Lessons Learned in the U.S. about Collecting, Using, and Delivering Freight System Performance Information in a Big Data World

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Introduction

• Large amounts of data are being generated
  – Ever growing thanks to new technology

• Public & Private sectors can provide many useful services with that data

• How do we help those services get built?
What We’ve Learned

• We are all in this together
  – Public agencies
  – Private technology service providers
  – Terminals
  – Shippers
  – Individual truckers
What We’ve Learned

• Partnerships are important
  – Required!
  – Public and private cooperation is needed

• Partnerships work when everyone wins
  – A losing partner stops participating
  – Remember this
Public & Private Sectors
Think Differently

- Return on investment
- Regional coverage
- National markets

- Political & constituent support
- Operation of specific facilities
- Regional policy goals
- Social equity
BUT....

- Public & Private Sectors both want to provide useful, information that improves freight movement
Lesson Learned

• We need to understand and respect these differences in motivations in order to work together
Lesson Learned

• What I see as valuable may not have the same value to you
  – This is true in both directions

  – The geographic scale at which outcomes must work
Moving Forward

• Information services (public or private) need information to provide (i.e., data)

• So sharing data is key to the public/private partnership
Big Data World

- Most of the new data sources are non-traditional in format
  - Vehicle probes versus fixed sensors
  - Monitored behavior versus surveys
Lesson Learned

- Most of the non-traditional data comes to us as a secondary use
  - It is collected for another purpose, but can be used for additional purposes, or transformed into a different statistic
Lesson Learned

- We always use the **Best Available Data**
Lesson Learned

• Creating new uses for data requires creativity – and salesmanship
Lesson Learned

• Secondary use of data carries risk for the provider

• Depending on it also carries risk to the user of the secondary provider
  – It could go away
  – This use is of secondary importance
Why Salesmanship?

- Collection of many new data items requires consent
  - GPS data
  - Electronic transaction data

- Consent occurs when value >> cost
Why Salesmanship?

• Secondary use can change the perception of "risk"

• Which can change the willingness to participate in the primary use

• So companies must be convinced to share their data
Lesson Learned

- Perception is more important than reality
  - Is privacy being violated?
  - Are company secrets being violated?
  - Is company trust being violated?

If secondary use changes these perceptions, then \( \text{Value} < \text{Cost} \) to the participant.
Lessons Learned

• Understand real and perceived risks to the participants

• Develop creative ways to lower those (perceived) risks
Lesson Learned

• Also increase (and sell) the benefit (value) side of sharing data.
Examples

• No speeding tickets can be issued from point-to-point travel times from CVISN tags

• Origin/destination travel times will be reported only at the traffic analysis zone level
Value Increase Example

- If trucking firms want to have their concerns raised up the project selection ranking, they need to share data
  - Given the previous safeguards
Lesson Learned

• The proposed project must make business sense

• Private sector
  – Does it make money?

• Public sector
  – Is it within my core responsibilities?
Public Interest vs Private Interest

Agency Mission

Crucial

Control Systems (VMS)

(HAR)

Data Fusion

6 Year Transportation Improvement Plan

Individual Driver Route Guidance

Private Business Opportunity

Private

Large

Modest

Less Critical

Public

Private Interest

Crucial

Less Critical

Control Systems (VMS)

(HAR)

Snow Pass Line

Customized Travel Assistance

Call In

Individual Driver Route Guidance
OneBusAway

• Sometimes agency priorities change

• Who leads this change?
Summary

• We need win/win/win propositions
• Data sharing needs to be viewed positively from each participant’s perspective
• Creativity and salesmanship are needed to develop and sell ideas
• Perception is often more important than reality