Using Automated Data Collection to Make Better Transportation Planning Decisions

Nikki Foletta

April 17th, 2014
Benefits of Automatically Collected Data

More Comprehensive
Higher Accuracy
Better Decisions
Lower Cost
EXAMPLES (TRADITIONAL VS BIG DATA)

Floating Car Speed Surveys

Cell Phone, Fleet and Road Sensor Data
REAL TIME SPEED DATA – CONGESTION

Current Total Coverage: North America - 951,677 miles; Europe - 800,597 miles

Traffic Flow Type
- Show Traffic
- Real-Time
- Real-Time/Core
- Total Flow (including predictive)
- National Traffic
- Free Flow
- Key Routes

Roads With Traffic
- Interstate/Class 1
- Highway/Class 2
- Arterial/Class 3

Color Roads with:
- Congestion
- Speed
- Comparative Speed

Incidents
- Accident/Alert
- Events
- Construction
- Weather Alerts
- Congestion Alerts
- User Reported Alerts

Connected Driver Services
- Fuel Services
- Traffic Cameras
- Parking Services
- Weather Conditions
- Weather Radar

Last Update: 5:34 - 47 PM
EXAMPLES (TRADITIONAL VS BIG DATA)

On-Board Transit Surveys

In-Vehicle Technology
5 Fulton Reliability
PM period (4 PM to 7 PM)

Source: SFMTA bus AVL data from May 2012. GIS analysis tool developed by Fehr & Peers

Average Speed

StDev of Travel Time

Reliability
EXAMPLES (TRADITIONAL VS BIG DATA)

License Plate
O-D Mailer
Surveys

Cell Phone Data,
Vehicle Fleet Data

Outmodedville

BIG DATA
CITY
Origin Destination Data
EXAMPLES (TRADITIONAL VS BIG DATA)

Parking Occupancy Counts

Parking Management Systems Data
Automatically Collected Bike Volume Data

- **Weekday Auto Volumes**
- **Weekday Bike Volumes**

The graph shows the average bike volume data collected over the course of a day, with peaks during certain hours.
Thank you!

Nikki Foletta
@nfoletta
n.foletta@fehrandpeers.com
### Automatic Vehicle Location Data

#### Westbound

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### Reliability

#### Graphical Representation

- **AM**: Shows the reliability at different times.
- **Midday**: Represents reliability during midday hours.
- **School**: Indicates reliability during school hours.
- **PM**: Displays reliability for the afternoon.
- **Evening**: Shows reliability during the evening.
- **Night**: Represents reliability during the night.

The table and graph provide a comprehensive view of vehicular location and reliability data across various streets and times.