

TRAFFIC INCIDENT MANAGEMENT FOR THE BALTIMORE REGION (TIMBR) COMMITTEE

Thursday, March 15, 2018

10 A.M. to Noon

State Highway Administration, Statewide Operations Center Training Room
7491 Connelley Drive, Hanover, Maryland 21076

MINUTES

1. PRESENTATION ON WAZE FOR INCIDENT DETECTION

A discussion on government agencies' involvement with Waze was brought up at the US 50 Western Shore FITM review meeting on January 19, 2018. Mr. Mark Franz, from UMD CATT Lab, presented his findings on using Waze data for incident detection to explore the application's capabilities and collaboration with local and state agencies to potentially benefit the public. The following key comments and questions were raised during this presentation:

- The CATT Lab has Waze data feed from 12 states that have data sharing contracts with Waze; Maryland is not one of them. The analysis for this work looked at data from California, Florida, and Virginia.
- Analyses show evaluation and benefits of Waze to improve traffic management. His analysis focused on crashes and disabled vehicles, as categorized in Waze.
- Crowd-sourced data has the potential to improve situational awareness and can be used in a historical way to address questions (e.g., "What was causing that anomaly?") to improve data processing that validate a reported incident.
- Average Waze events are reported 10 times more than the average DOT events. To establish credibility of reported incidents, most DOTs consolidate duplicates and filter out non-incident related occurrences (i.e., police activities, cars stopped on shoulders, etc.) and some states allow preference to reports completed by DOT employees. Dr. Franz demonstrated the process of filtering out duplications based on time and location to verify accuracy of the incident reported by Waze users.
- Waze and DOT Event data were processed and matched. The results provide a detection time analysis and any valid, unmatched Waze events provide increased situational awareness and coverage. Results showed that:
 - 40 to 50% of DOT crashes were matched to Waze crashes, showing that about half of crashes captured by DOTs were not captured by Waze.
 - 7 to 21% of crashes in Waze were matched to DOT crashes showing that DOTs may miss 80 to 90% of crashes.
 - In most cases, crashes were reported to Waze 3 to 4 minutes sooner than DOT incidents.

- a follow up task could be to split out notification time by roadway type and by time (peak vs. off peak).
- Maryland currently does not have an agreement with Waze so the data does not include feeds from Maryland's DOT. Localized DOT data is used to compare with Waze data. There is potential to supplement (i.e., not replace) traffic incident management systems.
- Waze does not identify secondary crashes.
- Waze does not indicate roadway truck restrictions.
- Waze captures events that DOTs miss but DOTs need to figure out how to manage all of the additional data.
- DOTs may not need to get data on disabled vehicles from Waze since they may not respond to disabled vehicles. However, since users classify incidents in Waze, the classification may not be accurate. One suggestion is for emergency patrols to have access to Waze disabled vehicle data to get advance notice of incidents on their routes.
- There is potential for Waze data to supplement DOT data but should be done carefully so operators do not get overwhelmed and get accurate data.
- A next step in this study is to look at false positives.
- Information on uses of Waze data:
 - Florida turnpike uses Waze data to get advance notification of incidents; they have 100% CCTV camera coverage so can verify the situation quickly.
 - New Jersey is looking at using Waze to help reduce cut through traffic.
 - Use clustering to identify secondary crashes.
 - Use Waze to identify incidents on alternate routes.
 - Port Authority of NY/NJ uses Waze data to support adding real time road closures.
- It was noted that Waze value to DOTs is that they often identify incidents before DOTs; the value of DOTs is that they know more quickly when an event is over.

2. DISCUSSION ON STATE AND LOCAL USE OF WAZE DATA

Ms. Eileen Singleton provided additional Waze Information and available programs. The following key comments and questions were discussed during this presentation:

- It was noted that there was difficulty in getting in touch with a Waze representative to obtain information about the app.
- A question was raised on how agencies can work with Waze to control or divert traffic. The Connected Citizens Program (CCP) encourages governments to feed public sector information such as long-term closures/road work, incidents, and planned special events to the Waze app. It was noted that the status of incidents or closing out an event may be delayed and can appear active for 30 minutes after the last interaction before they expire or are removed from the system.

- CCP participants are granted access to the listserv to chat with other CCP members, submit questions to Waze, and participate in monthly calls and regional in-person meetings.
- Waze accepts data in JSON format only. Real-time road closure data are updated automatically and future closures can be emailed 24 – 48 hours in advance.
- Update on CHART use of Waze and related comments:
 - CHART has not had issues with notification of incidents
 - CHART attempted to participate in the CCP in 2014, but CHART data is made available online in a different format than that needed by Waze.
 - Google maps takes in CHART data feed.
 - In 2016/2017, Waze contacted MDOT Office of IT because they were interested in getting data on potholes but that effort was not finalized.
 - In 2017, the MD Road Closure Reporter was developed by the SHA GIS office; there may be an agreement to receive Waze data but this data is not yet showing up in the Road Closure Reporter.
 - Currently, feeds into CATT Lab show events from Waze for MD, and do include level of confidence, but, since Maryland has not yet signed a CCP agreement, state agencies cannot see Waze data. Rick Dye is working to get the agreement signed so operators will soon be able to see Waze events in RITIS. Waze will likely get data directly and format will not be an issue.
- Question: can operators see Waze data on their desktops? Answer from Mr. Rick Dye: ultimately Waze data will feed into the CHART advanced traffic management system (ATMS) but there needs to be a filter because the public can see anything in ATMS.
- Waze data that is sent to agencies is above a set confidence level.
- It was noted that State Police barracks do not use RITIS, and some other agencies that would benefit from accessing Waze data also do not use RITIS, such as 911 centers.
- The issue was raised that if Waze asks for additional data from users, like pothole size, it may be unsafe for drivers to provide this information while driving.
- CATT Lab is archiving the Waze data.
- RITIS may be able to develop a way to see selected events.
- In response to a question about whether a local jurisdiction will be able to send/input a road closure to Waze once the state signs the CCP Agreement, Mr. Dye responded he would not know until he sees the Agreement.
- A question was raised on potential collaboration with Waze to direct traffic on specific routes, particularly to prevent truck traffic from traveling on restricted roadways. Currently Waze cannot distinguish between trucks or cars when people use the app for navigation.
- Waze offers a free Global Event Partner Program for large event venues.

- VDOT started using Waze 1.5 years ago (Waze data has been added to the 511 website) and is currently comparing how roadkill and potholes are reported to VDOT vs Waze.

Currently Waze does not have a way for users to classify the type of roadkill or the size of a pothole. This is critical for operators to know how urgent a response to the event needs to be.

- It was noted that incidents are generally reported to Waze before they are reported to 911. A suggestion was made to feed and integrate all valid Waze incident reports to the 911 system to improve traffic incident response times.
- Suggestion to try to use RITIS for local road closures; RITIS has an input tool that is in the test phase. There was a question about whether local road closure systems can export directly into RITIS.

3. STATE AND LOCAL TIM UPDATES

TIM Training – Workshop was held on December 7, 2017 from 10AM to 3PM at the Maritime Institute Conference Center. The meeting was targeted to trainers to increase the number of active trainers in Maryland. To date, 25% of TIM responders have been trained in Maryland; results can be broken down by discipline and by jurisdiction.

Incentive Tow Program – MSP gave positive feedback on the updated draft of the current towing program. It was noted that CHART would own the Heavy Duty Recovery program. The policy goal is to have a qualified list of towers (based on a set MDOT SHA criteria). The list would then be used by law enforcement to determine necessary roadway removal if thresholds are exceeded based on a scorecard-type of criteria analysis.

ACRS Update – 5th Edition is the latest version which added space to identify secondary crashes and lane closure durations. The secondary crash category has been moved up under “crash criteria.”

Recent and upcoming planned and special events -

- September 15, 2018: Susquehanna River Running Festival – Hatem Bridge will be closed for several hours.
- October 3-9, 2018: Fleet Week – Have held two meetings with the Transportation Grounds Support.
- November 4, 2018: Across the Bay 10K – EB span of Bay Bridge will close temporarily.
- Fort McHenry Tunnel Run: No date has been set yet for this event.

4. OTHER BUSINESS

The next meeting will be held June 6, 2018, at SHA offices in Hanover, Maryland. The meetings are typically held quarterly, on the first Wednesday of the Month. Below is the 2018 schedule:

- September 5, 2018
- December 5, 2018

The meeting adjourned at 12 P.M.

Members

T.J. Bathras, Maryland Transportation Authority
1/Sgt. Colin Bristow, Maryland State Police/CHART Liaison
Tina Bui, Daniel Consultants, Inc.
Mark Conklin, Anne Arundel Co Police
Steve Cohoon, Queen Anne's County
Joe Davis, Maryland Transit Administration
Rick Dye, State Highway Administration, CHART
Eugene Hampton, Maryland Transportation Authority
Mark Harris, Maryland Department of Transportation
Breck Jeffers, Federal Highway Administration, Maryland Division
Bill Johnson, State Highway Administration, Office of Maintenance
Shelley Kellam, State Highway Administration, CHART
Tanya King, Daniel Consultants, Inc.
Chris Letnaunchyn, Carroll Co Dept of Public Works
JJ Lynott, Maryland Transit Administration
Alvin Marquess, Jacobs Engineering Group
Roxane Mukai, Maryland Transportation Authority
Brian Mullin, Maryland Transportation Authority Police
Patty Murawski, State Highway Administration, CHART
Daivamani Sivasailam, Metropolitan Washington Council of Governments
Tom Tran, Daniel Consultants, Inc.
Todd Walker, Baltimore Co Police Dept
Scott Yinger, State Highway Administration, CHART

Staff

Eileen Singleton – Baltimore Metropolitan Council