**Using Big Data to Improve Traffic Operations**

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**What is Big Data?**

An accumulation of data that is too large and complex for processing by traditional database management tools. *Merriam-Webster*

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**So What Are We Doing?**

- Data Collection & Information Dissemination
  - Analyzing Data
  - Adjusting Operations
  - Keeping An Eye On The Horizon

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**Data Collection & Information Dissemination**

- Expanded to 5 RTMC’s
- 4 operate 24/7
- Coverage of all 12,222 CL miles of MP routes
- Expanded probe data coverage to all MP routes (2018)
Information Dissemination – Traveler Info

23 CFR 511
• Real-Time System Management Information Program

So What Are We Doing?
Analyzing Data

Analyzing Data – Crash Data

Analyzing Data – TIM Reporting

ALGO Reports
Analyzing Data – TIM Reporting
ALGO Reports

Analyzing Data – ITS Device Reporting
ALGO Reports

Analyzing Data – ASAP Routes

Analyzing Data – Congestion
7/8/18

So What Are We Doing?

Adjusting Operations
Adjusting Operations - ASAP

ASAP
• Growth/Expansion
• Peak Hour Staging
• Route Overlaps

Adjusting Operations - RTMC

RTMC
• Growth/Expansion
• Geographical Coverage Areas
  – Next man up
• Reduced Incident Clearance Times
  – Automatic Incident Detection

Adjusting Operations

Needs Based Budgets
• RTMC needs
  – Staffing
  – Equipment
• SSP needs
  – Staffing
  – Equipment

Adjusting Operations - Traffic Signals

Automated Traffic Signal Performance Measures

Adjusting Operations - Traffic Signals

Smart Work Zone I-20/59 Tuscaloosa

• Real-time management
  – RVD, PTZ, PCMS, Bluetooth Travel Time
  – Alternate route suggestion
  – Queue warnings
So What Are We Doing?

Keeping an eye on the horizon

- Vehicle 2 Vehicle (V2V)
- Vehicle 2 Infrastructure (V2I)

V2V

V2I

Big Data on Wheels
100,000,000

Data from Connected Cars

On The Horizon - CAV
Infrastructure Needs?

• Signage/Striping
• RSU’s (Cellular or DSRC)

Questions?

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