,475	512
MANITOWOC	59,318	1,300
MARATHON	94,236	2,224

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Now, you have the three pieces of data that you need to develop your own estimate.

- **14,274** miles per year per licensed driver
- **76,146** licensed drivers in La Crosse County
- **22.6** mpg

Step 1: $14,274 \text{ miles per year per driver} \div 365 \text{ days per year} = 39.1 \text{ miles per day per driver}$

Step 2: $520 \text{ gallons} \div 22.6 \text{ mpg} = \mathbf{23 \text{ gallons of fuel saved per year per licensed driver}}$

Step 3: $23 \text{ gallons} \times 76,146 \text{ licensed drivers} = \mathbf{1,751,358 \text{ total gallons saved per year}}$

Step 4: $1,751,358 \text{ gallons} \times \text{Current gas price (at the time of writing, it is } \$3.03/\text{gallon)} = \mathbf{\$5,306,614}$

Step 5: We can guess that the average car uses **653 gallons** of gas per car per year.
($14,769 \text{ miles} \div 22.6 \text{ mpg} = 653.4 \text{ gallons}$)

Step 6: If we save **1,751,358 gallons** per year, then we would have enough gas to power **2680 additional cars** for a year.
($1,751,358 \text{ gallons} \div 653.4 \text{ gallons per car per year} = 2680 \text{ cars}$)

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To recap, if each licensed driver in La Crosse County drove 10 less miles each week, the total yearly savings would be:

- **23 gallons** per licensed driver
- **1,751,358 gallons** of gasoline
- **\$5,306,614** worth of gasoline (according to February 2011 gas prices)

That's also enough gasoline to power **2680 additional cars**.

See how the numbers add up for your county!

Broken link? Something wrong with the directions?

These websites often move information around without notifying users. It's possible we have provided a broken link. E-mail [Bill Pinkovitz](mailto:Bill.Pinkovitz@la-crosse-county.com) if you come across a broken link.