



Oregon

Theodore R. Kulongoski, Governor

Department of Transportation
Office of the Director
355 Capitol St. NE, Room 135
Salem, OR 97301

DATE: January 17, 2007

TO: House Committee on Transportation

FROM: James Whitty, Manager
Office of Innovative Partnerships and Alternative Funding

SUBJECT: Road User Fee Pilot Program – Background and Status Report

Introduction

Thank you for this opportunity to update you on the background and progress of the Road User Fee Pilot Program.

Background

The 2001 Legislature established the Road User Fee Task Force “to develop a design for revenue collection for Oregon’s roads and highways that will replace the current system for revenue collection.” Ultimately, a replacement for the gas tax is needed due to a projected severe decline in the purchasing power of the gas tax in the course of the next 7 to 10 years. The gas tax is steadily eroding for two reasons: 1) the gas tax does not keep pace with inflation; and 2) the fuel efficiency of new vehicles, especially hybrids and alternative-fuel vehicles, continues to increase, resulting in less gas tax paid. Further improvement of automobile fuel efficiency has had and will continue to have a dramatic affect on gas tax revenues. After considering 28 different funding ideas, the Task Force recommended that the Department of Transportation conduct a pilot program to study the feasibility of replacing the gas tax with a mileage based fee collected at fueling stations. The concept for testing involves electronic collection of miles driven in Oregon and during rush hour for wireless transmission at fueling stations where a mileage fee is applied and the gas tax deducted from the fuel bill. This 12-month study, launched in March of last year, includes 260 volunteer participants and two service stations in Northeast and Southeast Portland. The Federal Highway Administration is funding the bulk of the project with a targeted grant of \$2.1 million over six years; Oregon’s share is \$771,000. Oregon State University (OSU) is conducting the engineering work and Portland State University (PSU) is conducting the program evaluation work. This pilot program has attracted the attention of transportation officials and media outlets from across the world.

National and International Interest

Transportation industry leaders and observers are closely watching the development of the Road User Fee Pilot Program because it is unique and the national consensus is that a replacement for the gas tax is necessary. Mileage fees are not a new idea. However, we are the first in the world to develop a concept that integrates with the gas tax, allows for a long phase in over time, and is effortless for the driver. Just yesterday Minnesota Public Radio reported that the Governor of Minnesota will run a similar pilot project this year. He and the House Transportation Finance Chair expressed support for a mileage fee. Additionally, ODOT has been contacted and/or visited by representatives from many other states, as well as Japan, Germany, New Zealand, Great Britain and the European Union. US Secretary of Transportation, Mary Peters paid our pilot project a visit in October and witnessed a transaction at the pump taking place. News stories have been covered by major television news networks as well as *The New York Times*,

The Chicago Tribune, *The Financial Times of London* and hundreds of regional publications. One important article ran in *The Bond Buyer*, a daily newspaper for the public financial market. This article speaks favorably of a viable strategy for using mileage fees to back revenue bonds while maintaining strong credit during expected reductions of fuel tax revenues.

The two questions we are asked most often from reporters and members of the public are:

1. Would a driver's privacy be invaded by the mileage-counting device placed in the vehicle?
The answer is no. The mileage-counting device used in the pilot simply counts the miles by zone, such as "in state" or "out of state." This is necessary to prevent Oregonians from being charged for miles driven outside the state. No location data is stored in the device or elsewhere; since vehicle location data is not collected, it cannot be accessed. The only data collected and transmitted is the mileage, sent to the gas pump reader through a radio frequency that can only travel about three to four feet.
2. Wouldn't a mileage fee penalize people who drive fuel-efficient vehicles?
Not necessarily. In fact, the mileage fee can be designed to reward and encourage the use of fuel-efficient vehicles by setting different rates for different types of vehicles. Studies show that all passenger vehicles do about the same amount of damage to the roads, however, they do varying amount of damage to the environment. Finding the balance between "user pays" for roads and taking into account environmental impact will be an issue for discussion if the mileage fee is considered.

Project Timeline and Current Status

The program is currently underway and will conclude in March of this year. Afterwards we will begin working on our final report that will document the results of the pilot.

Timeline:

- July 2001: With the steady erosion of revenue from the state's gas tax, the Oregon State Legislature creates the Road User Fee Task Force (RUFTF) to examine various alternatives for replacing Oregon's gas tax as the primary source of revenues for repairing, maintaining, and building Oregon's roads.
- December 2001: Oregon Department of Transportation (ODOT) receives the first of three grants from the Federal Highway Administration's Value Pricing Program to fund Task Force projects.
- March 2003: RUFTF, administered by ODOT, develops the concept for a mileage-based fee collected at the pump.
- May 2004: ODOT and Oregon State University successfully test on-board equipment that counts and communicates mileage so that gas stations can collect information and deduct the gas tax while adding the mileage-based charge.
- Summer 2005: On-board equipment is manufactured and Leather's Fuels signs a contract with ODOT bringing two gas stations on board to participate in the pilot program.

- Fall 2005: A pre-pilot test using 20 personal vehicles, including two legislators, test the on-board equipment to be used in the pilot program.
- Winter 2006: ODOT recruits and trains 260 volunteers from Northeast and Southeast Portland to participate in the program for \$300 per vehicle. The two participating gas stations are outfitted with mileage reading technology.
- Spring 2006: Participant vehicles are equipped with mileage counting equipment.
- June 2006: Control phase begins. During this phase, participants pay the gas tax as normal.
- November 2006: Test phase begins. During this phase, participants pay the mileage fee from an ODOT funded endowment account and receive a refund of the gas tax.
- March 2007: Program ends.
- Summer 2007: Final report and evaluation complete.

Lessons Learned

The pilot program has been a success. The equipment is working and the transactions are occurring at the pump. However, we have learned two major lessons in the process:

- Lesson #1 No Retrofitting. For the pilot, vehicles were retro-fitted with custom made devices to count mileage and communicate with the fuel pumps. While the equipment works well in most cars, there have been problems with draining batteries and antenna placement in some vehicles. In order for this concept to be successful in the “real world” we recommend that the on-board equipment be engineered into the vehicles by the auto manufacturers.
- Lesson #2 Short Range Communication. The communication technology used to download the mileage reading from the vehicles to the fuel pumps is not as consistent as it needs to be. We would like to look at improving this by exploring other short range communication methods in addition to refinement of the radio frequency technology that is currently being used.

Next Steps

Before Oregon’s mileage-fee concept can be implemented on a statewide or national basis, the following issues need to be addressed:

- Improve the experience at the pump by a) working with an auto manufacture to develop on-board specs, and b) improving the technology at the pump.
- Develop standards and processes to allow for nationwide implementation
- Develop firm cost estimates for full mileage fee implementation

We would like to continue our work, build on our successes and resolve these issues; however additional grant funds will need to be secured in order to do so.

Summary

The 2001 Legislature established the Road User Fee Task Force to develop alternatives to the state's gas tax. The Road User Fee Pilot Program is the first program in the world to test mileage fee collection at the pump. This concept has attracted attention from transportation officials worldwide. ODOT would like to continue refining the technology and developing its concept so that this or another legislature can adopt a mileage fee in the future should it wish. This research is intended to provide information to help the Legislature and the world plan for the future of the transportation system.

Attachments:

The Bond Buyer, 6/16/06

The Oregonian, 6/12/06

Diagram: How it Works

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Everything Oregon

The Oregonian

Real-world road test will pit new mileage fee vs. old gas tax

Taxes - Volunteers will give the proposed system a test drive -- it could become a national model

Monday, June 12, 2006

JAMES MAYER
The Oregonian

A plan to replace the Oregon gas tax with a mileage-based fee will be tested in the real world during the next 10 months. If the system pans out, it could become a national model as money for roads dries up in the years ahead.

Beginning this week, 280 Portland-area volunteers will be paid \$300 dollars to carry a global positioning device in their car and to fuel up at two participating Leathers service stations.

Linda Simpson, a clinic supervisor, said she volunteered to take part in the test because she will get paid to drive and because it's a chance "to do something that might actually help fix the roads."

Jim Whitty, overseeing the project for the Oregon Department of Transportation, said the popularity of hybrids and other fuel-efficient cars poses a risk to gas-tax revenues that pay for building and maintaining roads.

Aggressive marketing of such cars will lead to a permanent decline in Oregon gas-tax revenue beginning in 2017, according to one estimate.

The state's 24-cents-a-gallon gas tax has not increased since 1993. Voters are unlikely to raise it, Whitty said.

The mileage-fee pilot project was designed by engineers at Oregon State University. The system they came up with protects privacy, is simple for motorists and service stations to use and is inexpensive to operate, Whitty said.

Here's how it works:

A GPS unit in the car records how many miles traveled inside and outside Oregon, to ensure that only driving in the state is taxed. The device also will record miles traveled in the metro area during morning and afternoon rush hours, so the idea of charging people more to drive during those times can be tested.

When the car pulls into the service station, a radio transmitter sends the mileage data to a reader in the gas pump. The mileage fee is added to the bill, and the gas tax is subtracted.

Whitty said the technology does not record where the car has been, only how far it has traveled. And the mileage information is beamed only a few feet to the gas pump.

"Still, there will be people who don't believe it," Whitty said. "We know that navigation systems are more invasive, and they will be standard equipment on GM cars a year from now. After a period of years people will be used to having this technology in their cars, and they will realize the government is not tracking them."

The cost would be about \$33 million to install the equipment in all state service stations, and about \$1.6 million a year to collect the taxes, he said.

That plan does not envision retrofitting vehicles. The devices would be installed by manufacturers in new cars. Older cars would continue to be levied the gas tax.

Whitty said it was unlikely Oregon could pursue such a program on its own, but positive results from the pilot project could spur federal investment.

Putting the plan into effect is at least 14 years away, he said.

For the first five months of the test, volunteers will visit the two Leathers stations at least twice a month. They can get gas anywhere else the rest of the month. Mileage information will be collected, but the drivers will continue to pay the gas tax as usual. Then, the volunteers will be separated into three groups. A control group will pay the gas tax. A second group will pay a 1.2-cents-a-mile fee. The third group will pay 10 cents a mile for rush hour travel, and 0.4 cents at other times.

At the conclusion of the test, a more extensive test will be designed, and a legislative package will be put together.

The plan faces a couple of issues.

One is environmental. Replacing the gas tax with a mileage fee removes a major incentive for people to reduce petroleum consumption. One possible answer is to charge lower rates for fuel-efficient cars.

A second issue is fairness.

If only new car owners can take advantage of the mileage fee, lower-income people who can't afford new cars wouldn't be able to take advantage of the system, Whitty said.

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FRIDAY,

REGIONAL NEWS

Oregon Explores Mileage-Based Gas Fees

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by *Rich Saskal*

Posted 06/16/06

SAN FRANCISCO — A group of motorists in the Portland area this week embarked on an experiment to test the potential for replacing Oregon's per-gallon fuel taxes with a mileage-based fee.

About 280 motorists will spend the next year testing a global positioning system-based device designed to measure how many miles their cars are driven within the state's borders.

After recruiting and choosing volunteers and getting the equipment installed in their cars, the actual mileage-measuring element of the program began this week, said Oregon Department of Transportation spokeswoman Shelley Snow.

The launch of the study marks a major milestone in a five-year-old program designed to seek out alternatives to a traditional fuel tax that is threatened with technological obsolescence.

Fuel taxes are widely used to back transportation revenue bonds. In Oregon, fuel taxes are part of the gross revenue pledge ODOT makes to back revenue bonds that support Oregon Transportation Investment Act projects, though the increased revenue needed to support debt service was generated by increasing various driver's license and motor vehicle fees in 2001 and 2003.

Oregon levies a 24-cent per gallon fuel tax that has not increased since 1993 — even though the consumer price index has climbed 40% since then, according to the U.S. Bureau of Labor Statistics.

"The gasoline tax has quite obviously, and potentially catastrophically, become de-linked from road usage at both the absolute statewide level and in relation to actual individual use of the roads," according to a 2005 report from Oregon's Road User Fee Task Force, which oversees the study.

Gas tax revenue lost ground to inflation in the 1990s when gas prices were relatively low, encouraging motorists to drive more and not worry about their mileage.

What happens now that gasoline is expensive and high-mileage hybrids like the Toyota Prius are becoming automotive status symbols?

That's what the current test is all about, James Whitty, manager of ODOT's Office of Innovative Partnerships, wrote in the preface to the task force's 2005 report.

"Oregon is preparing for the day when a substantial number of motorists are driving highly fuel-efficient vehicles and no longer paying enough gasoline taxes to support their road system," he wrote.

The Road User Fee Task Force was created by an act of the Legislature in 2001, charged with developing and testing an alternative to the gasoline

Oregon DOT Highway User Tax Revenue Bond Sales

Issue	Amount*	Sale Date
New-money revenue bonds, Series 2006 A&B	\$391.8	May 2006
New-money & refunding revenue bonds, Series 2005 A&B	\$45.5	Jan. 2005
New-money & refunding revenue bonds, Series 2004 A&B	\$370.3	June 2004
New-money revenue bonds, Series 2002 A	\$221.8	May 2002
New-money revenue bonds, Series 2000	\$58.4	Aug. 2000
*Dollars in millions	Source: Thomson Financial	

So the program was moved to the Portland area, where an independent operator with two gas stations signed on to the project.

Participants are asked to visit one of the gas stations twice a month. For six months, the participants will continue to pay the gasoline tax, but after that they will be split into three groups. One control group will continue paying gasoline tax, while the second group will play a flat 1.2-cents-per-mile charge and the third group will pay a mileage charge that will be adjusted to charge more for peak-hour travel.

The peak-hour pricing component of the study was required by the federal government, which is providing \$2.1 million of the \$2.87 million budget for the study through the Federal Highway Administration's value pricing pilot program.

Each participant will get \$300, paid in installments as they complete various milestones during the study. After the test is complete in one year, the task force is charged with reporting results to the Legislature.

The devices that are being used in the test cost about \$250 each, but the task force estimates that such costs would be much lower if they were mass-produced.

"The likelihood of the marketplace providing the necessary technology for collection of the mileage fee for its own business reasons is growing rapidly," said the task force's 2005 report. "On February 2, 2005, General Motors announced that all of its 2007 models would have GPS receiver-based navigation capability as standard equipment."

The mileage-fee system could well be an effective method to back revenue bonds in the future, according to Douglas Goe, an Orrick, Herrington & Sutcliffe LLP partner in Portland, who has worked on ODOT revenue bond financings and served on an innovative finance committee for the department.

"It's something that can be designed in a manner that can still maintain very strong credits. It's a matter of combining the technology and obviously with understanding people's driving habits," he said. "It's a work in progress, but I think those in the industry I have spoken with both on the financial side and on the program development side believe long-term it could be a viable solution."

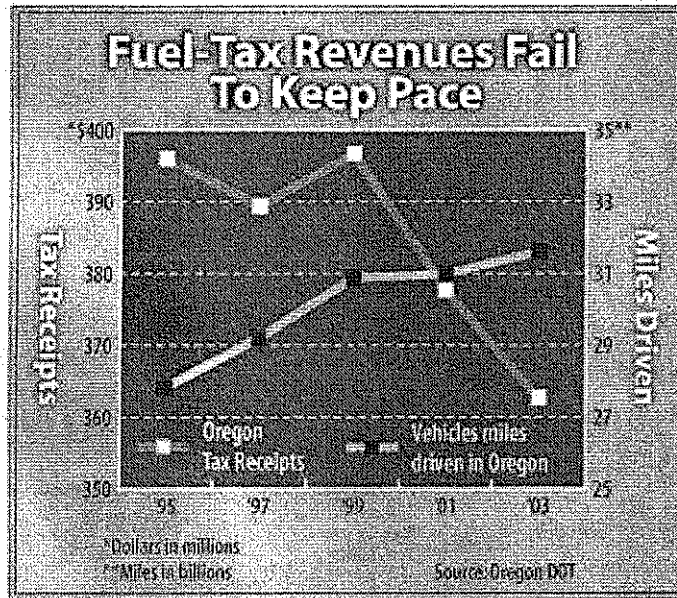
The prospect of having the government install a location monitor in one's car hasn't been universally popular, to judge from the tone of some of the task force's reports.

Its 2005 report contains a section called "Inaccuracies in Media Coverage of

tax. In 2003, the task force decided to focus on a mileage-based fee.

The task force retained Oregon State University researchers to develop a technical solution, resulting in a unit that combines the speed sensor from the vehicle's odometer with a GPS receiver that indicates where the vehicle is – for example, whether it's in Oregon or out of state.

Then it ran an early pre-pilot study of 20 vehicles in 2005 to sort out early technical issues.



“That was literally just to make sure you could fit the equipment to the cars,” Snow said. The pre-pilot narrowed the test down to model year 1996 to 2004 vehicles, and even then the equipment did not work in some car models. “It’s kind of complicated,” Snow said. “That’s the reason for testing it.”

The test unit is mounted under the dashboard or in the trunk of a vehicle, with an additional display monitor on the dashboard where the driver can see it.

The odometer mileage is measured through a connection with the vehicle’s on-board diagnostics port. That’s the standardized outlet designed so that technicians can plug into the vehicle computer to read diagnostic trouble codes after the “check engine” light says there’s a problem.

When the driver visits a gas station to refuel, the mileage data is wirelessly transmitted to the fuel pump, which determines how much tax should be charged.

The test originally was planned in the Eugene area, but officials found that local gas stations were unable to participate in the test because of their contracts with major oil companies, according to a report the task force released earlier this year.

Oregon's Mileage Fee Concept.”

“The three issues most often represented inaccurately relate to privacy, a perceived potential for the mileage fee to undercut moves toward more fuel-efficient vehicles, and the characterization of the mileage fee as a ‘new tax,’ although by statute and design it is a replacement for the fuels tax on gasoline,” the report said.

Officials take pains to note that the program’s GPS data will only be used to determine which of the miles recorded by the odometer are taxable – in other words, within Oregon.

The task force says any changeover to a mileage-based tax system should be phased in by applying it to brand new cars built with the appropriate technology, not by retrofitting every older car in the state.

That changeover would probably take at least 20 years, the task force estimates, with the state running two revenue systems at once, with the new mileage fee for new cars and the fuel tax on gasoline for older vehicles.

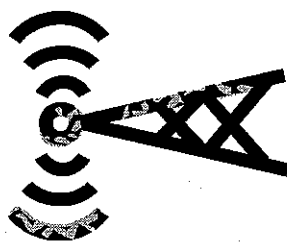
“The fun things about it is that it’s kind of cutting edge and absolutely every state is interested in what we find out,” Snow said. ODOT has even had visitors from overseas, including London, which already charges motorists a congestion fee for entering the city center.

“Even they’re interested,” Snow said.

Oregon's Road User Fee Pilot Program: How it Works

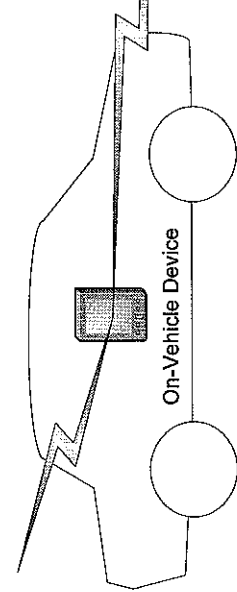
1

One way signal received by car to switch mileage counter between in-state and out-of-state zones.



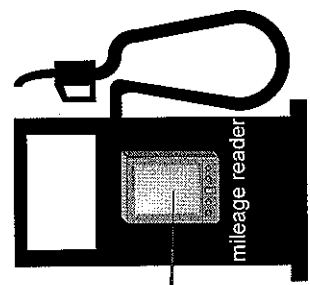
2

Mileage totals counted for in-state and out-of-state. No location information is recorded.



3

Mileage read wirelessly at fueling stations.



4

Gas tax deducted from gas purchase price (24 cents/gallon) and mileage fee added.

Gas to Go	
Commercial Rd., OR	
May 15, 2006 - 8:00 AM	
13.5gal @ 205.5	27.74
State tax disc. (3.24)	
Net fuel	24.50
Mileage fee	2.96
243.3 @ 1.22	
Total Due	27.46
FLEET XXXX3024	27.46
THANK YOU	