I-95 Corridor Coalition
Vehicle Probe Data Collection

Rick Schuman, INRIX
I-95 Corridor Coalition

- A partnership of transportation agencies from Maine to Florida with affiliates in Canada
- Formed in 1993
- Region has a $4.5 Trillion economy
- Model for interagency cooperation and coordination since the early 1990’s
- Volunteer organization
- Based on four “C’s”
  - Consensus
  - Cooperation
  - Coordination
  - Communication

http://www.i95coalition.org
Vehicle Probe Project

• From Request for Proposal:
  • “The Coalition is supporting a regional traffic monitoring system…
  • That acts as a continuous source of real-time transportation system status information within the Corridor.
  • A regional traffic monitoring system will serve as a rich source of traveler information and will provide invaluable inputs to existing and future management tools….
  • It is the intent of the Coalition to encourage innovative, non-invasive detection technology, while taking advantage of existing data where available.”
INRIX Role – For This Project

Aggregate Content

- Smart Dust Network
  - Aggregate traffic & related content from >350 sources
    - Largest GPS Probe Network in the World
    - 90% of Available Sensors in the US
    - Other Traffic Flow Sources
    - Traffic Incident Data
    - Traffic Metadata to Enable Predictions
    - Other Dynamic Content

Analyze & Process

- Fusion Engine
  - Enhance data using advanced error detection and advanced algorithms
    - Real-Time Historical & Predictive Traffic
    - Traffic-Influenced Routing
    - Information
    - Search

Deliver Solutions

- Connected Services
  - Distribute to customers via Connected & Broadcast Services
    - Automotive
    - Portable Navigation
    - Web
    - Mobile
    - Public Sector
    - Enterprise
    - Fleet
    - Broadcast Media

11/19/08
Project Highlights

Contract
• 3 years – options to 10 years
• Task Order contract with U of Md
• Member agencies can:
  o Expand coverage
  o Add source data
  o Access consulting services
  o Extend project duration

Core Task
• Traffic data feed
• Monitoring web site
• Data archive
• Coverage
  o ~1500 freeway miles
  o ~1000 arterial miles (donated to project)
Project Highlights (2)

Data Feed – XML Stream

- Content
  - Speed, Travel Time, Real-Time “Score”
  - Expected Speed, Free Flow Speed
- Road Segments
  - “TMC” location codes
- Update Rate/Latency
  - Agencies access ~ every 2 mins
- Per Project Interface Guide

Monitoring Site

- Agency access only
- View all data in real-time
- Pure browser-based
- Access to data archive

Costs

- Mobilization: $150/centerline mile
- Annual Fee: $750/centerline mile

Use terms

- Codified in Data Use Agreement (DUA)
- Full use rights for agencies
- All members see all coverage
- No redistribution to 3rd parties

[Image of I-95 Interface Guide]
**Project Requirements**

**RFP Requirements**

**What**
- Avg Error ± 10 MPH
- Avg Bias: ± 5 mph
- For 4 Bins: <30, 30-45, 45-60, >60 MPH
- Latency: ≤ 8 minutes
- Update Rate: ≤ 5 minutes
- Data Reliability: ≥ 95%
- Data Availability: ≥ 99%

**When**
- Flow > 500 VPH on a segment

**Where**
- Core Freeways, Expansions
- Not Core Arterials

**Validation Approach**

- Next Presentation…
Current Coverage
- Freeways: 2857 Centerline miles
- Arterials: 870 Centerline miles
- From NJ to NC
- ~ 9000 Road Segments

Data Access (to date)
- 8 agencies executed DUA
- 55 monitoring site users
- 9 data feed users

Availability since July 1
- Monitoring Site: 99.6%+
- Data Feed: 99.8%+

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Monitoring Site Snapshot

I-95 Traffic Monitoring

Traffic Settings
- Screen Settings
- Full Screen
- Center Map
  - Washington D.C.
- Traffic
  - Freeways
  - Arterials
- Legend
  - Free Flow
  - Moderate
  - Heavy
  - Slow and Go
  - Road Closed

Reload Map
Summary and Looking Forward

- **Breakthroughs/Models for Others**
  - Data and Performance Requirements
  - Proves Technology Approach – GPS Probe data viable
  - Multi-agency procurement
  - Broad coverage – using consistent location referencing
  - “Beyond border” coverage
  - Data Use Terms/Data Use Agreement
  - Validation Approach

- **Focus Going Forward**
  - Ongoing validation – improvements based on findings
  - Applications/Uses of Data
  - Project Expansion
    - North and South of current coverage area
    - Going deeper in coverage area
Project Team

• INRIX is Prime Contractor
• Additional Source Data Options
  • SpeedInfo
  • DTS
• Consulting Team
  • PBS&J (lead)
  • Enterinfo (MD MBE)
  • Open Roads
  • Tele Atlas
  • Berkeley Transportation Systems
  • U. of Washington Transportation Research Center
Contacts

Project Contacts

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Project Information

• www.i95coalition.org
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