TIM News

for Regional Transportation Operations

15th Annual Traffic Incident Management Partnering Workshop

ITS Michigan, the Michigan Department of Transportation, and SEMOCG have made the decision to move from an in-person part-nering workshop to a virtual event. We had planned for this event to be at Washtenaw Community College, but this facility is not available in May because of Covid restrictions. The virtual event was hosted by the Michigan Department of Transportation on a Microsoft Teams platform. ITS Michigan President Gary Piotrowicz, Deputy Managing Director of the Road Commission for Oakland County, welcomed the participants and opened the program.

COVID-19 Impacts on Transportation Operations

Chris Williams from SEMCOG outlined the changes in transportation operations resulting from the pandemic. The Covid-19 pandemic of the last year has changed the way we travel in Southeast Michigan. From where we are going, to when, and even how we are getting there, many aspects of our travel lives have been modified. Whether these changes are permanent or our existing travel patterns will return post-pandemic remains to be seen. What we have seen from new data sources is that, by and large, trips have shifted way from retail, restaurants, and workplaces and more people are staying home. This is largely due to the statewide *stay at home* to be sure, but in that time more people have been utilizing many of the regions park facilities.

With the decreased number of shopping and work trips, the amount of vehicle miles traveled across the region has also decreased. At the heights of the pandemic vehicle miles traveled across the region decreased by as much as 75% from levels in February 2020. Juxtaposed with the decrease in vehicle traffic has been an increase in pedestrian and cycling trips across the region. These increases in non-motorized travel remained high throughout 2020 from previous years and has continued in 2021 as well. Unfortunately, traffic fatalities (despite overall few traffic crashes) increased in 2020 from 2019. Ensuring safety and security of the transportation system amongst the many changes spurred by the pandemic is just one of a number of important issues planners have been working to address over the past year.

Clearing the AV Validation Hurdle

Marc Chaput from the American Center for Mobility at Willow Run stated that we are all anxious for the continued advancement of ADAS and Autonomous Vehicle technologies and for their affordable availability to the masses. What we are coming to understand is that these technologies are extremely complex, and industry is not close to having the operational challenges of AVs figured out. With over 29 companies developing AV systems, millions of miles are being driven, (many on public roads), but progress is till extremely slow. It is believed by some experts, that over Five Billion miles (225 years) will be required to demonstrate that an AV System can avoid crashes, injuries and fatalities better than human operators.

Closed test tracks allow for managed exposure to rare and extreme edge case events in a controlled, repeatable and safe environment. Adding in mixed reality simulation allow for significant acceleration of test activity, enabling 1 mile of closed track testing to achieve an equivalent of up to 5,000 on road miles. Combining simulation and closed track testing as a supplement to on road driving can significantly reduce development costs and the cycle time to validation. Closed track facilities also provide an ideal venue to demonstrate interoperability between AV manufacturers.

Role of the Traffic Reporter in Traffic Incident Management

Dennis Neubacher from WWJ Radio in Detroit related his experiences in reporting on traffic conditions as a broadcaster, a helicopter pilot, and an air ambulance responder. He has found MDOT staff to be very helpful in providing the information the public needs to navigate changing traffic conditions. He noted that approximately 40% of motorists get their traffic information via AM radio. Not every motorist uses computer aps to acquire real time traffic information and alternate routing when needed,

MDOT Operations and Safety Update

 MDOT Chief Operating Officer Tony Kratofil discussed Covid-19 impacts, traffic and crash trends, MDOT Rebuild Michigan projects, and the MDOT TSMO Program. During the pandemic traffic volumes decreased 10% to 15%, but traffic crashes increased. The National Safety Council estimates 42,600 fatalities in 2020. Michigan plans to use bond sales to invest in projects to rebuild I-275, I-496, I-69, I-94, US-23, I-196, and M-59 over the next 5 years.

 The MDOT Transportation Systems Management and Operations Program includes $50 M for operations, $21 M for ITS Capital, $19 M for ITS operations, $21 M for Safety Programs, and $19 M for Traffic Signal Modernization. Systems management projects will include the US-2 Truck Warning System, the I-94 Weather Warning System, and an I-96 Flex Lane from Kent Lake Road to I-696/I-275/M-5. It will also include the Michigan Avenue CAV Corridor Project.

MI Time Update

MDOT's Dawn Miller and St Clair County Sheriff Deputy Russ Nowinski discussed the program to train traffic incident responders to return home safely In 2019 there were 2737 emergency vehicles involved in traffic crashes. Michigan's goal is to have 50% of responders (16,278) trained by the end of 2022. Currently, 8566 responders are trained. To minimize the time responders are exposed to traffic on the road, responders have conducted measurements of a crash scene have used Total Stations and Unmanned Aerial Vehicle technology in place of tape measures. Traffic incident management training includes how to deploy traffic control, how to route traffic around an incident, and use of Unified Incident Command to coordinate the disciplines on the scene. Improved traffic incident management at the scene can reduce secondary crashes.

Applying Artificial Intelligence for Crash Prevention in Southern Nevada

Paul-Matthew Zamasky from Waycare and Lt John Arias for Nevada Highway Patrol talked about applying artificial intelligence for crash prevention in the Las Vegas area. They explained the joint operations with the Nevada Highway Patrol, the Nevada Department of Transportation, and the service patrol. Waycare is a cloud-based platform that processes different data sets and provides artificial intelligence solutions for proactive traffic management. The data used includes connected vehicle data (speed, braking, swerving, dash cam, crowd source, and vehicle sensors). It also includes third party data (weather, events, fleet telematics, probe data, smart work zone technology, and video analytics. Other data involved in the process includes Public API (Twitter, Waze, 511, GovDelivery, Lane Control, DMS boards. The infrastructure data includes sensors, ATMS, RWIS, Signal Controllers, and Bluetooth readers. Other sources include Computer Aided Dispatch (CAD), Automated Vehicle Locations (AVL), and Road Closures

In the first quarter of 2020 the TMC identified incidents 79% of the time from current sources and 21% of the time from Waycare. Waycare identified incidents 9.32 minutes faster and identified more incidents. The platform is GIS based and can be used on computers, tablets, and mobile devices. The platform allows the user to view, edit, and report incidents. It can see where other units are in the field, view cameras, and upload pictures or videos of the incident. Police use of the system in a high crash corridor found a 17% reduction in crashes and that 91% of speeding drivers reduced their speed.