Tuesday, November 6, 2018, TxSTIC Meeting, Austin TX

Welcome and Introductory Remarks

Darran Anderson, TxDOT Director Strategy and Innovation

We started three years ago (in reference to STIC). Federal Highway Everyday Counts is at the state level. Purpose is to implement research at the national level to the state level. We are the 51st out of 52 to begin STIC. We work to avoid repeat research and bring completed TxDOT research to STIC.

Al Alonzi

STIC chartered in 2016 and this is the fifth round of Everyday Counts. TxSTIC recognized in the STIC Excellence Award, and we present this award to Darren Anderson and TxDOT.

TxSTIC Project Updates 2018

1. Accelerating Traffic Incident Management Data Collection – Jeff Kaufman, TTI

Looked into various agencies for information. Observed how data was collected and improvements that can be made. Focused on implementation of further researched.

Six data collection centers. There is a data break down on traffic incidents, which leads to the questions "what is going on?". Data comes from someone calling in an incident, and when it dispatches.

The Traffic Incident Timeline shown is consistent across the board.

There are two traffic incident data collection centers. Indicate how fast to clear incidents, and how long it lingers (indicating until nothing is there). The project better captures the second incident, in which how it is associated to the first incident. 20 percent of all highway incidents are second incidents. "How can we better combine data of both incidents?" There was little data in the Benefit-Cost Assessment of Incident Management Programs.

Waze- application that documents crashes and documents cops.

Google owns Waze. TxDOT receives Waze data. Waze data comes from the public's data coming is, shows lane closure, and is used for traffic as a whole. Kentucky 551 was replaced by Waze. Using this data will be tricky.

Florida SunGuide is the sister program to Texas LoneStar.

CAD – Computer Aided Dispatch. All information goas to law enforcement agency. Provides information on dispatch, clearing of roads, but it is not always reliable. It receives alerts for incidents and where it occurs.

TMC operator captures information, which can show areas of improvement. Heat maps show where the bad spots are.

Q: Where are we in drone managements?

A: City of Austin Police Department worked with drones. Drone flew for a few minutes and stitched 300 pictures together for a crime scene.

2. Road Weather Management – Weather-Savvy Roads – Kenneth Perrine, CTR

Project: Focused on times of bad weather and how to share data.

There are other types of emergency responses. Leads to the questions of: "What data resources are available? What sensing technology makes more sense in roadway?"

Prefer sensors with new capabilities, in which we consider price comparison. We need hardened equipment and sensors that have minimum dependability. This will benefit testing in Abilene. It must also fit with TxDOT information technical mode, to fit in the way TxDOT operates.

Data Fusion slide focuses on vehicle volume, vehicle speed and precipitation. Able to look at multiple incidents. This leads to the questions "What happens to speed when we know of the weather changes?".

We need to understand the reliability of theses sensors. Consider the overall cast and the cost of deployment, to justify purchasing. When it comes to demonstration of the sensors, important to consider "How can it be used?". There are new things to expect from this project. Have to consider the application of probability, such as "How many sensors are needed?"

Further questions to consider: "Where do the sensors fail? What are the sensors telling us?". Use the archive data for analysis and have more tools for informed decisions.

Q: from Al Alonzi – What is the analysis and consideration for comfortable sensors? What are the infrastructure needs? Who are installing these things?

A: Project focused on rural environment. Evaluate hard-wired forms of communication to broaden the capabilities. There is piling of information on what is needed to install these sensors.

Q: from Bryan Sims – How do we get this information to the public?

A: Best practice is VMS technologies. There is variable speed zone to vulnerable weather, which is information given to the public. Information can be given to workshop attendees. Many individuals use social networks. Some use Drive Texas. There are emerging technologies and a lot of creativity in these technologies to publicize information.

3. Data-Driven Safety Analysis– Robert Wunderlich, TTI

This project is sponsored by TxDOT and FHWA. It integrates the workings without undue burned. One goal is to make it simpler. Advice: Stay away from traffic and stay in your car if you are stranded.

Where are the hotspots? An important question in this project. In rural areas, crashed are more random. Characteristics of roadways for crashes are important. Rank locations on the

characteristics they have when it comes to likelihood of crashes. Development is increasing, which is an analytic job.

For rural areas, some noticeable factors is impairment and similar characteristics. In urban areas, noticeable factors are poor decisions and principal arterials over represented.

What we can take from this project: Safety concerns; narrows roadways research has merits. Every narrow 2-lane roadway that has 2000 vehicles per day are worth widening and adding rumble strips.

Effect of Skid Number on wet weather curve crashes – based on character lane curve; prioritize curves. "Where should I do it first?" Need a tool to do so.

No GIS maps pinpoint segments. There is great value to separate segments from intersections, which Beaumont District has a map to do so. Need to establish benchmarking and need statewide maps.

Data is not perfect. Go from having an idea to designing into a plan. "How is it to change?" Develop tools to conduct training and make them practical. Districts have a lot to do. Need to encourage safety and integrate without burden.

Q. from Darren Anderson - How is speed related to the roadway?

A: Severity of a crash relies on speed. Consequences go up when speed is accounted. "But do incidents go up?" Goes back to mitigation, in widening the trips.

Q. from Ashby Johnson – Aren't you waiting? Wouldn't FM roadways change the data?

A: Not going to compare FM roadways. Focus on comparing two lane segments. Biggest factor is volume of traffic.

Q. from Ashby Johnson – Will background reports be available to the public?

A. from James Kuhr – As published, yes it will be.

4. EDC 5 Introduction – Rocio Perez

Please communicate and collaborate ideas and projects.

5. EDC 5 Projects Overview – Kirk Fauver

Focusing on innovations and projects.

Project building- reference in building safety projects. Reduces umbers of contracts and time.

Reducing Rural Roadway Departures – systematic application implements safety. Focuses on building projects, implementation of proven countermeasure. It goes one step further of highway projects.

STEP- Benefits of proven safety. Boosts quality of life for pedestrians. Provides safer communities. Focuses on number of lanes pedestrians have to cross and improve markings.

UAS – Used for acid management and construction projects. Good for data on crash clearance. Use to determine how to deploy first responders.

Q. How to operate drones safely?

A. TxDOT Projects: They don't fly drones under bridges. Train on how to lower aircraft and document. Use the drones to measure highways and intersections.

Fritsch, DPS – As of last week we have 20 certified pilots. Ranges between rangers, highway patrol and criminal investigation. Highway patrol use it for charring roadway guidance. They need it to get photographers quicker and for mapping scenes. They have not deployed yet.

Jason Day – Oversees programs. Incidents will occur; there will be malfunctions and issues. Currently getting waivers and certified.

Returning to presentation: Virtual Public Involvement – such as videos (YouTube, social media). Provides tips of safety programs. Assists in state improvement programs.

Weather-Responsive Management Strategies – assists in safer roads, environmental stability. Informs the public and takes a step further (statewide).

6. Weather-Responsive Management Strategies – EDC5- Abderrahmane Maamar-Tayeb

Some focuses on the project is to observe the most for stress for first responders. Reducing the number of incidents also reduces stress.

Uses wireless communication to collect data.

Uses TxDOT fleets. There are dedicated vehicles for data. They spread network and utilize DPS as an example.

Stationary sensor measures the velocity and indicates closed lane.

Sand is uses for bad weather but it ends up in our rivers. Project helps in finding strategies to minimize it.

7. I-10 Western Corridor Update – Casey Wells

Project led by TTI. Goal is to improve safety. Identify methods of improvements for stakeholders.

Fleets extensive driving tests.

Bounce ideas with other DOTS. Pursuing members with Freight. Trying to pool in South Eastern states.

8. Wrong Way driving – John Gianotti

Projects looks into problems versus time of day.

Spikes are no longer MUTCD compliant- can only be safely driven over in low speeds.

Signage – easily to use. Not as effective for those under the influence or intoxicated.

Exit Ramp Countermeasures- Started at 20 percent reduction, now as gone to 25 and then 30 perfect reduction in Wrong Way Driving incidents. They can flash continuously at night. They flash when a wrong way driver detected.

Detection system – Sends a text, email and picture of the wrong way driver. Noticed a 3-5 minute lag between the 911 call and the radar detections.

Success story- Driver with family saw the Wrong Way Drive sign and changed lanes. Missed the wrong way driver and was safe.

2015, awarded National Roadway Safety Award. 1 of 10 awards given that year.

Q. from audience – What is the percentage of Wrong Way Drivers being either intoxicated or under the influence?

A. Estimates 70-80 percent. This includes those that are caught and they know of. 161 reports of Wrong Way Drivers. Just last night, 4 were notified. Luckily, no crashes were found. Those caught, a high percentage are DWI.

Q. from audience – What are the RPMs standard on ramps? What are the durability of illuminated RPMs?

A. There are vendors who sell solar-powered RPMs. Unsatisfied because the flash is all random. It has to flash at the same time. Maintenance is an issue, which hasn't been tried out.

Lunch

9. EDC-5 Summit Update – Al Alonzi

Passed the presentation to Carl. Reflects upon the EDC conference and projects discussed.

Crowd-sourcing – Information provided from the public. Helps in incident management. The faster they are informed of an incident, the faster it is cleared.

Weather Response Strategies – weather management. Revolves around flooding, snow, ice, etc. It is combined with crowd-sourcing. Helps in avoiding locations and not send drivers towards flooding, as an example.

Unman Aerial Systems (drones) – used for construction, incident management, traffic management, surveying and mapping. Provides pictures of landscaping.

Chain hydraulics – economic designs

Value Capture – focus is to have more funds for roads. Impact funds. Developers can get fees to improve roads.

Safe Transportation for Pedestrians – Pedestrians are the target in this project. Focus is to see pedestrians and keep them safe. Helps with distracted walkers, and focus on crosswalks.

"How are people not in this room looking at this?" – Find ways to save money and them. It will lead to less criticism, more understanding and more findings.

Q. from Jennifer Woodard – Using an example of the discussion of distracted driving? Crowd-sourcing – how is it reconciled?

A. Issues, receiving data while driving through cell phones. Don't do it. Goes to question "Am I providing to it or from me?" Both. It tracks where you are through your cell phone. Passengers can track data for you. But encourages drivers driving to not use cell phones.

Q. from Darren Anderson – Regarding expansion of the program Crowd-sourcing.

A. Before, we used to look at maps from the driving wheel. New mapping solutions are needed. Phone can be set up prior to leaving. It would be helpful to have voice interactive solutions (which has been requested). Need ways to use maps safe.

Cars have voice commands. This can send data notification and be transmitted.

Closing Remarks –

Darren Anderson – We need to make more of us aware of these projects and updates. Hope you all saw enough to think about it.

Al Alonzi – Please post research on our website!

Thanks for coming.

Meeting Adjourned!