Real Time Data and Emergency Management

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TomTom Maps
Real Time: Yes, It’s about the map... and more
TomTom Maps: a leader in smart mapping

INTELLIGENT MAPMAKING

Hybrid approach that optimizes professional mapmaking through the use of community input from hundreds of millions of map users
MASTERING THE CLOSED LOOP

Incremental Updates

Map In Device

Continuously Releasable Map Database

Sensor & Report API

Transactional Mapmaking

Intelligent Mapmaking

Transaction Mapmaking Engine

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EMERGENCY MANAGEMENT CYCLE

- Mitigation
- Preparation
- Response
- Recovery
1. Hazard identification and assessment of risks and vulnerabilities;
2. Taking action to mitigate (reduce or prevent disaster effects); and
3. Telling the Best Practice story of how to mitigate.
Over 35% of drivers have admitted to experiencing an accident caused by sudden or unexpected traffic slowdown.

Jam ahead warning precisely locates the point where traffic slows dramatically.
Jam Tail Warnings: Blackspot detection

We collected the jam tails in Belgium for one week
Jam Tail Warnings: Blackspot detection

Just one week of data clearly shows the most dangerous locations on the road

SPATIAL ANALYST TOOLS
Use kernel density estimation to derive frequent jam tail locations

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PREPARATION

“Measure twice, cut once.”
Historical Speeds as a Travel Cost

- **Purpose:** Enables better time-specific route choices and more accurate ETA. More accurate drive time polygon creation.
- **Uses:** Operational and pre-event, planning, modeling. Pattern recognition. ETA calculation and route selection. Drive time analysis.

- Highways, urban and rural arterials and secondary roads
- Data specific for each 5-minute period of the day and each day of the week
- Drive times at peak traffic
Service Areas Based on Real World Data

San Diego Convention Center: Driving Time To 7:00 AM Thursday
RESPONSE

“ALERT!!!” to an event

Safety during times of crisis
Real-Time Traffic Data Source

Built on the largest community of live GPS devices
- Consumer PNDs
- Mobile apps
- Automotive
- Fleet

Plus:
- Detector loops & cameras
- Journalistic incident data
- IQ Routes (historic data)
Real-Time Status of Road Conditions During Sandy
RECOVERY

Where are the people?

Which neighborhoods are still evacuated?

Where are the danger zones?
CLOSURE DETECTION
It’s about multiple sources.

- Incidents moderated by a team of experts
- Available 24/7
- Access to a Traffic Moderation Tool to modify traffic incidents
- Access to Probe Data, Analyzing Tools and the Map Share Contributions

<table>
<thead>
<tr>
<th>Road closures by source</th>
<th>Germany</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-detected</td>
<td>748</td>
<td>66%</td>
</tr>
<tr>
<td>Map Share</td>
<td>147</td>
<td>13%</td>
</tr>
<tr>
<td>3rd party input</td>
<td>147</td>
<td>13%</td>
</tr>
<tr>
<td>Moderation</td>
<td>91</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,133</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Example of the effort from the moderation team; closed all involved roads in Taiwan after a gas line explosion.
EMERGENCY MANAGEMENT

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- Response
- Recovery

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Thank you!

Any questions?

Please visit TomTom at booth #216.