TIM TEAM TIMES

Traffic Incident Management

56th Edition

Sarasota-Manatee County Traffic Incident Management Team

May 2014

FDOT

SUNGUIDE

INSIDE THIS ISSUE:

Upcoming Events:

TIM Team Meeting:

Tuesday, June 10, 2014

1:30 PM

Manatee County Public Safety Center 2101 47th Terrace East 2101 Bradenton Florida, 34203

IT'S THE LAW MOVE OVER FOR STOPPED EMERGENCY VEHICLES

ITS on I-75 in Southwest Florida Nears Completion

Drivers traveling I-75 though southwestern Florida will enjoy even more benefits of the Florida Department of Transportation's (FDOT) intelligent transportation systems (ITS) when the new ITS goes live later this year in Manatee and Sarasota County. Dynamic message signs (DMS) and highway advisory radio (HAR) stations will relay real-time information about traffic conditions that prepare motorist for what is ahead. ITS allows drivers the time to make decisions about their routes depending on crashes, congestion, lane closures, and pore weather ahead on the highway. If a crash occurs, ITS enhances emergency response times to incident locations and reduces secondary crashes that can create extended delays. Drivers with disabled vehicles also typically receive assistance more quickly. America's Missing: Broadcast Emergency Response (AMBER) and Silver alerts can be posted on DMSs to assist law enforcement in locating people.

In April 2012, one year after the successful launch of ITS operations in Charlotte County, and two years after ITS began operations in Lee and Collier Counties (January 2010), FDOT and the design/build team began development of a $20.7 million project that will complete ITS throughout District One. This much anticipated job includes installment of 81 closed-circuit television cameras, 25 DMSs, 138 roadside sensors, 10 HAR stations, and fiber optic communications cable and transmission equipment along 57 miles of interstate in Manatee and Sarasota Counties. When completed, ITS operations will be fully integrated along I-75 in the District from the Collier/Broward County, approximately 180 miles. Staff in District One's Southwest Interagency Facility for Transportation SunGuide Center in Fort Myers will continue to monitor real-time traffic conditions. Operators will also monitor traffic locally from the Manatee County Satellite Traffic Management Center (STMC). The project team continued DMS installations and stand-alone testing throughout March. Crews have installed HARS stations and signs throughout the project limits, and work at the Manatee County STMC is nearing completion. Operational testing and system integration are expected to begin in April. Project completion schedule for late summer 2014.

For more information, please contact Mr. Birosak at (863) 519-2507 or e-mail to Chris.Birosak@dot.state.fl.us

Article reprinted from the SunGuide Disseminator, April 2014, Chris Birosak, FDOT District One, http://www.dot.state.fl.us/trafficoperations/its/projects_deploy/disseminator.shtm

Autonomous Vehicles

Series Part 2 – Technological Progress (Hardware, Software, and Testing)

The March 2014 issue of TIM Team Times featured Autonomous Vehicles (AV) as Part 1 of a two part series. The AV Series Part 1 article focused on the legislative progress regarding the laws passed allowing AV testing on public roads. This Part 2 article will focus on AV development's technological progress, highlighting the most state of the art Autonomous Vehicle advancements in both hardware, software, and testing.

Numerous major companies and research organizations have developed working prototype autonomous vehicles, including but not limited to Mercedes-Benz, General Motors, Nissan, Toyota, Audi, Oxford University's Mobile Robotics Group (MRG), and Google.[1]

Google has at least three different types of vehicles in their AV fleet; including the Toyota Prius, Lexus RX450h, and Audi TT.[2] Google is sparing no expense developing the most capable AV possible. Utilizing the most advanced hardware available provides the most accurate real time information inputs into the software algorithms. The primary hardware component of an Autonomous Vehicle is the Light Detection And Ranging (LIDAR) sensor mounted to the top of the vehicle. The Google AV currently utilizes the LIDAR manufactured by Velodyne, valued at approximately $70,000.[3] The Velodyne HDL-64 includes 64 lasers, providing a 360 degree 3-dimentional view. Other AV hardware includes a Video Camera to detect traffic signal colors, numerous distance sensors, and a position sensor to track its movements. The most crucial component of an Autonomous Vehicle is the Software, which must be capable of interpreting the data inputs provided by the hardware and making real-time decisions regarding acceleration, turning, and braking.

The primary components of an Autonomous vehicle include both hardware and software. Software development, in conjunction with testing, is a primary reason for the recent exponential progress in AV development. Advanced Autonomous Vehicle testing requires test vehicles to navigate actual roadways and interface with other vehicles. Until recently, much of the AV testing was performed on interstate roadways. However, recent advances in software development have been due in part by the AV testing performed on arterial roadways. Google and other AV developers have been hitting the city streets; which are much more complicated with regards to vehicle obstacles and maneuvering. Specifically, city driving entails much more vehicle interaction, acceleration/deceleration, complete stops, and traffic signals. Additionally, there are many more regulatory and warning signs on arterials as well as hazards not typically found on the interstate: pedestrians and bicyclists. Google mentions the recent software progress in a blog titled "The latest chapter for the self-driving car: mastering city street driving" dated April 28, 2014. This blog, posted by Google's Self-Driving Car Project Director Chris Urmson on the official Google blog website, states "We've improved our software so it can detect hundreds of distinct objects simultaneously—pedestrians, buses, a stop sign held up by a crossing guard, or a cyclist making gestures that indicate a possible turn." [4]

Autonomous Vehicle technology is evolving exponentially along with technology itself. With ever increasing instances of distracted drivers causing incidents, especially in the mass transit sector, the desire and need for autonomous vehicles will continue to gain traction.

1) http://en.wikipedia.org/wiki/Autonomous_car

2) http://www.wired.com/2012/04/google-autonomous-lexus-rx450h/

3) http://content.usatoday.com/communities/driveon/post/2012/06/google-discloses-costs-of-its-driverless-car-tests/1#.UKUWe4dlEuB

4) http://googleblog.blogspot.com/2014/04/the-latest-chapter-for-self-driving-car.html

Article Submitted by Metric Engineering, Inc. – Robert Mastascusa, P.E.

T I M TEAM WEBSITE!

www.swfltim.org

*The **Sarasota-Manatee County TIM Team** is committed to implementing the Quick Clearance principles of Florida's Open Roads Policy through the "3 Cs" of TIM: Communication, Cooperation and Coordination, and providing the public with the best real-time Motorist Information available. Team membership draws from state, regional, and local transportation agencies, public safety providers, and other organizations and companies that service the traveling public. The Teams, sponsored by the FDOT, meet bi-monthly.*

Mission

The TIM Team Program brings together all agencies involved in clearing the roadway crashes with the objective of improving detection, verification, response, and clearance times to expeditiously remove a motor vehicle crash or incident from the roadway while providing the best real-time information to motorists, resulting in a safer highway environment for both incident responders and motorists