DEPARTMENT OF TRANSPORTATION | NEWS

URBAN MASS TRANSPORTATION ADMINISTRATION

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The U. S. Department of Transportation today awarded the first in a series of contracts to test advanced methods of electronically locating and tracking vehicles operating in urban areas.

The $184,488 contract, to be administered by the Department's Urban Mass Transportation Administration (UMTA), was awarded to the Teledyne Systems Company of Northridge, California. Teledyne will conduct experiments to determine the feasibility of using an existing ship and airplane radio navigation system known as LORAN to track the movements of a vehicle through the streets of a typical city.

The experiment is one phase of UMTA's Automatic Vehicle Monitoring (AVM) program. According to Secretary of Transportation John A. Volpe, the program is expected to provide a central operations and dispatch center with constant and continual knowledge as to the location and operating condition of all the units in a selected vehicle fleet. This will mean better customer service, lower operating costs and greater safety in bus and other public service operations.

UMTA Administrator Carlos Villarreal said that the AVM program "is one of the ways we are going to bring public transportation into the space age.

"Modern electronics can make it possible for transit managers literally to 'see' where their vehicles are anywhere within a city, and allow the managers to put them where they should be to best serve the riding public," Mr. Villarreal said.

With AVM, buses can be instantly rescheduled or rerouted as weather, traffic conditions, equipment failure or other variables require. For example, a bus dispatcher could be informed by AVM that a bus was running

progressively further behind its schedule, perhaps because of large numbers of people boarding that vehicle at each stop. The dispatcher could then call out a reserve bus and instruct its driver by an AVM voice communications link to enter the route some distance ahead of the delayed bus. Passengers would then be spared a long wait for a behind-schedule bus, allowing all to reach their destinations sooner.

Before a complete AVM system is available, the location technique must be integrated into a total system which, in addition to determining location, also monitors and relays to the control center operational data such as oil and brake pressures, engine temperature, and passenger count. When any malfunction requiring action occurs, a central computer is programmed to alert the dispatcher instantaneously.

AVM systems may also incorporate a "silent alarm" feature. For example, a driver threatened by hold-up or assault could activate a concealed button which would flash an instant priority signal to the control center, where an electronic display would indicate the bus number and location. Public knowledge that aid could be summoned rapidly should help deter many potential criminals.

It is also expected that AVM techniques will find considerable application in improving the deployment of police cars, public utility vehicles, taxis and most any other vehicle which must be efficiently controlled and dispatched on short notice.

The LORAN system, as now used, can indicate the location of a ship or aircraft to within feet of its true position. A special receiver on board the vehicle receives signals from a chain of transmitters located as far as 1,000 miles away and automatically sends back highly accurate location data.

Although LORAN is a highly reliable technique in the air and on water, it is not known if the long-range radio signals can be successfully received in dense downtown sections of American cities. Tall buildings, power lines and large objects may distort or block the signals and could prevent the LORAN receiver from functioning with full accuracy. The AVM experiments to be performed will indicate what type of accuracy can be expected in cities.

Additional contracts to test two other methods of vehicle location are anticipated in the near future, Secretary Volpe said.

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