HPMS Draft Reassessment Conclusion (UPDATE)

FHWA Highway Information Seminar
Arlington, VA
November 16, 2017
The Question

• Is 18.5 Cents per gallon enough to support the surface transportation needs for the United States?
A view of Data at FHWA

- **Framework**
  - ARNOLD
  - Roads HPMS
  - Structures NBI

- **Asset**
  - Operations FAF NHFN
  - Infrastructure Highway and Bridge Conditions

- **Impact**
  - Safety MIRE FARS CPM

- **Program**
  - Projects FMIS
Office Organizational Chart

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Reassessment Approach

- Position Papers
  - WHY HPMS data items are needed (key uses, legislation)
  - WHAT is needed
  - HOW it will be collected and accomplished

- DOT Regional Meetings
  - Identify and Discuss
    - Challenges
    - Risks
    - Opportunities

- Recommendations
  - HPMS changes to meet requirements
  - Based on Requirements and DOT Feedback

- HPMS Data Model & Final Report
  - Supports FHWA and DOT Missions
  - Supports the flexible design of HPMS to reduce burden to states
Partner Feedback
Overarching Concepts

• Think Incremental
• Think Alternative Source
• Think Raw
• Think Automation
• Think one to many
Bridge and Pavement

Pavement analysis requires exclusion of highway segments on Bridges

HPMS Should include the Structure ID required on Interstate, NHS, and Samples
Additional Structure IDs at the State’s option.
Options to report Pavement attributes as Dual Carriageway

Transportation Performance Measure PM2
**Freight**

Establish the National Highway Freight Network (NHFN)

HPMS will identify the NHFN as a Data Item. The authority rests with FHWA using ARNOLD as a base framework. ARNOLD Maturity to support routing on the NHFN

Supports the National Freight Program referenced in the FAST Act.
Safety

Geolocate Crashes
Need a place for data used in Safety Analysis

- Add MIRE Fundamental Data Elements as Data Items
- Add Intersection Data Elements (The goal is to remove HERS Specific Data Items)

Highway Safety Improvement Program (Map-21)
Highway Economic Requirements System (HERS)

Need to Support the HERS Model

National Sample of 15,000 to 20,000 Samples.
NHS Sample.
Alternative source on several data items as appropriate.

Needs Assessment through the Condition and Performance Report
Mature ARNOLD

- Dual Carriageway Representation
- Topology Routing
- Connectivity at State Borders

- Base geometry as well as the LRS layer
- Model recommendation for Intersections

- Safety
- Freight
- Bridge Location

- Data Integration
- Bridge Location
- Traffic Counter Location
- Highway Project Location
Alternative Source

- Need to fill missing data
- Reduce Data Collection Burden
- Increase Consistency

- Build Matrix of Potential Alternate Source Opportunities
- Establish source Metadata, Assessment Criteria, Confidence Levels

- Data Areas where State DOTs are not impacted by the results and must have the Authority
  - Highway Economic Requirements System (HERS)
  - Model Inventory of Roadway Elements (MIRE)
Incremental/Transactions

- Supports Partial Submittal
- More efficient processing and storage
- Temporal analysis
- Streamlined workflow

- Date Banding

- This is and will always be optional for State reporting
Questions / Comments?

42
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Story from Vancouver
Timeline

• John Formby, Alabama DOT
• Karl Buck, Wisconsin DOT
Let’s Talk about...

- Lane Width
- Year of Last Construction
- Turn Lanes
- Percent Green Time
- Widening
- Potential/Obstructions
Thank you