## The Changing Roles and Responsibilities of the Public and Private Sectors in ITS Deployments





Getting Information to the Public – When the DeLorean hits 88mph ITS Georgia Annual Meeting September 28, 2015



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## Back to the Future...for Real

How You'll "Drive'

**Nalmart** 

#### The '68 CARS-We Pick 13 Winners



Q

• '68 Outboard

Popular

MAKE YOUR-• Provincial Desk New Ways of Communicating

- Ever Changing Technology
- Impact of "Big Data"
- Impact of Social Media
- Communications Must be:
  - Timely,
  - Reliable,
  - Actionable and
  - Consistent.





## Impact of Data/Technology

**Lines of Code** 

400K

5M

5M

24M

45M

61M

100M

120M

- Space Shuttle –
- Mars Curiosity Rover –
- World of Warcraft –
- F-35 Fighter Jet –
- MS Office 2013-
- Facebook –
- Car Software –
- Mouse DNA –

Source: informationisbeautiful.net (David McCandless)



hispaphikapator knowledge is begutif

## **DRIP (Data Rich Information Poor)**



# INRIX Movement Intelligence Network North America, Spring 2010



Examples of 15-Minute Real-Time Snapshots



# INRIX Movement Intelligence Network North America, Spring 2014



Examples of 15-Minute Real-Time Snapshots



#### **Technology Adoption Rates**

#### Telephone – 75 years Smartphone – 10 years



#### TEN MEGATRENDS



#### Growth of Urbanization



#### Congestion & the Economy



#### The Crowd & Big Data



#### The Cloud



Safety



#### Autonomous Driving



**Cooperative Road Networks** 



#### **Connected Devices**



#### **Connected Cars**



#### In-Car Infotainment/HMI



## GROWTH OF URBANIZATION

Population of urban areas

# Now 2050

INRIX UN Department of Economics & Social Affairs (ESA), 2011

#### GROWTH OF URBANIZATION

#### 1980 2011 2025

INRIX



UN Department of Economics & Social Affairs (ESA), 2011

## COST OF CONGESTION

Annual hours wasted per driver

Los Angeles

59-

**Brussels** 

82-

55 \$231 \$200 2013 2020 2030

Paris

**US\$ Billions** 

\$291

US/UK/DE/FR



#### CONNECTED DEVICES





## CONNECTED DEVICES

## 1.5 billion smartphone subscribers globally



INRIX



#### **State of the State**

- \$3.6 Trillion Cost to Improve Infrastructure
- Need \$170 B/year to improve roadway conditions (currently ~\$90B/year)



#### **Declining Gas Tax Value**

#### THE DECLINING VALUE OF THE FEDERAL GAS TAX



The Century Foundation, 2015

Oregon Zoo

BRIDI EMILE

ARCID'S A

BYP

#### Public vs. Private Continuum



## Public vs. Private Continuum

Portland



#### MOBILITY

TINDERHAND

LAND ACCESS

#### Interstate

- Highest mobility
- Low degree of access

#### Principal and Minor Arterials High mobility Lower accessibility

#### Major and Minor Collectors balance between mobility and access

Local Roads = Lower mobility = High degree of



## Public vs. Private Continuum

Public

Private

Public



## **Public Sector Role**

"Serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future."

USDOT, 2015





## **Focus on Strengths**

- Public
  - Policy/Standards
  - Major Infrastructure
  - Steward of Public Funds
- Private
  - Personalization
  - Adaptability/Scalability
  - Revenue Generation





## The Law of Unintended Consequences: Autonomous Vehicle Edition

- Will AVs really reduce traffic/VMT?
  - Pick up/drop-off kids at school
  - Pick up/drop off parents at doctor's offices/shopping/etc.
  - Quick shopping trip? Why park? Have car drive around the block waiting for you.
  - Expensive workplace parking? Have car drop you off/pick you back up.
- Combined with electric/hybrid vehicles

VMT 🕇 Gas Tax \$ 🖊

How are we going to address this from a policy standpoint?







## **Case Studies**

- Real Time Operations Management
- Full Multi-Modal Traveler Information
   BMW i3 17 markets
- National Origin-Destination Analyses
- Real Time Volumes
- Energy Applications







#### **Case Study: Incident detection: Indiana** (Indiana DOT/Purdue) – "Game Changing Fidelity"



http://youtu.be/5eFwSBGZkqI



## **Incident detection: Iowa**



## **Incident detection: Iowa**



## **Thank You!**

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