

ROAD COMMISSION **for OAKLAND COUNTY**

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Contact: Craig Bryson, Public Information Officer, (248) 645-2000, ext. 2302 (e-mail: cbryson@rcoc.org)

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ROAD COMMISSION CELEBRATES 25TH ANNIVERSARY OF FIRST ADAPTIVE TRAFFIC-SIGNAL SYSTEM FOR NON-FREEWAY ROADS IN THE NATION

Beverly Hills, MI – The Road Commission for Oakland County (RCOC) this year marks the 25th anniversary of its groundbreaking “smart” traffic-signal system known as FAST-TRAC (Faster And Safer Travel Through Routing and Advanced Controls).

The system uses computers and vehicle detection to continually adjust traffic-signal timing to most efficiently move traffic. It was the first such system in the nation on arterial (non-freeway) roads when it was introduced in 1992. Today, with more than 750 traffic signals across Oakland County, it is the second-largest such system in the nation. In 1992, it started with 28 signals in Troy.

“This system has saved lives and improved traffic flow across the county for 25 years, and we are proud of that,” stated RCOC Board Chairman Eric Wilson. “When we introduced this system, we knew that the county was growing and that we would never be able to build our way out of congestion. So, we looked for ways to use technology to improve traffic flow.”

At the time, no other road agency in the country was using adaptive signals. RCOC discovered an adaptive signal system that was created by the city of Sydney, Australia. However, that system relied on inductive loops buried in the pavement that use a magnetic field to detect the presence of vehicles.

Because of the climate in Southeast Michigan and its impact on pavement, RCOC engineers were concerned that the loops would not last well in aging pavement. So, the agency turned to what was then an experimental technology being developed by a college professor: using video cameras to detect vehicles at signalized intersections.

RCOC was the first agency in North America to use video vehicle detection for traffic-signal control. It was, in part, RCOC’s use of the technology that allowed for the commercial production of video vehicle-detection systems, which are now in use all over the world. Today, RCOC’s FAST-TRAC system deploys more video vehicle-detection devices than any other agency in North America. In fact, road and traffic professionals from all over the world regularly visit RCOC to see the system.

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Over the years, several independent studies confirmed that the system is working to improve traffic flow. The studies also documented that it is resulting in fewer serious-injury crashes.

In the late 1990s, studies conducted by Michigan State University and mandated by the Federal Highway Administration, documented a more than 50 percent reduction in serious injury crashes at intersections converted to FAST-TRAC. The MSU studies also documented a 7 percent to 32 percent reduction in travel time along the Orchard Lake Road corridor after it was equipped with FAST-TRAC.

“Essentially, what FAST-TRAC does is provide increased traffic capacity without widening roads,” Wilson stated. “While it cannot eliminate congestion, it can incrementally reduce the impact of congestion on travel time.”

Wilson added that installing FAST-TRAC signals is a much more cost-effective way to increase road capacity than widening roads.

Another FAST-TRAC first was RCOC’s development of its Real-Time Traffic Map in 1999, which is a web-based map showing traffic-congestion levels at FAST-TRAC-equipped intersections in real time. The RCOC Real-Time Traffic Map was the first such map in the nation to combine congestion data from both arterial roads and freeways and remains one of the most advanced. The map includes real-time traffic-congestion data for freeways in the county provided by the Michigan Department of Transportation (MDOT).

RCOC is continuing to expand the FAST-TRAC system, with the goal of ultimately equipping the vast majority of its 1,500 signalized intersections. Over the last year, RCOC has also added closed-circuit video cameras at about 60 of the FAST-TRAC intersections, which allow agency engineers to conduct remote visual monitoring of the signals to ensure they are functioning correctly or to trouble-shoot potential problems. No video is recorded or kept.

How FAST-TRAC works:

FAST-TRAC intersections are equipped with vehicle detectors that alert the system when vehicles are present. The detectors count vehicles, and FAST-TRAC computers use this information to calculate how much “green time” each approach to a signalized intersection should have. This is recomputed continuously as traffic volumes and patterns change.

Though started in 1992, the FAST-TRAC system has continued to evolve and today uses the latest, state-of-the-art hardware and software, including vehicle detection and cellular communications. The system is overseen from RCOC’s Traffic Operations Center (TOC), which includes a state-of-the-art video wall that allows engineers to monitor intersections in operation

Editor’s Note: The attached photo, from 1993, taken at the former RCOC Traffic Operations Center in Troy, marks the receipt of a major federal grant to expand FAST-TRAC. Pictured are (left to right): Congressman Sander Levin, then Road Commission Board Member Dick Vogt, then U.S. Secretary of Transportation Federico Pena, then Road Commission Board Members Rudy Lozano and Jack Olson, then Congressman Bob Carr and then RCOC Managing Director John Grubba.