Traffic Data Across The USA and On a Major Corridor
Session C3: Data - How, When and Why

Pete Costello, INRIX
September 4, 2008
NRITS
Agenda

• The Problem
• A Little History
• I-95 Corridor Coalition Vehicle Probe Project
The Problem - 2005
The Problem - 2008
The Problem – Not Much Change
Let There Be Light
Agenda

• The Problem
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• I-95 Corridor Coalition Vehicle Probe Project
Traf-O-Data

• A partnership between Bill Gates, Paul Allen and Paul Gilbert
  • The objective was to read the raw data from roadway traffic counters and create useful reports for traffic engineers
Microsoft Sidewalk

December 28, 1997

Real-time traffic information

Looking for traffic (or how to avoid it)? You've come to the right place.

Plan your commute with Trafficview.

Commuter Information
- Road Construction Update
- Pass Report
- Metro Transit
- Pierce Transit
- Washington State Ferries
- Amtrak Schedules
- Smart Trek

For more options try
- Search Sidewalk

Freeway trip times for Matthew

Traveling from Front St. on I-90 to Madison St. on I-5

Fastest Route:
- I-90 W to I-5
- I-5 N to destination

Distance: 17.6 miles
Est. Freeway Time: 18 minutes
Average Speed: 59 MPH
GPS Probe Network

Over 1B usable GPS data points per month, 500K every 15 minutes
What We Do

**Aggregate Content**

- Smart Dust Network

**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

**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
800,000 miles of Coverage
INRIX Key Customers

**Channels**
- Portable Navigation
- Automotive
- Mobile Devices
- Web Portals & Broadcast Media
- Public Sector
- Fleet & Enterprise

**Key Customers**
- BMW
- ATX
- MINI
- Ford
- SIEMENS VDO
- VOLVO
- Mercedes-Benz
- BELL SOUTHERN
- Telmap
- telenav
- RAND McNALLY
- NOKIA
- Sprint
- eMbiene
- PHAROS
- Microsoft
- ANWB
- MAPQUEST
- Autodesk
- Clear Channel
- WSI
- Autodesk
- deCarta
- Xora
- TCS
- Telogis
- Click Software

*Others not announced*
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What We Do – For This Project

Aggregate Content

Analyse & Process

Deliver Solutions

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**Enhance** data using advanced error detection, advanced algorithms

- Real-Time Traffic
- Traffic-Influenced Routing
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**Distribute to customers via Connected & Broadcast Services**

- Automotive
- Portable Navigation
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- Public Sector
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Other Traffic Flow Sources

Other Dynamic Content
Project Overview

Contract

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

Core Task

- Traffic data feed
- Monitoring web site
- Coverage
  - ~1500 freeway miles
  - ~1000 arterial miles (donated to project)
Project Highlights

Data Feed – XML Stream

- Content
  - Speed, Travel Time, Confidence level
  - Expected Speed, Free Flow Speed
- Road Segments
  - “TMC” location codes
- Update Rate/Latency
  - Agencies access ~ every 2 mins

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
- Full use rights for agencies
- All members see all coverage
- No redistribution to 3rd parties
Data Validation

**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

**Approach**

- July – Sept Core Task Validation
- U. of Maryland conducting Validation tests now
- Expansions: Agency Option
  - U of Md – same approach
  - 3rd Party – same approach
  - No Validation
Project Monitoring Site

http://i95.inrix.com
Project Draws Nationwide Media Attention

**Economist.com**

**COMPUTERWORLD**

**PC MAGAZINE**

**TECHNORIDE**

**THE WALL STREET JOURNAL.**

**USA TODAY**

**GPD will help drivers go more with traffic flow**

By Larry Copeland, USA TODAY

The most ambitious use of technology to combat traffic congestion debuts next month along one of the nation’s most clogged arteries and could become a model duplicated throughout the USA.

Drivers on Interstate 95 from New Jersey to North Carolina will have access to real-time information on traffic flows, crashes and travel time to help them anticipate delays.

The data will be collected from more than 800,000 Global Positioning System (GPS) devices on delivery vans, trucks, taxis and other service vehicles from sensors embedded in the roadways, from toll tag data such as EZ Pass, and from cellphones.

The information will be sent within three minutes to state transportation departments that will then alert drivers via road signs, 511 phone systems, mobile alerts and via the Internet. The system will enable officials to get more detailed information to a broader audience.

"Real-time information is critical to drivers, not only in terms of what’s going on but also in terms of providing alternative solutions," says James Ray of the Federal Highway Administration.

FIND MORE STORIES IN: Washington | Internet | Florida | New Jersey | North Carolina | Maine | East Coast | American Civil Liberties Union | Global Positioning System | Texas A&M University | Federal Highway Administration | MapQuest | Texas Transportation Institute | Garmin | TomTom | EZ Pass | James Ray | I-95 Corridor Coalition

Each year congestion costs $76 billion in delays and wasted fuel, according to a September report from the Texas Transportation Institute, a research arm of Texas A&M University.
Thank You!

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