Bellevue Integration Dashboard for Traffic Incident Management

Fred Liang
ITS Manager
143,000 population
150,000 workforce
205 SCATS signals
Bellevue City Hall
911 NORCOM received an average of 5-10 traffic collision calls per day. Some are more serious that may lead to lane or roadway closures.
Incident Snapshots

- Approach Turn
- Pedestrian
- Right Angle
- Hitting a pole when snowing
More than 25% of non-recurring congestion is caused by traffic incidents (FHWA)
The Dashboard provides engineers a tool to manage incidents for immediate traffic response and quick recovery.
Integration of Technologies

API
Notification
Traffic Incident Management
GIS Map
Integration Dashboard
Integration of Technologies

- Traffic Incident Management
- GIS Map
- API Notification
- 360 Traffic Cameras
- Incident verification
Integration Dashboard

Norcom Integration Map: City of Bellevue

Bellevue 911 Responses
(Most Recent First)

Incident List

CLOSED: 2/6/2020, 7:32 AM
TA - BLVPD
Units Assigned: 7846
RAADAR Link

CLOSED: 2/6/2020, 9:26 PM
TA - BLVPD
Units Assigned: K95
RAADAR Link

CLOSED: 2/5/2020, 8:52 PM
TA - BLVPD
Units Assigned: 485
RAADAR Link

CLOSED: 2/5/2020, 8:39 PM
TA - BLVPD
Units Assigned: 3A8
RAADAR Link

CLOSED: 2/5/2020, 7:33 PM
TA - BLVPD
Units Assigned: 3A1
RAADAR Link

CLOSED: 2/5/2020, 5:56 PM
MWA - Aid Emergency - BFD
Units Assigned: E102
RAADAR Link

911 Communication Feed

Camera Feed

Incident Location

Call Type: TA/WA | All Status: Active/Pending | Time Range: 2 hrs | 24 hrs
Integration of Technologies
Site Graphics

TCS 204

4 STAGES

Site Operation

SCATS Unusual Congestion V6.8.30 - Connected to server - Updated: 11/13/2019 1240 PM

Site  | On-Prem Approach | Congestion - last 30 minutes | Dir Streets
--- | --- | --- | ---
204 15 | W Se 36th St | 42 Richards Rd, Se 36th St
204 13 | E I-90 Eb Off Ramp | 40 Richards Rd, Se 36th St
204 18 | S Richards Rd | 40 Richards Rd, Se 36th St
105 12 | S Richards Rd (No 1) | 39 Richards Rd & Eastgate Way
85 6 | S Richards Rd Fwy 1 | 16 Richards Rd Fwy P, Se 32nd St
Integration of Technologies

- Traffic timing adjustments
- Streets Support
- Police/Outreach Coordination

Traffic Incident Management
- GIS Map
- Notification
- Real Time Management
- Incident verification
- Monitoring

360 Traffic Cameras
SCATS Adaptive Signals
Integration of Technologies

- Traffic timing adjustments
- Streets Support
- Police/Outreach Coordination

Traffic Incident Management
GISM Map

API Notification
Real Time Management

Incident verification
Monitoring

360 Traffic Cameras
SCATS Adaptive Signals

Incident Archiving
Integration Dashboard

Norcom Integration Map City of Bellevue

Bellevue 911 Responses (Most Recent First)

CLOSED: 2/6/2020, 7:32 AM
TA: BVPD
Units Assigned: 7846
RAADAR Link

CLOSED: 2/6/2020, 9:28 PM
TA: BVPD
Units Assigned: K95
RAADAR Link

CLOSED: 2/5/2020, 8:52 PM
TA: BVPD
Units Assigned: 485
RAADAR Link

CLOSED: 2/5/2020, 8:39 PM
TA: BVPD
Units Assigned: 3A8
RAADAR Link

CLOSED: 2/5/2020, 7:33 PM
TA: BVPD
Units Assigned: 3A1
RAADAR Link

CLOSED: 2/5/2020, 5:58 PM
TA: BVPD
Units Assigned: K95
RAADAR Link

CLOSED: 2/5/2020, 5:37 PM
MVA - Aid Emergency - BFD
Units Assigned: E102
RAADAR Link

911 Communication Feed

Incident Location

Camera Feed

Incident List
Integration Dashboard

Traffic Condition Layer
A Real Example
11:35 am NORCOM 911 received an incident call from Factoria/SE 36th intersection
Verified by City camera
### Details from 911 call

<table>
<thead>
<tr>
<th>Time</th>
<th>Username</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:47:23</td>
<td>mwood</td>
<td>Narrative added from associated Call #: 61 - WHITE VAN INTO A TREE</td>
</tr>
<tr>
<td>11:47:23</td>
<td>lellott</td>
<td>RP WITNESS</td>
</tr>
<tr>
<td>11:47:21</td>
<td>lellott</td>
<td>UNK INJ, BOTH SUBJS OUT OF VEH</td>
</tr>
<tr>
<td>11:47:17</td>
<td>mwood</td>
<td>Narrative added from associated Call #: 61 - INJURY ACCIDENT</td>
</tr>
<tr>
<td>11:47:10</td>
<td>lellott</td>
<td>WHI VAN HIT A TREE</td>
</tr>
<tr>
<td>11:47:06</td>
<td>bmarshalek</td>
<td>Narrative added from associated Call #: 60 - ANOTHER CALLER WITNESS</td>
</tr>
<tr>
<td>11:46:59</td>
<td>astetz</td>
<td>Narrative added from associated Call #: 60 - THINKS SOMEONE IS INJ</td>
</tr>
<tr>
<td>11:46:58</td>
<td>lellott</td>
<td>BLOCKING SB RL ON FACTORIA BLVD</td>
</tr>
<tr>
<td>11:46:50</td>
<td>astetz</td>
<td>Narrative added from associated Call #: 60 - ONE VAN INTO POLE</td>
</tr>
<tr>
<td>11:46:39</td>
<td>astetz</td>
<td>Narrative added from associated Call #: 60 - RP IS PASSERBY</td>
</tr>
</tbody>
</table>
Hit a tree, Blocking and Injury
Monitoring Traffic

11:50 am  
Aid car arrived

11:53 am  
Police arrived
Noon Lanes closure set up
Traffic backing up Upstream
Confirmed by SCATS traffic signals
Making adjustments
Incident cleared at **13:27 pm** (Almost 2 hours)
Flushing the Traffic
Traffic cleared at 13:41 pm (Taking about 10-12 mins)
What Happened?
Archiving the incident

PPD Coal Creek SE 36

Wed Nov 13 2019 11:44:40
Received recognition from National Operations Center of Excellence for the Best Use of Management of Data to Improve Transportation Systems Management and Operations (TSMO)
Future Plan to use the same GIS platform

✓ To provide traffic signal timing information
✓ To provide travel time information
✓ To provide public interface for alert
✓ To provide weather information
✓ To integrate with third party applications
Questions/Comments