



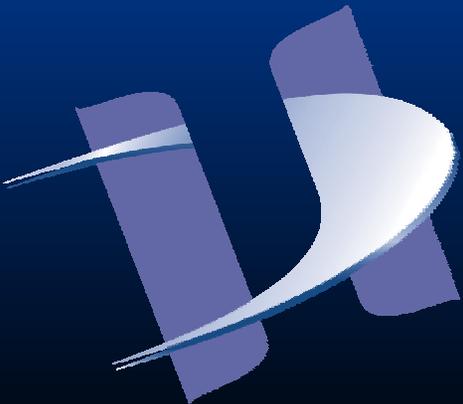
# Data Integration for Asset Management - US Perspectives

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**Federal Highway Administration**



**N. American Travel Monitoring Exhibit and Conference  
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# Outline

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- **Overview of Asset Management**
- **The Role of Data Integration in AM**
- **State of Practice in the US**
- **Issues and Challenges**
- **FHWA Activities**
- **Conclusion**



# Overview of Asset Management

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## What is Asset Management?

**“A Strategic Approach to Managing  
Transportation Infrastructure”**

*or*

**“Getting the Best Results/Performance for  
the Preservation, Improvement and  
Operation of Infrastructure Assets Given  
the Resources Available”**



# Overview of Asset Management

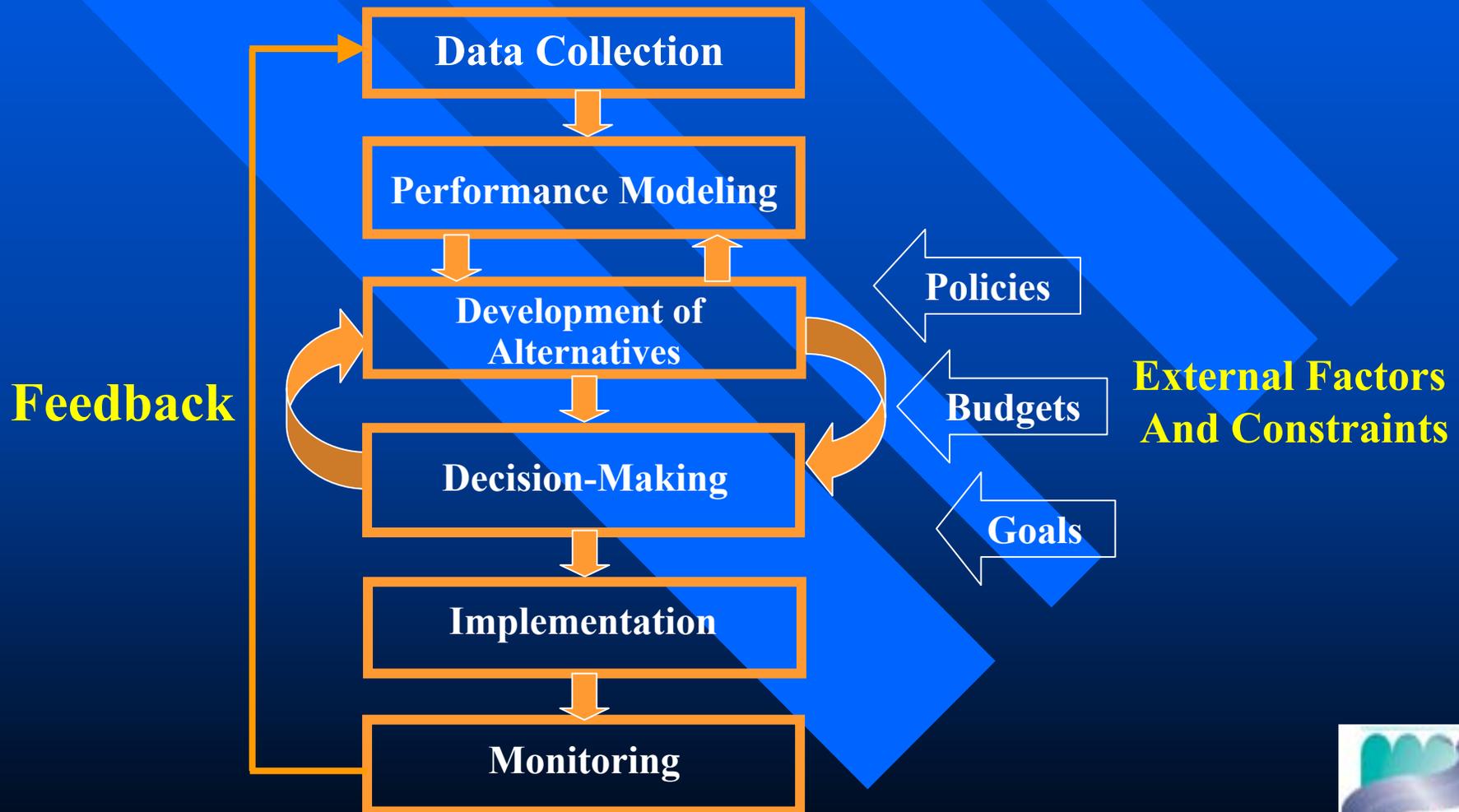
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## Key Elements

- **Decision-Making Framework**
- **Planning Horizon**
- **Analytical Tools**
- **Performance Goals**
- **Information and Data**
- **Communication Processes**

# Overview of Asset Management

## Asset Management Process



# Role of Data Integration in AM

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## What is Data Integration?

**Process of combining or linking two or more data sets from different sources to facilitate data sharing, promote effective data gathering and analysis, and support overall information management activities in an organization.**

*(Source: Data Integration Primer, FHWA Office of Asset Management)*

# Role of Data Integration in AM

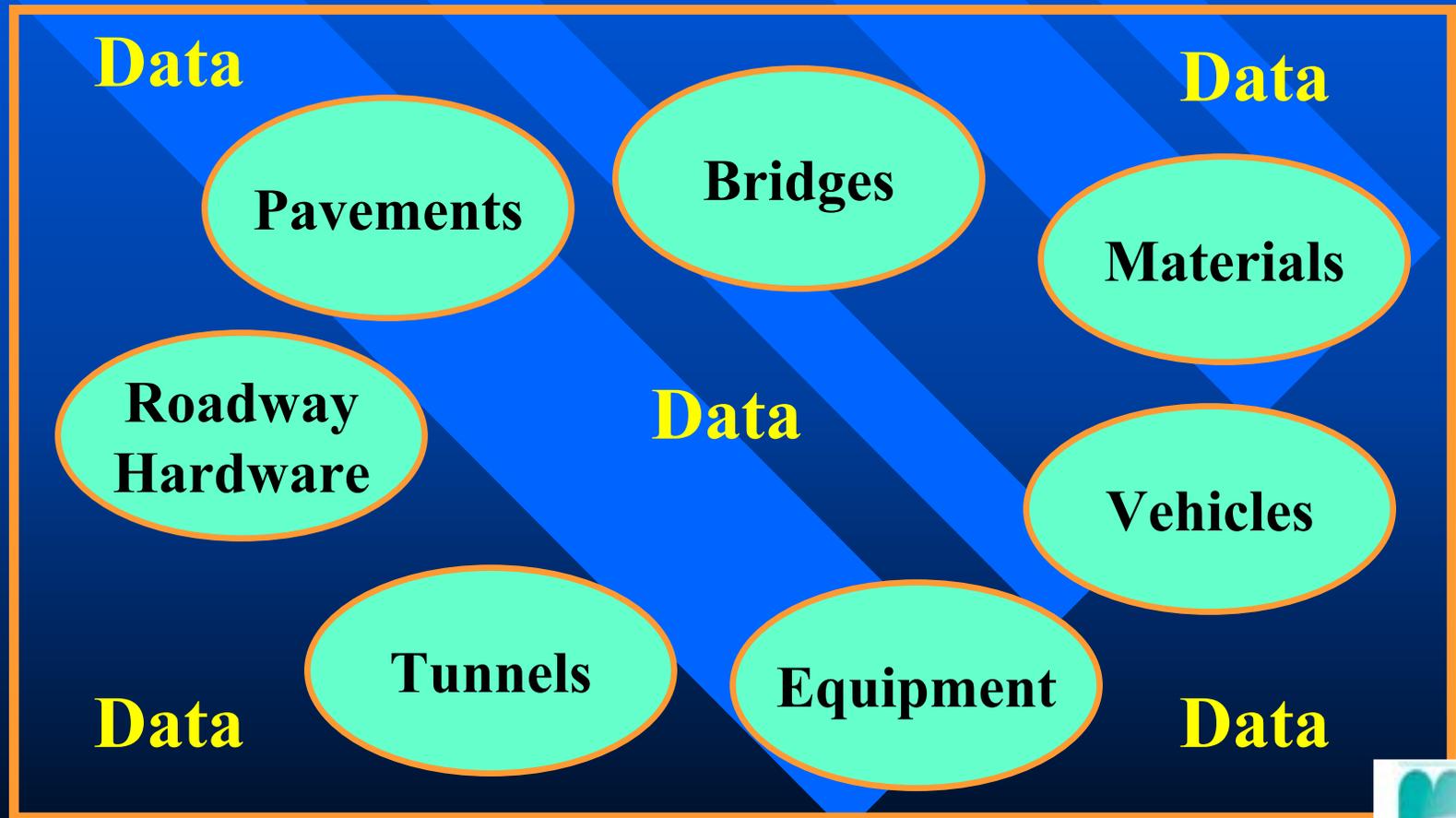
## AM Communication Requirements

- **Transmits information quickly and effectively**
- **Allows vertical/horizontal flow of data**
- **Uses comprehensive information**
- **Provides common, consolidated data to all users**



# Role of Data Integration in AM

## Highway Assets



# Role of Data Integration in AM

Data for each asset type and element:

- **Physical Inventory/Features**
- **Condition and Performance**
- **Traffic Volume/Usage**
- **Costs (Agency and User)**
- **Maintenance/Repair History**

Need to be integrated to allow trade-off comparisons and other analyses.

# Role of Data Integration in AM

## AM System Framework



# State of Practice in US

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- **Comprehensive AM uncommon**
- **Agencies have different DI requirements**
- **Many need more info, guidance**
  - **What data? What aspect of AM?**
  - **How? Which technology?**
  - **Success Stories and Lessons Learned**
- **Measures of Success**
- **Technical and Organizational Challenges**
- **Influence of GASB 34**

# Issues and Challenges

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- **Legacy Data/Systems – The Stovepipes**
- **Integration Architecture/Strategy**
- **Data Interoperability/Standardization**
- **Data Management Technology**
- **Location Referencing**
- **People/Organizational Culture**
- **Integrated Decision-Making**

# FHWA Activities

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## AM Data Integration Program

- **Case Studies and Best Practice Reports**
- **Informative Materials**
  - Data Integration Primer/Glossary
  - Research Results
- **Innovative Tools**
- **Training, Education and Outreach**
  - Workshops/Peer Exchange
  - Websites and Discussion Groups



# FHWA Activities

## AM Data Integration Program

- **Partnerships with Industry**
  - AASHTO Task Force on AM
  - TRB Task Force on AM -- Data Sub-group
  - TRB Committees (Data, Info. Systems, etc.)
  - Other Public/Private Entities including Universities, International Organizations
- **Long-Term Research/Assistance Plan**
  - State Working Group

# Conclusion

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## The Payoff

- **Accessibility/Availability/Timeliness**
- **Quality/Consistency/Redundancy**
- **Comprehensiveness**
- **Integrated Decision-Making**
- **Reduced Storage Requirements**

# Contact Info

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