

Analysis Brief

The Impact of Rising Fuel Costs



Nancy McGuckin
www.travelbehavior.us

Transportation accounts for almost 70 percent of all petroleum used in the U.S., and private (passenger) vehicle travel accounts for 82 percent of all vehicle miles of travel (as shown in Exhibit 1). Recent increases in the cost of motor fuel are raising questions about the impact of higher fuel prices on the economy and the daily travel of Americans.

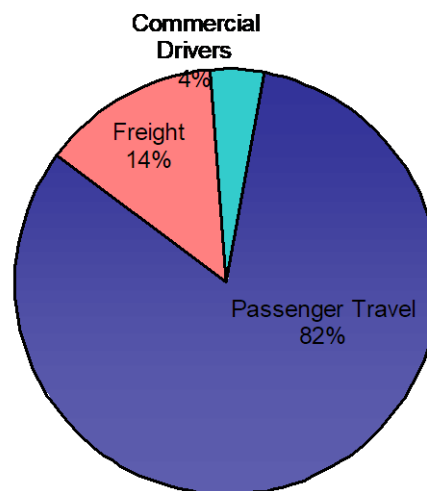
If U.S. households continue to drive at the same rates, they will pay more than double in annual motor fuel expenditures this year compared to five years ago. The average household's \$1,461 a year expenditure on motor fuel in 2001 could become \$3,261 in 2006. If prices remain high, changes in daily travel and vehicle choice could result. In the long term, fuel cost may also affect work and housing location choices.

Household spending for motor fuel depends on how many and what kinds of vehicles the household has, how many miles those vehicles are driven, and local fuel costs. In 2001, private vehicle fuel cost averaged 7.0 cents per mile of travel. As shown in Exhibit 2, this cost has grown to 15.6 cents per mile in 2006.

The type of vehicle driven has a significant impact on the amount of money paid at the pump. Fuel expenditures for the average passenger car are approximately 24 percent less than the average sports utility vehicle (SUV) or pick-up truck. Pick-ups and SUVs are less fuel-efficient and are driven more miles on average.

The introduction of SUVs, in particular, has changed the vehicle fleet. Only 12.5 percent of the total vehicle fleet is SUVs. However, SUVs make up about 20 percent of all newer vehicles (less than 2 years old).

Exhibit 1 - Proportion of Vehicle Miles of Travel that is Commercial, Freight, and Passenger (Private)



Source: Highway Statistics, 2001

Exhibit 2 – Cost per Mile for Different Vehicle Types

	Percent of Household Vehicles	Average MPG*	Cost per Mile in 2001	Cost per Mile in 2006
Car	59.9%	22.4	6.3 cents	14.1 cents
Van	9.4%	18.4	7.5 cents	16.6 cents
SUV	12.5%	16.7	8.2 cents	18.4 cents
Pick-Up	18.2%	16.9	8.3 cents	18.3 cents
Overall	100.0%	20.3	7.0 cents	15.6 cents

* Fuel Efficiency Provided by the Energy Information Agency

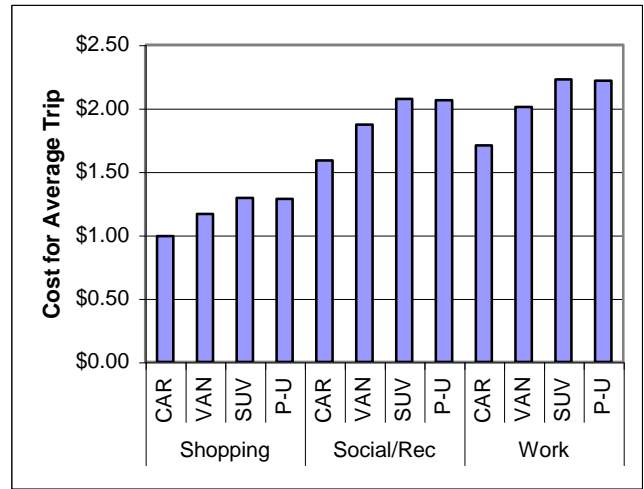
How Much Will This Trip Cost?

Costs vary considerably across trip purpose due to the differences in trip distance and the vehicle types used.

The most expensive single trip of the day is the longest trip for most people—the work trip. An average work trip is over 12.1 miles compared to 7.0 miles for the average shopping trip. On average, total fuel cost for a one-way trip to work is \$1.87 per trip. As shown in Exhibit 3 this cost ranges from \$1.71 per trip when a passenger car is used to \$2.23 per work trip when a SUV is used.

Current fuel prices put the cost of shopping trips at over one dollar each way (\$1.09 per trip on average). The average trip costs just under one dollar (\$0.99) when a passenger car is used and \$1.30 when and SUV or pick-up is used (see Exhibit 3).

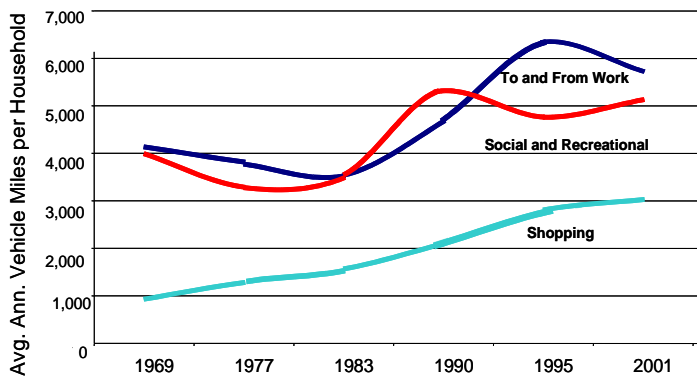
Exhibit 3- Average Cost for Various Trips by Vehicle Type



Social and recreational trips, such as to visit friends and relatives, go to a concert, ballgame, or park, rival the work trip in length, and therefore cost more. These types of trips often include a family or a group of friends traveling together, which may reduce the cost per traveler. Four out of five workers drive alone to work, but the average vehicle occupancy for social and recreational trips is 2.3 people.

Many factors have contributed to the continuing growth in passenger travel on our nation’s highways--the growth in the number of people and workers (both baby boomers and immigration), increased purchase power of U.S. households for vehicle ownership, and the continued dispersion of housing, workplace, and recreational locations.

Exhibit 4 - Vehicle Miles of Travel, 1969-2001



Since 1969, the average annual vehicle miles generated by American households has increased from 12,423 to 21,187, a 59 percent increase. During the same time period, the increase in miles traveled for shopping nearly tripled, while miles for commuting and social/recreational travel rose by a third, as shown in Exhibit 4.

Who is Impacted the Most?

Rural families own twice as many vehicles as urban households – often less efficient vehicles like pick-up trucks. In fact, 37 percent of rural households own or lease a pick-up truck compared to 17 percent of households overall. Rural families also drive more miles than suburban and urban households with average annual vehicle miles traveled (VMT) of 28,238, well above the average of 21,187 annual vehicle miles. The lower fuel efficiency of pick-ups (18.3 cents per mile from Exhibit 2) combined with a greater VMT translates into a greater annual fuel cost for rural families, regardless of income, as shown in Exhibit 5.

Exhibit 6 shows the total annual fuel cost for different types of households. High-income rural families have the greatest annual motor fuel cost at \$6,150. However, this is a smaller percent of their total income as compared to lower income rural households. The 6 million households in rural areas that have incomes less than \$25,000 per year average \$2,500 per year in fuel costs. This represents 10 percent or more of their total household income. Compared to low-income urban households, low-income rural household travel 13 percent more miles and spend 30 percent more in fuel costs. The average annual fuel cost for all households with vehicles is \$3,261.

Exhibit 6 - Some of the Most Impacted Households

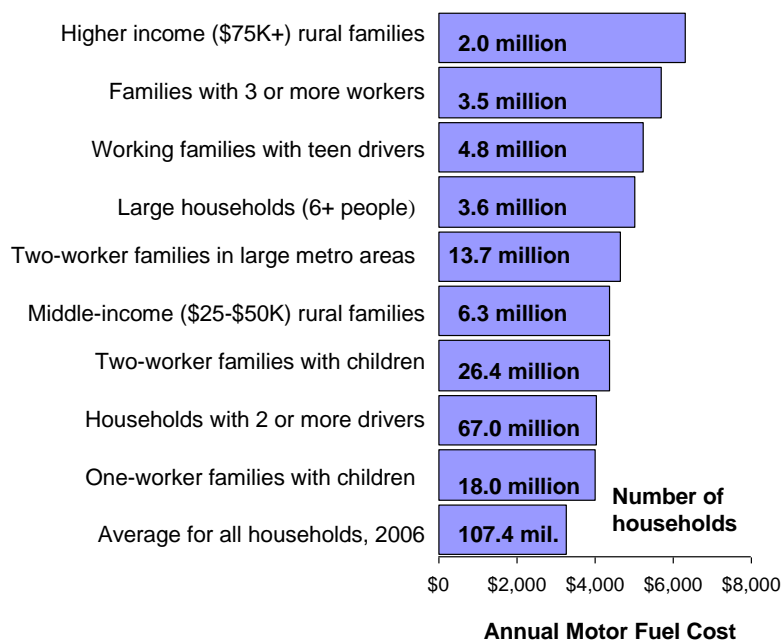
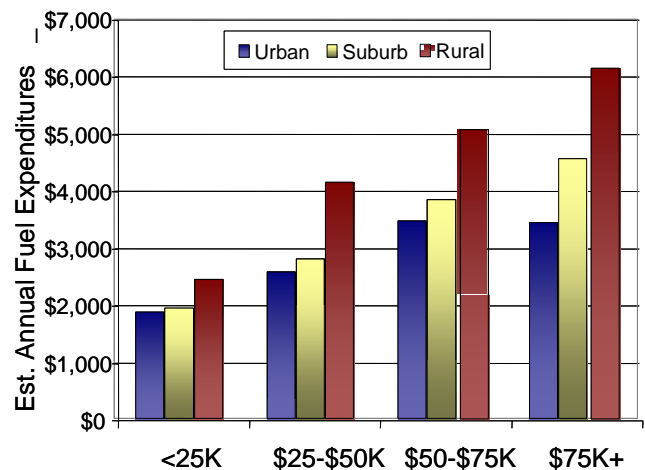


Exhibit 5 – Fuel Cost by Geography and Income



There are:
 14.2 million urban households
 65.7 million suburban households
 20.1 million rural households

The highway system provides important access to airports, rail stations, and transit. According to the NHTS, over 3.4 billion vehicle trips are made annually to access other modes of transportation for both business and leisure purposes. This inter-modal inter-dependence of the transportation system is an important element to remember, and allows the system to be flexible to changing user needs.

Current counts on the roadways show a decline in the rate of growth in vehicle miles traveled, especially on urban highways. However, we won't know what effect the recent rise in fuel prices has on travel behavior until new detailed travel data is collected.

What Makes a Difference?

Sharing a ride. Each day American workers commute 166 million miles. If every worker in a two-worker family shared a ride to work, we would save 3.1 million gallons and 9.7 million dollars in fuel costs every day.

Walking or biking. Overall, American adults travel 25 million miles a day in trips of a half mile or less, of which nearly 60 percent are vehicle trips. If people walked instead of drove for these short trips, we would save 1.2 million gallons of gas and 3.9 million dollars of motor fuel cost a day.

Linking trips together. Being efficient about planning travel can save money too. Every time workers link a shopping or errand stop into their commute instead of coming home and going out again, they save over a dollar in fuel cost.

Taking transit. Less than one out of ten workers who live and work near transit actually take transit to work. For those that do, the motor fuel savings is substantial. Households with workers who take transit save 32 dollars a week (\$1670 per year) on fuel costs compared to similar households whose workers drive to work.

Choosing the most fuel-efficient vehicle. The average American household has more than one vehicle. Drivers could save hundreds of dollars a year by driving a car instead of a SUV (\$492/year), pick-up truck (\$417/year), or van (\$193/year).

For more information on ways to save fuel, visit:

<http://www.fueleconomy.gov/feg/savemoney.shtml>