I-95 Corridor Coalition

Vehicle Probe Project
Rick Schuman, Vice President, Public Sector

Maine DOT/Connecticut DOT
April 11, 2008
Agenda

- INRIX Overview
- Initial Task Overview
- Project Team/Options
Who We Are

The Leading Provider of Traffic Information

- Enabling traffic, navigation, and location-based services
- 50+ industry-leading customers and the largest industry market share

How We Differentiate

Broadest coverage
- 132+ metros of real-time flow data
- 110+ metros of real-time incident data
- 112,000+ road miles of real-time coverage in US, Canada and Europe

Highest Accuracy
- Unique fusion of traditional sensors and 800,000+ GPS-enabled vehicles

Innovative Dynamic Content
- Dynamic predictive traffic information
- New traffic-related services and solutions
What We Do

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 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

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INRIX Fusion Engine

Intelligently blends traffic and related data

Fusion Engine

Highly Accurate
- Computes average speed every minute for every road segment
- Dynamic system leveraging patented Bayesian analytical techniques
- Outlier detection & correction

Highly Flexible
- Architecture enables easy addition of new data suppliers / data types
- Supports unlimited variety of input formats

Smart Dust Network

- GPS Data point
- Loop Sensor
- Radar Sensor
- Statistical Outlier

Latency Weighting Function

Speed/mph

Time

X Minutes

Now
INRIX Traffic Flow Coverage

Coverage “Production” Coverage

Current “Pre-Production” Coverage
INRIX Traffic Flow Coverage

Coverage “Production” Coverage

Current “Pre-Production” Coverage
New England Coverage
Current Maine Coverage

~ 360 Centerline Miles of Coverage
Current Portland Coverage

~ 130 Centerline Miles of Coverage
INRIX currently covers all 357 freeway miles
Current Connecticut Coverage

~ 525 Centerline Miles of Coverage
INRIX currently covers 401 of 416 freeway miles (96%+).
Initial Task Overview
Initial Task Scope

- **Data Files**
  - Content
    - Real-time Speed, Travel Time, Confidence level
    - Expected Speed, Free Flow Speed
  - Road Segments
    - “TMC” location codes
  - Update Rate/Latency
    - Agencies access ~ every 2 mins
    - Up to date data returned via XML files

- **Monitoring Site**
  - Agency Access Only
  - View data in real-time
  - Access to data archive

- **Coverage**
  - ~ 1530 “freeway” miles (“fee”)
    - Subject to RFP performance metrics
  - <= 1000 arterial miles (“free”)
    - Arterial test bed

Map layers:
- Water Area
- State (Medium)
- Interstate Highway
- US Cities
  - Urban, Population
  - U.S. Capital
  - Over 250,000
  - Under 250,000
- Core System
  - Core System Freeways
  - Core System Arterials
- Other

Map scale: 0 30 60 90 Miles
Monitoring Site - Sample Visualization

- Site centers on State accessing it
- State dropdown lists coalition States
  - Select state to pan to it
- Panning and zooming control
- Select all roads, only freeways or only arterials for display
- TMC details bubble shown on specific segment click

View:
- All Roads
- Freeways Only
- Arterials Only

State: Maryland

TMC: 110P04769
- Speed: 53
- Travel time: 98
- Exp. Speed: 64
- Ref. Speed: 65
- Operations: Normal
- Quality: High
TMC Location Codes

- **TMC** = “Traffic Message Channel”
- Tele Atlas and Navteq jointly created and maintain/expand a common set of codes
  - Uniform way of identifying “where” on the major roads in the U.S.
  - Leverages approach first taken in Europe
- Segments basically are:
  - Freeways/limited access roads: at and between interchanges, boundaries, toll plazas
  - Arterials: between other major arterials, freeways, boundaries
Coverage

- Core Task and NJ Expansion Coverage Finalized
- Any expansion coverage defined by April 30 can go live with Core coverage

Documentation

- Data Access, Format, Location Referencing
- Draft submitted to Coalition April 1
- Possibly a “Webinar” in May to review in detail

Monitoring Site

- Requirements completed by end of March
- Demonstration at I-95 CC Annual Meeting, May 12-13
Project Team/Options
Team

- INRIX is Prime Contractor
- Data Options – Additional source data
  - SpeedInfo
  - DTS
  - *Note: agency sensor data always welcomed!*
- Consulting Team
  - PBS&J (lead)
  - Enterinfo (MD minority firm)
  - Open Roads
  - Tele Atlas
  - Berkeley Transportation Systems
  - U. of Washington Transportation Research Center
SpeedInfo Role

• Maker/operator of low cost radar sensor network
• Agencies can task us to add sensors to project
  • Optional enhancement
  • Agencies pick how many and where
• SpeedInfo O&M’s the sensors
  • $200/month per sensor to SpeedInfo
• All resulting data added to the dust network
DTS Role

- Leader in traffic count station consulting, O&M
- Have statewide contracts for VDOT and FDOT
  - Have converted VDOT count stations to “dual-use”
  - This contract makes VDOT terms available to Coalition/members
- Options for agencies to build, upgrade count stations to get data to us
**Consulting Services Team**

**RFP Requirements**
- Offerors shall provide consulting services to...
- Consulting Services will be provided solely on an indefinite-delivery, indefinite-quantity basis...
- Such services may encompass but are not limited to:
  - Integration
  - GIS
  - Web site
  - Analysis Tools

**PBS&J**
- Lead Consultant
- Strong in all areas

**Open Roads Consulting**
- Integration of feeds
- ATMS and ATIS experience

**EnterInfo (MD DBE)**
- System integration and testing
- GIS
- Website development

**Berkeley Transportation Systems**
- Decision support systems
- Traffic forecasting

**Tele Atlas**
- TMC code assistance

**UW TRAC**
- Overall traffic data and travel time advisor/national expert
- Decision support
- Performance measures

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Options for Utilizing Contract

DATA
- **Coverage Expansion**
  - “Core” states adding coverage
  - New states adding coverage
  - Per mile costs: $150 startup, $750 annual
- **Adding Source Data**
  - SpeedInfo sensors
  - DTS – add/upgrade count stations
  - Add data to existing coverage
- **Additional Data Feeds**
  - Slowdown Alerts
  - Weather Alerts
  - Incidents

CONSULTING
- Applications planning
- System design/development
- Integration
- GIS
- Applications
- Data Analysis
- Evaluation
- Etc.

If interested, contact Rick, Stan, Bill, Phil or Karen (We will coordinate)