

2018
Missouri State Employee Award of Distinction
Truck Mounted Attenuator (TMA) Flagger Team
Category: Safety
Nominated by: Brittany Goetz
Department of Transportation



Travis Teter
*Kansas City District
Maintenance Supervisor*



David Eppright
*Kansas City District
Maintenance Supervisor*



Russell Fisher
*Kansas City District
Maintenance Crew
Leader*



Chris Zurn
*Kansas City District
Equipment Technician
Supervisor*

Two flaggers were killed, a MoDOT employee and an employee working for a contractor, in a period of less than six months. Shortly after the death of the first flagger, Travis Teter, David Eppright, Russell Fisher and Chris Zurn began brainstorming and developing a concept that evolved into the TMA Flagger.

Initially, their goal was to create a safer work environment for flaggers, but in the process of evaluating the flagging process the team saw other opportunities as well. They quickly realized they might be able to create an automated flagger that would not only save lives, but also benefit the traveling public by making different elements of traffic and traffic control safer and more effective, while also making the process more efficient.

By rethinking the ***flagging process*** from the ground up, the MoDOT team began brainstorming and designing an automated flagger that:

- Removed flaggers from the road's surface, thereby eliminating the danger to the flagger from being injured by motorists;
- Used signage and equipment to alert drivers to the work zone including:
 - slow/stop paddles similar to signage on the sides of school buses, and

- flashing red and yellow signals similar to what drivers encountered at intersections with “lights”, and
 - a three color variable message board that could display large electronic signage like stop signs; and
- Allowed work to continue in harsh weather conditions when extreme heat or cold sometimes required human flaggers to postpone work or move traffic with frequent interruptions.

MoDOT combined all the equipment (described above) on a boat style trailer, which is pulled by a heavy duty fleet vehicle. An air horn and panic lights were installed and are only used when necessary.

Because MoDOT is the pioneer in the development of this type of vehicle, the Federal Highway Administration (FHWA) had to certify the TMA Flagger for road use before road testing could begin. Following numerous mandated modifications, FHWA permitted road testing but also required independent testing by a third party, which was conducted by the University of Missouri.

Since November 2016, MoDOT has utilized TMA Flaggers on the roadways of Missouri. Successful utilization of the prototype TMA Flaggers has led MoDOT to recently issue a request for proposal for the purchase of 44 TMA Flaggers that will be deployed across the state. The TMA Flagger has drawn the attention of industry leaders, FHWA, and other state highway departments around the country. This innovation was entered into MoDOT’s Innovation Challenge. It was the first innovation to win an award in all three categories since the start of the Innovation Challenge in 2017 the People’s Choice Award, the Director’s Award, and First Place in Tool and Equipment.

While the TMA Flagger was initially designed to save lives, it will also make MoDOT road work operations more efficient by facilitating the continuation of road projects when human flaggers would be removed from work zones due to extraordinarily hot or cold weather conditions.

The creation of the TMA Flagger illustrates how a small team of MoDOT employees motivated by a commitment to save the lives of their co-workers, contractors and traveling public invented a completely new device. They then took responsibility for shepherding their creation through a complex federal certification process, prototype testing, and ultimately adoption by the Department of Transportation for use on roads across Missouri, where it holds the promise of saving lives and making MoDOT more efficient for years to come.