INRIX Services for Real-Time System Management Information Program (RTSMIP)

2011 National Rural ITS Conference

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Agenda

Real Time System Management Information Program
  o Overview
  o Requirements

INRIX Overview
  o Who We Are
  o What We Do
  o Service that align with RTMSIP

Questions and Discussion
RTSMIP – New Section 511, Title 23 CFR

• 23 CFR Part 511 effective December 23, 2010
• Interstates shall be completed no later than November 8, 2014
• State-designated metropolitan area routes of significance shall be completed no later than November 8, 2016
• Metropolitan areas (MSAs) greater than 1M population
RTSMIP – The Details

• Provisions for traffic and travel conditions reporting
  • Minimum requirements
    • Construction activities that close or reopen roadways or lanes
    • Roadway or lane blocking incidents
    • Roadway weather observations
      • Hazardous driving conditions and roadway or lane closures or blockages
    • Travel time information
    • Information accuracy
    • Information availability
  • May be established using:
    • Legacy monitoring mechanisms
    • A statewide incident reporting system
    • New monitoring mechanisms
    • Value-added information products
    • A combination of monitoring mechanisms and value-added information products
RTSMIP – The Details

• Timeliness of Information
  ➢ Construction & Incident information within 20 minutes – within 10 minutes in Metro Areas
  ➢ Adverse weather conditions within 20 minutes of observation
  ➢ Travel times within 10 minutes of calculation

• Quality measures
  ➢ Accuracy of 85%
  ➢ Availability of 90%
RTSMIP – The Details

• Data quality
  • States shall develop the methods by which data quality can be ensured
  • States shall receive FHWA’s concurrence that methods provide reasonable checks of the quality of the information made available

• Participation
  • Highway agencies
  • Public safety agencies
  • Transit operators
  • Other operating agencies necessary to sustain mobility

• Update of Regional ITS Architecture
  • Determine whether Regional ITS Architectures explicitly address real-time highway and transit information needs and the methods to meet such needs
  • If necessary, Regional ITS Architectures shall be updated to address coverage, monitoring systems, data fusion and archiving...

www.ops.fhwa.dot.gov/1201/
Who We Are

The Leading Provider of Traffic Information, Directions & Driver Services

• Powering traffic, navigation, and other in-car connected services for 120+ industry-leading customers
• Delivering real-time coverage across 20 countries including 1M+ miles in North America and 1M+ km throughout Europe
• Managing the largest traffic network in the world with real-time data from 5M+ GPS enabled vehicles and 400+ public & private sources
What We Do

Aggregate Content

Smart Driver Network
Aggregate traffic & related content from >400 sources

- Largest GPS Probe Network in the World
- Road Sensors & Other Traffic Flow Sources
- Traffic Incident Data
- Traffic Metadata to Enable Predictions
- Traffic Camera, Red Light Camera, Weather & Other Dynamic Content
- User Generated Content

Analyze & Process

Fusion Engine
Enhance data using advanced error detection advanced algorithms

- Real-Time Processing
- Predictive Modeling
- SpeedWaves Secondary Road Analysis

Deliver Solutions

Products & Services
Deliver traffic-powered data, apps and tools to customers via Connected & Broadcast Services

- Apps & Tools
- Directions & Driver Services
- Traffic Information

Connected Services
- Automotive
- Mobile
- Public Sector
- Fleet
- Internet & Media
GPS Probe Data Overview

The largest GPS probe vehicle network in the world with 5+ million vehicles/devices & billions of data points per month

- Billions of data points, average latency of <3 minutes, 24x7
- Majority of vehicles exclusive to INRIX
- Broad mix of vehicle/fleet types, driving patterns
- Constant data through day, particularly during commute hours

### Source Reporting Time % of GPS Data

<table>
<thead>
<tr>
<th>Source</th>
<th>Reporting Time</th>
<th>% of GPS Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Haul</td>
<td>24x7</td>
<td>15-20%</td>
</tr>
<tr>
<td>Delivery, Field Service, LTL</td>
<td>14x6</td>
<td>70-75%</td>
</tr>
<tr>
<td>Consumer Vehicles</td>
<td>24x7 Random</td>
<td>10-15%</td>
</tr>
</tbody>
</table>
Coverage – North America

- INRIX Total Fusion – 875,000+ miles
INRIXTraffic.US – What is it?
First Free Traffic Operations Service for Transportation Agencies Nationwide

- Over 600 agency personnel in over 45 states accessing the site
- Unique access to traffic flow data in cities, statewide & across state lines
  - Provides a complete, real-time picture of current traffic speeds and confidence parameter for 200,000+ miles of roads nationwide
  - Provides statewide and over-the-border views of traffic flow of value particularly in times of crisis or during heavy travel periods
- Used daily / weekly by most agencies
- Agencies say data reflects actual conditions and is useful to them
- Feedback received on suggested improvements
  - Updated base map to address some items
INRIXTraffic.US – Get Connected

• Public-private partnership available to all public sector agency staff and operations contractors

• Register at http://inrixtraffic.us/Register.aspx
  • Takes about 24 hours to approve your account, so it is not like signing up for a “regular” website.

• Please tell your partners – City, County, MPOs, fire, police, emergency management, etc.
INRIXTraffic.US – Coverage

- Real-time Flow – 200,000+ miles FREE to Agencies
INRIXTraffic.US Closures

Automated Process (XML Schema) Available
INRIX Incident Fusion
Multiple Sources with a Feedback Loop to ensure quality/accuracy

INRIX Journalistic Incidents

- Incident Sources
  - Commercial
  - Public Sector
  - Mobile App Users Crowd-Sourcing

- Incident
  - Discard
    - Duplicates
    - Verified false through traffic camera
    - “All Clear” by users

- Incident
  - User Verification
    - “Incident clear” or “Still there”

- Visual verification on traffic cameras

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Key Route Travel Times
Travel Time “Widgets” – NJDOT/Turnpike
INRIX Traffic app for iPhone, iPad, Android, & BB

www.inrixtraffic.com
User Generated Incidents
White Label Mobile Traffic Applications

• DOT-branded applications to help consumers avoid traffic
• Targeted commuter features to enable drivers to personalize their commutes and drive at times of lower demand
• MDK available to enable creation of DOT application with additional integrated functionality
Incident – Congestion Alerts

24/2113 incidents of delay larger than 10 minutes within 54.795,-70.291 to 12.93,-124.519

- Traffic congestion, average speed 10mph
  - Traffic congestion, average speed 10mph on I-81 NB between PA-315/Exit 175B and River St/Exit 184
  - Current delay 40 minutes, which is 39 minutes worse than normal for this time of day. 8.20 mile backup

- Traffic congestion, average speed 10mph
  - Traffic congestion, average speed 10mph on I-64 WB between US-15/Exit 136 and VA-618/Exit 129
  - Current delay 33 minutes, which is 33 minutes worse than normal for this time of day. 6.48 mile backup

- Accident, Right lane blocked
  - Stopped traffic on RT-422 EB from OAKS/EGYPT RD to RT-23 due to accident.
  - Right lane blocked
  - Current delay 28 minutes, which is 28 minutes worse than normal for this time of day. 4.04 mile backup

- Traffic congestion, average speed 5mph
  - Traffic congestion, average speed 5mph on US-422 EB between Egypt Rd and PA-363
  - Current delay 23 minutes, which is 23 minutes worse than normal for this time of day. 3.01 mile backup

- Traffic congestion, average speed 10mph
  - Traffic congestion, average speed 10mph on I-5 NB between Alondra Blvd and CA-19/Lakewood Blvd
  - Current delay 21 minutes, which is 10 minutes worse than normal for this time of day. 6.72 mile backup

- Traffic congestion, average speed 20mph
  - Traffic congestion, average speed 20mph on I-10 WB between Western Ave and National Blvd
  - Current delay 18 minutes, which is 7 minutes worse than normal for this time of day. 5.98 mile backup

- Traffic congestion, average speed 20mph
  - Traffic congestion, average speed 20mph on I-80 EB between PA-315/Exit 175B and River St/Exit 184
  - Current delay 15 minutes, which is 14 minutes worse than normal for this time of day. 4.93 mile backup
Incident – Congestion Alerts

-INRIX TRAFFIC - US-

19/423 incidents of delay larger than 5 minutes within 41.817,-72.922 to 39.314,-76.311

Traffic congestion, average speed 10mph
Traffic congestion, average speed 10mph on I-81 NB between PA-315/Exit 175B and US-11/Exit 180
Current delay 15 minutes, which is 15 minutes worse than normal for this time of day. 3.55 mile backup

Traffic congestion, average speed 10mph
Traffic congestion, average speed 10mph on I-278 EB between 6th Ave/Exit 20 and NY-27/Prospect Expwy/Exit 24
Current delay 11 minutes, which is 5 minutes worse than normal for this time of day. 2.75 mile backup

Traffic congestion, average speed 10mph
Traffic congestion, average speed 10mph on I-87 NB between 155th St/Macombs Dam Brg/Exit 5 and I-95/Cross Bronx Expwy/Exit 7
Current delay 11 minutes, which is 9 minutes worse than normal for this time of day. 2.12 mile backup

Traffic congestion, average speed 10mph
Traffic congestion, average speed 10mph on I-95 SB between I-678/Hutchinson River Pkwy/Exit 8 and 3rd Ave/Exit 3
Current delay 10 minutes, which is 6 minutes worse than normal for this time of day. 3.53 mile backup

Traffic congestion, average speed 5mph
Traffic congestion, average speed 5mph on I-278 EB between Bradley Ave/Exit 11 and Clove Rd/Exit 13
Current delay 10 minutes, which is 10 minutes worse than normal for this time of day. 1.27 mile backup

Accident(s). Two lanes blocked
In PHILADELPHIA stopped traffic on VINE ST. EXPRESSWAY (I-676) WB from 8TH ST to I-76 due to accident. two lanes blocked

Road construction. Right lane closed
8100 West Maple (1-2600-00) - 100 Feet - DOWNGRADE NB

Our Vision

Revolutionize the way people travel from place to place by providing the best traffic information and driver services.
THANK YOU!

Ted Trepanier
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