DATA & the Real World

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Why Do We Care About DATA?

Top Data Management Issues

Data Systems

Real World Implications & Demands

Wrap-Up
WHY DO WE CARE ABOUT DATA?

DATA
CLEARLY
DEFINE ISSUES
AND
OPTIONS

Data enables us to justify solutions

Data creates new answers and solutions

Data driven solutions are supportable
TOP DATA MANAGEMENT ISSUES

Policies to manage data (Privacy and Access)

Vast amounts of potential data

Data Systems
THE FIVE V’S

• Volume
• Velocity
• Variety
• Veracity
• Value
DATA POLICIES

Agreements to Share Data Regionally

Access to Public and Private Data

Common Data Formats

Approved Data Usages
DATA SYSTEMS - COLLECTION

Traditional Sensors

IOT / Edge

Vehicle Based (CV/CAV)

Emerging Technologies

Cameras

Wi-Fi / Bluetooth

Radar / Lidar

NRITS
DATA SYSTEMS – TRANSPORT NETWORKS

- Twisted Copper Pairs
- Fiber Optic Cables
- Wireless
  - Cellular
  - Microwave
  - Wi-Fi
  - Bluetooth
  - P2P Radios
  - Satellite
- Dedicated Short Range Radio (DSRC)
DATA SYSTEMS - USAGE

- Storage
  - Local vs Cloud

- Hardware
  - Processing Power Needs

- Software
  - Management
  - Sorting and Screening

- Analytics
  - Server
  - Cloud
  - Edge
REAL WORLD IMPLICATIONS

Current Uses
- ITS
- Traffic Operations
- Active Monitoring

New Demands
- System Sharing
- Smart Cities
- C/A Vehicles
- TNC’s
NEW DEMANDS - SHARING THE TRANSPORTATION SYSTEM

“Transportation Management Networks will provide the fundamental foundation communication layer for Data Sharing, V2X connections, and significant real-time traffic data acquisition and sharing” - USDOT
USDOT - Technology convergence will revolutionize transportation, dramatically improving safety and mobility while reducing costs and environmental impacts.

Benefits:
- Order of magnitude safety improvements
- Reduced congestion
- Reduced emissions and use of fossil fuels
- Improved access to jobs and services
- Reduced transportation costs for gov’t and users
- Improved accessibility and mobility

Connected Vehicles
Vehicle Automation
Internet of Things
Machine Learning
Big Data
Mobility As A Service (MAAS)

Connected-Automated Vehicles

Smart Cities
DATA ARCHITECTURE TEMPLATE
WRAP-UP

Real-Time Data Solutions

- Find Partners
- Define Policies
- Build a Strong, Adaptable Infrastructure Solution
- Know Your Part of the Mission
- Know What You Have & STOMP!
STOMP YOUR NETWORK!

- Standardize
- Technology
- Operations
- Maintenance
- Policy
gbaSI Network Services
- Network Architecture
- IT Coordination
- Wireless Systems
- Internet of Things (IOT)
- Security

gbaSI Design Services
- Systems Infrastructure
- Asset Management
- Master Planning
- Innovation
- Modernization

gbaSI Integration Services
- Management & Operations
- Switches & Routers
- Programming
- IOT Edge Devices
- Install & Config
- Control Systems

gbaSI Integration Services
- Traffic Operations
- Systems Engineering
- TSMO
- C/AV
- Analytics

Applied Tech Group
- Traffic Operations
- Systems Engineering
- TSMO
- C/AV
- Analytics

SMART Training
- IMSA
- Fiber Optics
- TSMO

Want to know more?

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