Crowdsourced Maps and Data

Making Maps and Info Current with Crowdsourced Data Providers
Map Editing Communities

OpenStreetMap, Waze, and HERE Maps
OpenStreetMap

• Web Browser Editor
• GIS Desktop Editor
• ArcGIS Online
• Released 2006
Waze

- Web Browser Editor
- Proactive Community
- Great for Emergencies
- Syncs with Data Feed
- Released 2006
- Slack
- Discord
Waze Direct Communication
HERE

• Web Browser Editor
• Hosted Map Content
• Syncs with Data Feed
• Released 2012
Assistance From Citizens

Waze, Twitter, OpenStreetMaps, HERE, and CoCoRahs
Data Sources Being Collected

- HERE Traffic Speeds
- Waze Reports
- iCones Speeds
- Twitter
- KYMesonet
- CoCoRahs
- Doppler Radar
- TOC Reports
- TRIMARC Reports
- Snow Plows (AVL)
- Roadway Weather Stations
- County Activity Reports
- Dynamic Message Signs
- Truck Parking
KYTC “Big Data”

<table>
<thead>
<tr>
<th>Source</th>
<th>Records per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>HERE</td>
<td>2.5 billion</td>
</tr>
<tr>
<td>Waze Jams</td>
<td>128 million</td>
</tr>
<tr>
<td>Waze Incidents</td>
<td>180 million</td>
</tr>
<tr>
<td>AVL (Snow Plows)</td>
<td>175 million</td>
</tr>
<tr>
<td>All Others</td>
<td>123 million</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3.1 billion unique records</strong></td>
</tr>
</tbody>
</table>
Scenario: Incident Detection

Seeing Correlations Between Data
Incident Detection

- HERE Speed data being graphed, Cardinal and Non-Cardinal directions.
- Dots are where Waze users are reporting issues.
- The point in time where our TMC received notice about the event.

Detection script detects and reports an Incident.
Scenario: I-75 Snow and Ice

2016 Lessons Learned: Map Editors & Emergency Shelters
I-75: 30 miles, 3,000 people
Scenario: Eclipse

2017 Lessons Learned: Supported Routes & Situational Awareness
Eclipse: August 21, 2017
Eclipse: August 21, 2017
Scenario: Roadway Weather

2018 Social Media Call for Help
Response from Waze and Twitter

Waze: Flooding

Twitter: Trees
CoCoRahs: Certified Weather Reports
Waze vs AVL: Snow and Ice
Snow and Ice: Decision Support
QUESTIONS?

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