

## July 2017 Director's Report

Hi, everyone! Hope you had a great and safe 4<sup>th</sup> of July. This unexpectedly turned out to be one of my most memorable. Although we had no specific plans and I spent a good chunk of the day working, an impromptu picnic on our deck turned into an impromptu bike ride with family and friends to see the West Des Moines fireworks show at Raccoon River Park, replete with group renditions of the national anthem, "God Bless America," and "God Bless the USA" as we rode home. There's something about gliding down the dark trails in the cool night air that brought out the kid in all of us. As any true Iowa DOT-er would, however, I made sure everyone had lights and helmets, wore my high-viz gear, and made sure the brightest and most visible were at the front and back of the pack. (Transportation and safe mobility never take a holiday.)

In that vein, it's fitting that some of our best and brightest ideas were on display this past month, and that many of them involved safety and safe mobility. Here's my report for July.

### Update on new license plate design

As I indicated in my March, 2017, report, Governor Branstad and then-Lt. Governor (and now Governor) Reynolds asked us last February to update the state's base license plate design, which has been the same since 1997. The plan was to develop a number of potential designs, and to then whittle those down to four or so designs that could be submitted to a public "jury" to let the public vote on their favorite to choose the final design, with the voting culminating during the state fair and being conducted via our web site and through our state fair booth and the Governor's fair booth.

As you may have seen in recent news reports, we are still on track to do this. Our Office of Strategic Communications, in collaboration with our Motor Vehicle Division, did a fantastic and creative job of developing at no cost a number of options that offer fresh, cool, and positive images for Iowa that still meet national license plate design standards, and we presented them to Governor Reynolds, who whittled them down to three different designs that will be presented to the public at the start of the Iowa State Fair.

Want to know what the three options look like? We can't tell you yet – that would spoil the surprise. But stay tuned! We're all customers and all entitled to a vote; we'll be sure to let you know when they are released.



*Image of us not showing you the three new license plate options until Iowa State Fair time. (Yes, that's a nod to DC Comic's "The Riddler." I'm not a DC guy, but it fit the sentiment of the moment.)*

Again, once a clear favorite is identified we expect to put the new plates into production sometime in calendar year 2018.

### Being blue makes us happy

As many of you know, in 2015 we started a pilot program to equip our plow trucks with rear facing white and blue lights. Our plow trucks were susceptible to being side-swiped or hit from behind while out plowing during winter storms, and research indicated that the blue and white lights were more visible and recognizable to drivers than the traditional amber lights our trucks were equipped with, and would help reduce these kind of crashes. Because the Iowa Code limited the use of white and blue lights to certain vehicles that did not include plow trucks, we had to get legislative approval in the Iowa Code to conduct the pilot program, which the legislature extended in the 2015 legislative session.



*Plow truck equipped with new white and blue rear facing lights as well as traditional amber light.*

We started the pilot program in late 2015, and by November 2015, all 170 plows in Highway District 1 (the central 12 counties, which includes the regions of Ft. Dodge, Ames, Marshalltown, and Des Moines) were equipped with rear-facing blue and white lights, in addition to the usual amber warning lights. We also equipped some trucks in other regions of the state with blue and white lights to improve safety in high-crash regions and to spread experience and driver recognition of blue/white/amber plow lights.

Since implementation, the results have been very positive. In the winter of 2014-2015, before we implemented the blue and white lights, District 1 plows were sideswiped or hit from the rear on average once every 2,801 hours of winter operation. In the next two winter seasons the crash rate for those type of crashes dramatically decreased, to one for every 8,321 hours of winter operation in 2015-2016 and one for every 8,813 hours of winter operation in 2016-2017.

The pilot program approved by the legislature allowed us to evaluate the performance of this lighting scheme over a period that expired in July, 2019. Because of the dramatic reduction in crashes that we experienced for vehicles equipped with these lights, we believe it would be better to shorten the pilot period and move to a full implementation across our plow truck fleet as soon as possible. This will take legislative action to end the pilot program and extend permission to use these lights on plow trucks permanently, so we are going to include this in the list of legislative proposals we submit to the Governor's office this fall for our 2018 legislative package. We think fully implementing this across the state will reduce crashes, increase driver and operator safety, reduce down time and costs associated with repairing vehicles that have been damaged, and increase our

capacity to meet our snow removal obligations. Great example of a smart and simple idea (vision!) helping us increase safe mobility (mission!). Many thanks to our teams in the Office of Maintenance, the Office of Traffic Operations, and the Systems Operations Bureau for making all this happen. We'll keep you posted on our progress with the legislative proposal.

### **Tooting our own horn for safety**

The team that helped us implement the pilot program for white and blue rear-facing lights on plow trucks investigated another idea that promises to help avoid crashes with our working vehicles. Many of our maintenance operations – like road painting – are slow moving operations that require vehicles equipped with traffic attenuator trailers to guide traffic safely around the work operation and protect our road crews.

Unfortunately, drivers sometimes don't pay attention as they should, with dangerous results – just recently, one of our maintenance vehicles that was part of a road painting crew on I-380 was hit from behind by a semi-truck. I'm glad to report there were no serious injuries, but unfortunately this type of crash is far from uncommon. It happened five times in 2015, six times in 2016 and three times already this year.

To help prevent these types of crashes in the future, staff in the Office of Maintenance and the Office of Traffic Operations investigated a solution being used in Missouri, in which attenuators are equipped with rear-facing warning systems (lights and audible warning signals) that the operator can sound to ward off a vehicle that is approaching dangerously from the rear. If a driver doesn't respond to our normal traffic devices (such as lighted arrows directing the driver to change lanes), the operator can initiate a warning light and warning sound to get the driver's attention before the vehicle gets too close – think of it like a rear facing-horn – much like we use a horn to warn other drivers of our approach and avoid crashes, these rear signals serve the same purpose. The Missouri DOT has had good luck with this solution, reporting that in the year since implemented, not one attenuator equipped with the warning system had been struck from the rear and that operators felt safer in their jobs when using vehicles equipped with the warning system. (We also observed that the systems appeared to calm traffic around work operations and encouraged other drivers to help the approaching driver move to another lane.) The systems are also easy to install and relatively inexpensive – about \$5000 per vehicle.

We currently have twelve road painting crews that would benefit from this added protection, so we are going to purchase and deploy yet this summer 12 audible warning systems (two per district) that will be mounted on traffic attenuator trailers used for slow moving operations like road painting. Much like the rear-facing blue and white lights, we think this will reduce crashes, increase driver and operator safety, reduce down time and costs associated with repairing vehicles that have been damaged, and increase our productivity. Sound the horn again for a smart and simple solution that increases safe mobility!

## New uniforms in Driver & Identification service centers and at Vehicle & Motor Carriers service counters



*Deb Muell, driver's license examiner in Council Bluffs, gives the new tops a thumbs up.*

The Motor Vehicle Division is piloting new uniform shirts for all of our Driver & Identification Services staff who work in our customer-facing service centers, as well as front office staff in the Office of Vehicle & Motor Carrier Services. The new uniform tops are from the same catalogue as the DOTWear many of us have, and will feature the same Iowa DOT logo as DOTWear. Staff wearing the shirts were given the opportunity to pick five short or long sleeve shirts in the colors of their choice; the shirts are a silk-touch performance polo that resist snags, wick moisture, and hold color and promise to be breathable, durable, and comfortable.

Shirts may not seem like a big deal, but they're actually an important part of meeting our goal of being *clean, clear, calm, convenient, consistent, comfortable, safe, and secure* in our customer service work environments.

When we set the goal of being *clear*, it captured the idea that where to go and what to do should be easy to understand, and included concepts such as removing obstacles that make it hard for us to see customers and for customers to see where they need to go, and choosing customer-facing service layouts so we can see and guide customers and not turn our backs to them. It also included the concept that customers should be able to clearly identify staff and staff should be able to clearly identify one another, which not only improves service but helps make us more safe and secure. The pilot will run to the end of the year so we can see how the shirts wear and perform before we make decisions about longer-term options. But so far the results have been promising. Thanks for trying this change on for size!

## Motor Vehicle Enforcement brings their shield back to their enforcement vehicles

In 2012 we worked with the Iowa Department of Public Safety to develop a common marking scheme for our Motor Vehicle Enforcement (MVE) vehicles and Iowa State Patrol (ISP) vehicles in an effort to establish "uniformity in appearance while retaining the individual identity of the respective institutions." This included adoption of door shields on the sides of our vehicles that resembled the ISP shield in shape and color, although labeled "Iowa State MVE." The thought was that this would improve safety by making it easier for motorists to recognize both MVE and ISP vehicles as enforcement vehicles that are relevant to them, which was expected to increase awareness and presence and positively affect driving behavior even in passing.

Although we are retaining the general appearance of our MVE vehicles, we decided to remove the door shields that resemble ISP shields and replace them with door shields that match the shields on our uniforms. Although the purpose of the earlier effort was laudable, we found that it remained a source of consternation for current and former troopers that felt strongly the shield was an emblem of ISP, and it was becoming an unnecessary distraction from our common goals of public safety. Replacing them with door shields that match our uniform shield will help each agency better “retain the individual identity of the respective institutions,” without sacrificing our appearance and recognition as state law enforcement officers and law enforcement vehicles.



*MVE vehicle with former door shields that resembled ISP door shields.*

We started this effort in late April and at this point all of our fleet has been changed over (at very low cost) thanks to the coordinated efforts of our MVE staff and vehicle fleet staff. You should be able to see the new “old” shields wherever you see our officers on the highway system. Give them a wave and a thumbs up when you see them – they’re an important part of the law enforcement community that makes up the safety net that blankets our state, and an important part of how we deliver our mission of safe mobility.



*MVE vehicle with new door shields that are the same as MVE uniform shields.*

## Smart environmental and cultural resource management

With over 9,400 lane miles of primary highways, there is a good chance that some of our right-of-way (ROW) is going to adjoin or cross some unusual and sensitive areas, like areas that contain cemeteries, endangered species habitat, or regulated materials (just to name a few). These areas are called “environmental hotspots” and many of them must be given special consideration or avoided when we are developing projects or working in their area.

The Office of Location and Environment (OLE) developed a smarter, simpler way to help us manage and maneuver these areas. It’s called an Environmental Hotspots Geographic Information Systems (GIS) layer. GIS is a system that captures, stores, manipulates, analyzes, manages, and presents spatial or geographic data. GIS has changed a lot of our business and today we have much better records of assets than we have in the past. In this use, OLE (not to be confused with Sven)<sup>1</sup> has included all of the cultural resources in this GIS layer and will be working in the future to add other environmental resources. This will make it much faster and easier for staff planning, designing or working on a project in a given area to see exactly where these resources are and make

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<sup>1</sup>Just checking to see if any Norwegian joke tellers are out there.

faster and better decisions about how to avoid or mitigate impacts to them. And, because it's a GIS layer, we combine it with other GIS data layers we or other have created to help us analyze and better understand specific areas throughout our system. The OLE team will begin sharing this information with other Iowa DOT staff over the coming months. Great work, OLE team!

Interested in learning more about how GIS can use GIS in your work? Contact Eric Abrams in our Office of Organizational Improvement at [Eric.Abrams@iowadot.us](mailto:Eric.Abrams@iowadot.us).

## Song of the Month



To continue the patriotic theme, this month's song is "American Pie" by Don McLean, as suggested by your own music-loving Iowa DOT management team. This song has it all for the Iowa DOT in July – driving Chevies to levies, references to Clear Lake, Iowa, and a star-spangled thumb on the cover of the album. This song also has special memories for me – it was the first song I learned all the way through on guitar that had more than three chords, and for some reason it's tradition in my family to sing it together in the van just before we get home from trips. A good reminder that safe mobility is personal, vital, and fun!

*Don McLean's  
thumb, circa 1971*

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Enjoy the rest of your July; before you know it the Iowa State Fair will be upon us and visions of license plates will be dancing in our heads. Until then, stay cool, stay hydrated, and stay safe in all that you do, in and out of work!

*Mark*