UDOT Citizen Reporting Program

National Rural ITS Conference

August 26, 2014
The scariest part of this snowstorm is that it'll be cleaned up in time for work on Monday.

I wish it would snow so I could complain about the snow.

“I just love driving in the winter,” Said nobody, ever.

Let's bond over the periodic inconvenience of atmospheric precipitation.
There’s an App for That.

Outline

• UDOT Strategic Direction
• The UDOT Traffic Management Division
• Citizen Reporter Program
  – Pilot Year Goals and Lessons Learned
  – Current and Future Efforts
  – Training Plan
  – Project Evaluation
  – Reporter Feedback
UDOT Strategic Direction

- Preserve Infrastructure
- Optimize Mobility
- Zero Fatalities
- Strengthen the Economy
El Nino?!? Microburst?! Alberta Clipper?

LET'S STICK ONE OF THESE UP THERE AND SEE HOW MANY CALLS WE GET.
The goal of this Program is to allow trained Citizen Reporters to transmit road condition information (and possibly other information) to the UDOT TOC for inclusion into the TATS road reporting system.
Pilot Year

Public Information Messaging Triangle

What Happened?
What is Happening?

How does it affect me?
What does the public want to know?

What is UDOT doing to help solve the problem?

Source: WRTM CITE Course
WRTM CITE Course

Traffic and Weather Data Collection and Integration

WRTM rests on a foundation of good data. It relies on quality-checked, actionable data from multiple sources. It is hard to manage a system without adequate situational awareness of conditions. Six different categories of data are relevant to WRTM.

Mouse over each bullet for more information.

- Traffic Stream and Event Data
- Weather Data
- Pavement Condition Data
- Asset/Infrastructure Data
- Other Partner's Data
- Customer Feedback/Observation Data

Behavioral/Human Factors Analysis

Unless the content, format, and timing of available weather information is consistent with what travelers need, want, and will use, then such information may not be useful and—in certain situations—may even lead to reduced mobility, as well as unsafe driving decisions and behaviors.

Understanding how travelers consume and react to weather condition information is important to develop the right messages for the travelling public.

<table>
<thead>
<tr>
<th>TYPICAL IMPACTS</th>
<th>WEATHER EFFECTS (Percent reduction)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RAIN</td>
</tr>
<tr>
<td>Capacity</td>
<td>-4% to -30%</td>
</tr>
<tr>
<td>Volume</td>
<td>-20%</td>
</tr>
<tr>
<td>Speed at Capacity</td>
<td>-8% to -14%</td>
</tr>
<tr>
<td>Saturation Flow</td>
<td>-2% to -6%</td>
</tr>
</tbody>
</table>

Source: FHWA Report JPO-11-019

http://www.citeconsortium.org/registration.html
Logic

- **TI Mets** (Reports valid for 6 hours have an exponential decrease to 0% and report expires. TI Met reports are never more valuable than a TATS report if they are reported at the same time.)
- **TATS** (Reports valid for 1 hour then an exponential decrease to 6 hours when the report expires. TATS reports have priority for 1 hour after reporting and are not overwritten by any other type of reporter)
- **Citizen Reporters** (Reports valid for 3 hours and have an exponential decrease to 0% and report expires.)

Color that appears “on top” is the report that is used for the RYG (not including priority TATS report for 1 hour)

UDOT Weather Operations Program Data Input Sources

- Citizen Reporting Program
- RWS Instrumentation
- UDOT TOC Operator and TI Meteorologist Observations (Weather Cameras)
- TATS Reporting (UDOT Plow Crews)
I-15 Orem to Provo
Road Surface: snow covered
Weather: clear
Restrictions: none
Last Updated: 10/23/2013 3:08 PM
<table>
<thead>
<tr>
<th>Entry Time</th>
<th>Road Condition Time</th>
<th>Road Condition</th>
<th>Weather</th>
<th>Comments</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/25/2014 07:21:19.233</td>
<td>7/25/2014 7:00:00 AM</td>
<td>dry</td>
<td>clear</td>
<td></td>
<td>Not Helpful</td>
</tr>
<tr>
<td>08/05/2014 13:36:27.973</td>
<td>7/25/2014 1:36:00 PM</td>
<td>dry</td>
<td>overcast</td>
<td></td>
<td>Not Helpful</td>
</tr>
<tr>
<td>07/16/2014 17:41:41.037</td>
<td>7/16/2014 5:41:00 PM</td>
<td>dry</td>
<td>clear</td>
<td></td>
<td>Not Helpful</td>
</tr>
<tr>
<td>07/10/2014 22:52:06.177</td>
<td>7/10/2014 10:51:00 PM</td>
<td>wet</td>
<td>rain</td>
<td></td>
<td>Not Helpful</td>
</tr>
<tr>
<td>07/14/2014 17:15:38.547</td>
<td>7/14/2014 5:13:00 PM</td>
<td>wet</td>
<td>rain</td>
<td>Heavy at times with light hail</td>
<td>Not Helpful</td>
</tr>
<tr>
<td>07/14/2014 17:09:28.247</td>
<td>7/14/2014 5:07:00 PM</td>
<td>wet</td>
<td>rain</td>
<td>Heavy at times with light hail</td>
<td>Not Helpful</td>
</tr>
</tbody>
</table>
Training Program

- Introduction and Thank You
- Wyoming ECAR Program
- Reporter Selection Process/Criteria
- Program Goals
- Types of Road Users in Utah
- Safety!
- Type of Information to Report
- Definitions of Road Conditions
- Definitions of Weather Conditions
- UDOT Winter Operations information
- Driving Safe around Plows
- The Citizen Reporting app
The Reporting App
CRs reporting at least once

Reporting by Day of Week

- Dec (226)
- Jan (172)
- Feb (169)
Program Year Evaluation

Some Planned enhancements:
• Breaking up long segments
• Renaming segments for consistency
• Adding the ability to (have a passenger) submit a picture with the report
• Trusted reporter status
Program Year Evaluation

Citizen Reporter App Downloads
(Total 2301)

Reporters Signups by Day

Reports received by day

New UDOT program recruits citizen reporters

By Robert Trishman
December 8th, 2013 @ 10:46am

UDOT Citizen Reporter Training

The volunteers can be UDOT employees, law enforcement, truck drivers, people drivers, experienced commuters, or other volunteers. The long-term goal of adding citizen reporters to UDOT's weather operations road reporting is to supplement current condition reporting on segments where drivers are
Would you be interested in reporting road/weather conditions in neighbor states if the program were to expand to Wyoming and/or Nevada?

- Yes, that would be great: 35.71% (35)
- No, I don’t travel there: 58.16% (57)
- No, I don’t know the roads: 6.12% (6)

Do you like the way the routes are listed in the app?

- Yes, the routes are: 59.65% (53)
- No, the routes should be: 40.35% (36)

Total: 98

TRAFFIC MANAGEMENT DIVISION
**Reporter Survey**

**Have you viewed the UDOT Traffic app or website road/weather page to see your Citizen Reported data?**

- **Yes, it's cool to see my...**
  - 31.63% 31 responses
- **No, I didn't know it...**
  - 68.37% 67 responses

**If your answer to Question 7 was yes, what did you think of the Citizen Reported data on the UDOT Traffic app or website?**

- **It was accurate and...**
  - 68.75% 22 responses
- **It was hard to understand.**
  - 3.13% 1 response
- **I wish there was a...**
  - 28.13% 9 responses
- **It wasn't helpful because the information presented was too...**
  - 0.00% 0 responses

**Total**

*UDOT - utdot.utah.gov*
Have you mentioned the UDOT Citizen Reporter Program to your friends or family?

Answered: 98  Skipped: 0

<table>
<thead>
<tr>
<th>Answer Choices</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, and they signed up to...</td>
<td>10% 10</td>
</tr>
<tr>
<td>Yes, but they weren't...</td>
<td>43% 43</td>
</tr>
<tr>
<td>No, I didn't think to tell them, but I will now!</td>
<td>45% 45</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
</tr>
</tbody>
</table>
I live in Southern Utah and we don't get a lot of bad weather down here but when we do, this is a great resource. Thank you!

- It's a great app for doing our road reporting as plow drivers.
- I think it's a helpful app that could become a popular way for people to help others stay informed about road conditions.
- Need a small decal for my truck that states I'm a UDOT Citizen Reporter. It would be fun to have.
- Keep it coming. Neat program. It would be neat to have the results also in the app so you can post weather related issues but see them too from the app.
- Every observation counts.
- It is super easy and only takes a second.
- Keep doing what you're doing. The info posted helps in my 100 mile a day commute. Udot rocks.
- It is simple and easy to use. Please keep it that way.
- The information can be invaluable in areas that are not as frequently traveled.
- I think it's a great tool, so keep up the good work.
- Thank you for providing a way to help keep the roads safe.
FAQs

• Should I submit reports only when there is bad weather?
• What does UDOT do with the incoming data? What is it used for?
• What happens if I report incorrectly on purpose so a plow will come by my house more quickly?
• What if my friend wants to volunteer? Can they take the training?
• When will the program be expanded so I can report crashes and road debris?
Questions?

Lisa Miller
Utah Department of Transportation
Traveler Information Manager

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(801) 887-3761

Weather plays a role in 25% of all crashes.

The annual cost of weather-related crashes is $42 Billion.

On average, in weather-related crashes each year:
7,400 people are killed
629,000 people are injured.

Weather causes 25% of all non-recurring congestion delays.
The total delay is about 5 billion hours per year.

Source: WRTM CITE Course