Ridesharing can be made into more attractive cost-saver, study shows

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(PhysOrg.com) -- The benefits of ridesharing - aka car-pooling - are well known: less traffic, less wear on roads and less fuel consumed, and the ability to engage in pre-office-hours water-cooler talk that can be accomplished without the water cooler.

But, just as with all forms of energy conservation, the benefits don't come without a cost. If, for example, it's Jane's turn to drive and she has to run around town picking up colleagues, it not only costs her and her riders extra time, it also runs up the amount of gasoline they use.

Two University of Illinois researchers have examined these issues in a new study accepted for publication in the journal *Transportation Research Part D (Transport and Environment)* and posted on its Web site.

Computer science professor Sheldon H. Jacobson and doctoral student Douglas King concluded that while the potential for fuel savings theoretically is substantial, that savings is offset by the time and fuel needed to round up the car-poolers.

"If no additional travel were required for this," Jacobson said, "the effect of adding one additional passenger in every 100 vehicles would lead to an annual savings of about 800 million gallons of gasoline in the U.S." If one extra person rode in every 10 vehicles, the savings would increase substantially, to about 7.5 billion gallons of fuel - 5.4 percent of the fuel consumed by these vehicles annually.

The researchers said they calculated that the value of time for travelers must fall below $4.24 per hour for car passengers and $4.68 per hour for light-truck passengers for ridesharing to be an attractive alternative on average. “Ridesharing becomes much more attractive when the amount of travel time required to add passengers makes up a small part of the trip,” Jacobson said.

Ridesharing also could be made more attractive if parking fees and road tolls were increased, Jacobson and King concluded. If, for example, a $1 cost of fees and tolls is added to each vehicle trip, the value of travel time nearly doubles, to $9.05 per hour for cars and $8.68 for light trucks.

“More substantial increases in parking fees and road-toll costs can make ridesharing the most rational economic choice for many travelers,” Jacobson said.

Provided by University of Illinois at Urbana-Champaign