## In-Car "Navigation" System To Get Test Run in Los Angeles

The Federal Highway Administration (FHWA) has announced that Los Angeles will be the site of a 3-year highway research project to test the feasibility of electronically linking traffic condition information with a TV type of computerized mapping device located on a vehicle's dashboard.

"This research program, a cooperative venture between the California Department of Transportation (Caltrans), the FHWA, and General Motors (GM), marks a new chapter in the war on highway congestion," Federal Highway administrator-designate Robert E. Farris said. "We can no longer completely build our way out of the congestion crisis by laying more concrete and asphalt. Time is too short, money is too scarce, and land is often not available."

Farris added: "Rather than concentrating only on the supply side of the transportation equation, we must look at managing the demands we are placing on our existing highways to see how drivers can better and more efficiently use what we already have. I am particularly pleased that this research effort will benefit from the resources and talent in both the public and private sectors."

The research project will be conducted by Caltrans in the greater Los Angeles area using 25 specially equipped cars donated by GM. Each car will have an electronic map of Los Angeles' streets displayed on a console screen fitted on the dashboard. During this research project, the in-vehicle navigation system will be refined to receive and display traffic and accident information from the Caltrans traffic operations center. This new "smart" highway-vehicle system will be the first of its kind to be tested.

"During this test, drivers will be able to turn on the electronic map in the car and get up-to-the-minute information on traffic conditions and accidents displayed on the screen," Farris explained. "The map will display routing alternatives the driver could choose to avoid the congested areas."

"The ultimate goal of the experiment is to determine how this kind of technology can be used in real-world applications to help reduce traffic congestion, especially congestion caused by traffic incidents," Farris said. He added that a successful system could have a variety of additional uses, including helping emergency vehicles find the shortest, fastest, and safest routes to their destinations.

Actual field tests will be conducted after system design and installation to assess if the use of electronic navigation systems, along with the "smart" corridor concept, can be used to better manage traffic flow. According to Farris, the hardware would be enhanced so that the system could receive and display broadcast electronic signals detailing the latest traffic information.

"We want to see if this kind of onboard navigation system can be used to improve the travel performance of individual drivers, improve safety, and lower travel costs," Farris said. In addition to GM, other sponsors include Caltrans, which not only is conducting the experiment but is also providing $900,000 in funding. The FHWA is contributing $750,000 and technical support to the project.

Farris said that the problem of congestion is growing nationwide. In 1985, 61 percent of travel on urban Interstates during peak driving hours occurred under congested conditions. Traffic delays on other urban highways increased 30 percent between 1984 and 1985. Explaining that the reasons for these congestion problems are varied, Farris said that one of the key factors has been the significant increase in urban traffic (up 10.1 percent between 1983 and 1985). "There is every indication that total travel will continue to grow in the future, perhaps as much as 50 percent by the year 2005," Farris warned. "We are going to need to enlist every weapon at our disposal if we are going to maintain our national mobility and economic vitality."

## Asphalt Recycling Process Wins Award

An improved process for cold-in-place recyling of asphalt highways pioneered by Region 4 of the Oregon State Highway Division in Bend and Oregon State University has won a National Award for Energy Innovation from the U.S. Department of Energy.

The recycling process, a major change from the hot-mix method used for 45 years, was first tried on a large scale on 22 miles of Oregon State Highway 126. This operation demonstrated the potential of the process, despite leaving the highway in slightly roughened condition and causing "tire howling" problems. The method has since been improved and to date has been used successfully on 350 miles of highways with an estimated savings of more than $100,000 a mile.

In comparison with the conventional repair method, in which a new layer of pavement is placed over the old highway, the new procedure uses special equipment moving in a paving train to enable the operation to be completed in one pass. The existing pavement is broken into small pieces by a grinder; another machine then mixes asphalt and additives with the ground-up pavement and places it along the highway; and, in a final step, a paving machine collects the recycled materials and creates a new surface similar to new pavement.

The process, the cost of which is only a fraction of that of conventional hot-mix paving, saves approximately 80 tons of asphalt per mile and also saves on rock and fuel. The fuel-savings total is estimated to be about 4,000 gallons per mile of paving. An additional saving in material and manpower is realized because only the travel lanes, not the shoulders of the highway, need to be resurfaced.