



Best Practices For Asset Management

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Outline

- **Principles of Transportation AM**
- **Importance of AM**
- **Tools and Techniques**
- **Status Report**
- **The Role of FHWA**
- **Conclusion**



Asset Management Principles

Definition

“A strategic approach to the optimal allocation of resources for the management, operation and preservation of transportation infrastructure ”



Asset Management Principles

Asset Base

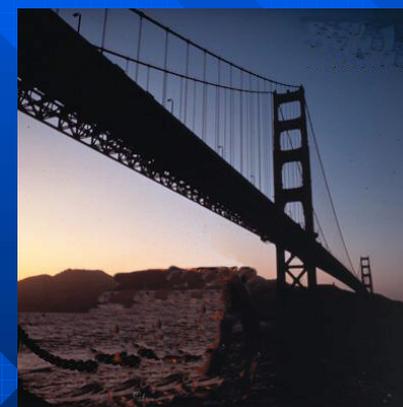
Physical Resources



Asset Management Principles

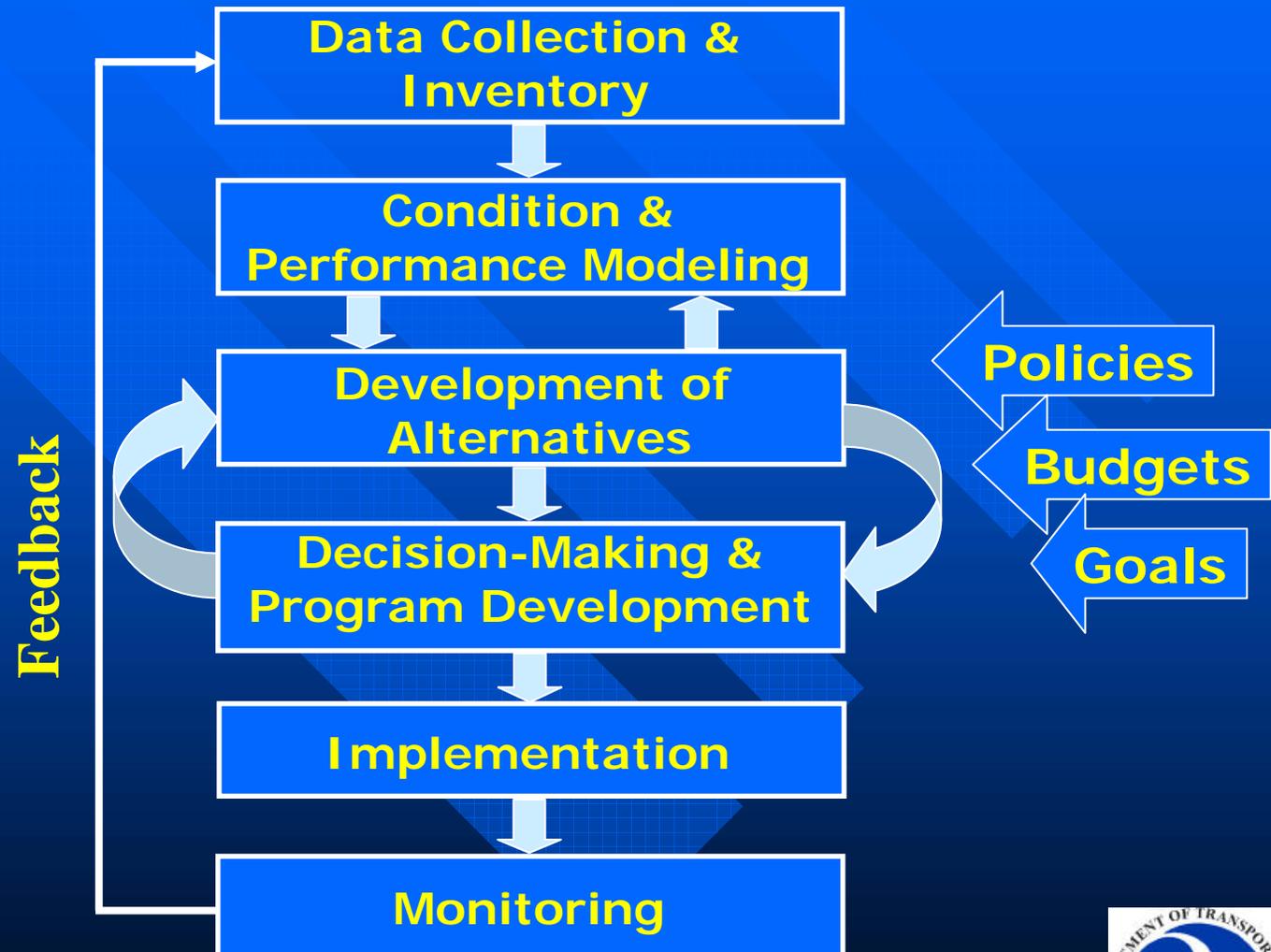
Key Elements

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



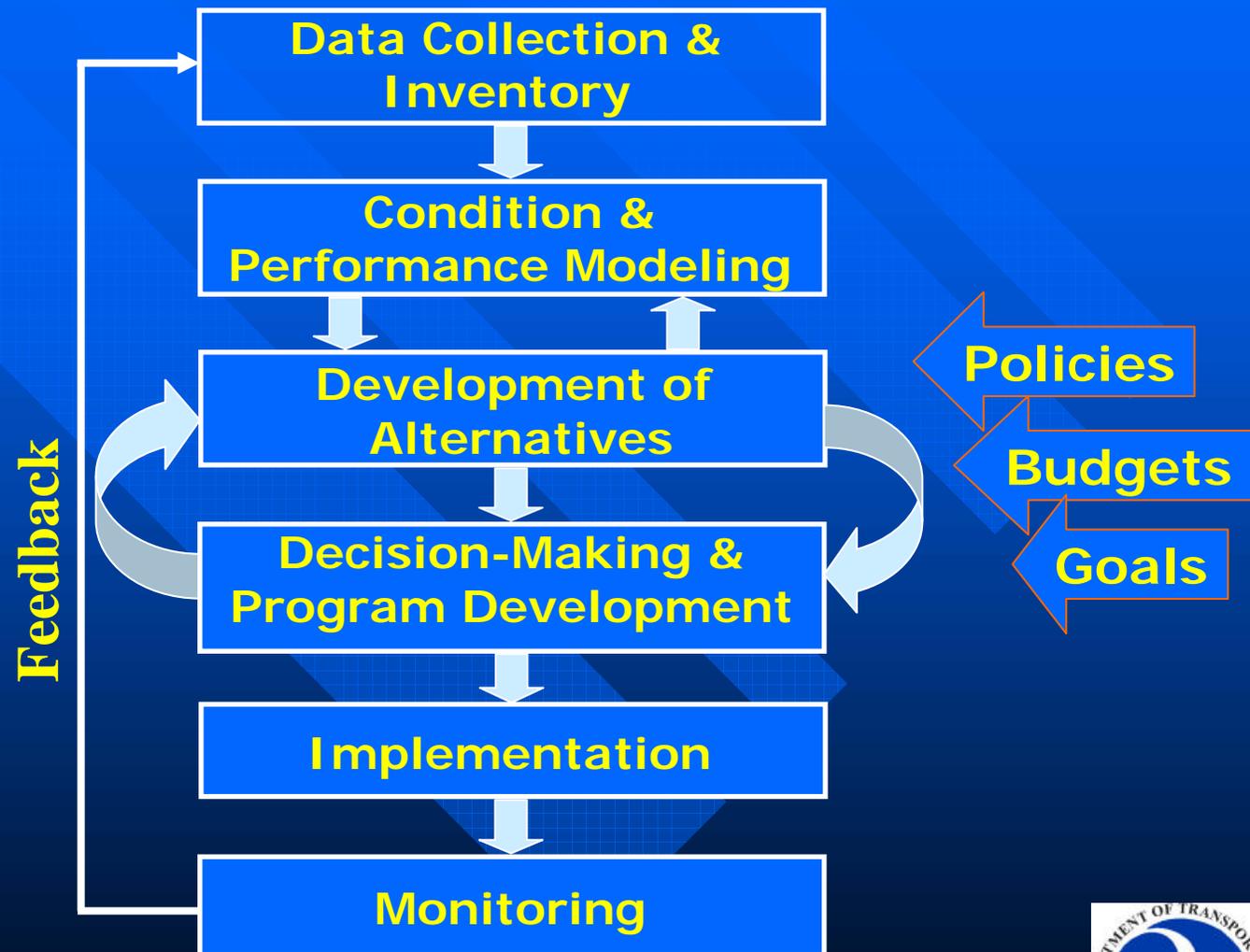
Asset Management Principles

Generic Overview



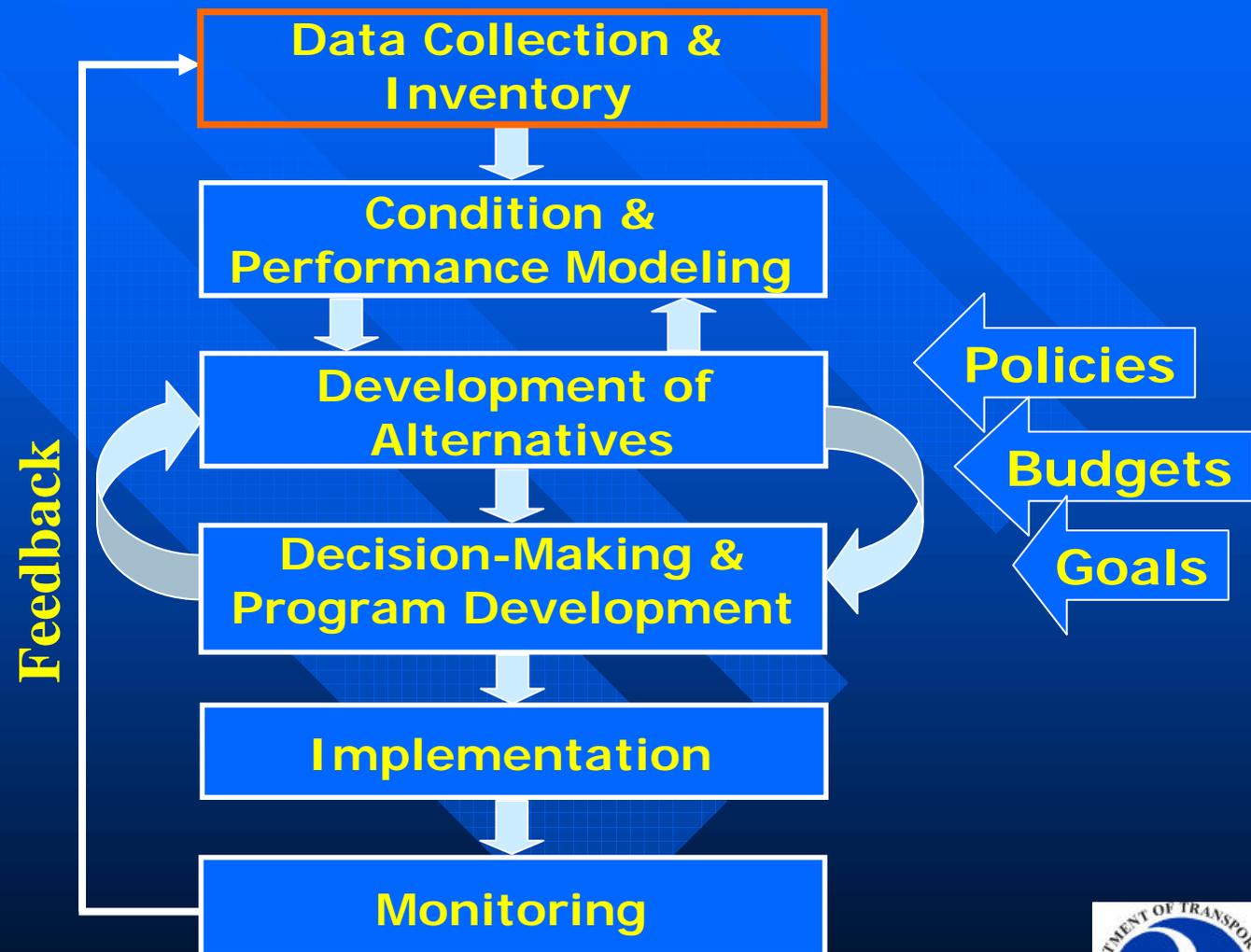
Asset Management Principles

Generic Overview



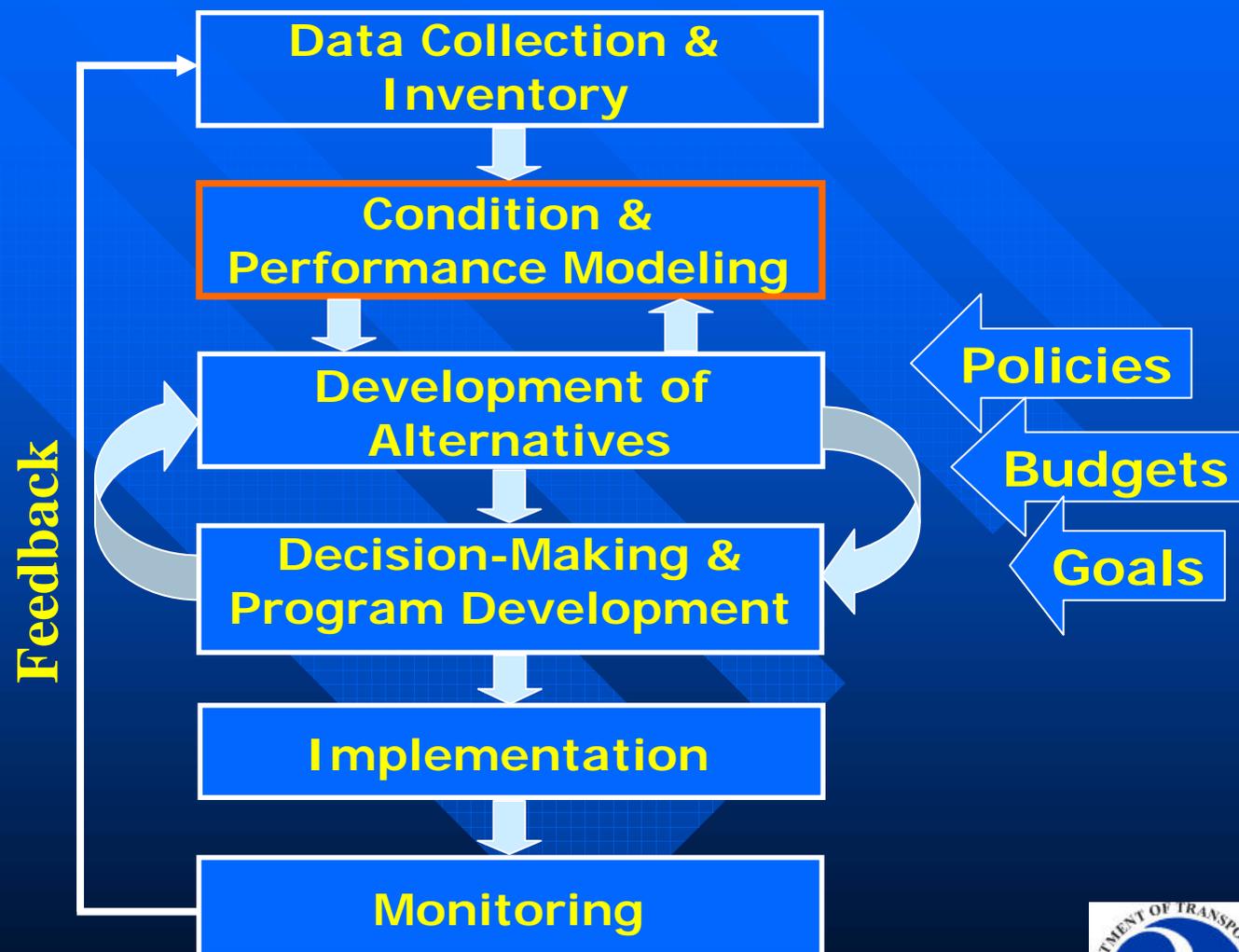
Asset Management Principles

Generic Overview



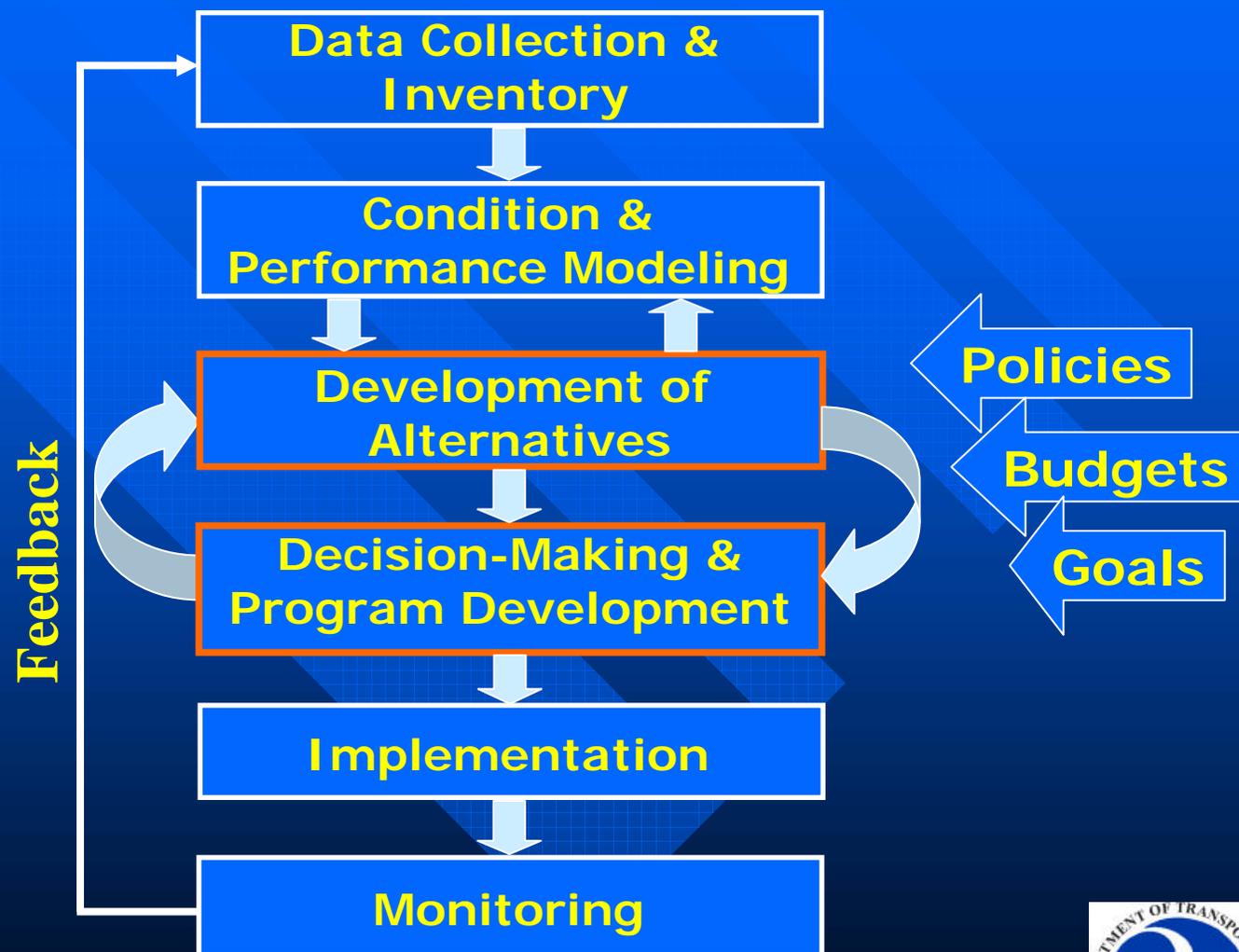
Asset Management Principles

Generic Overview



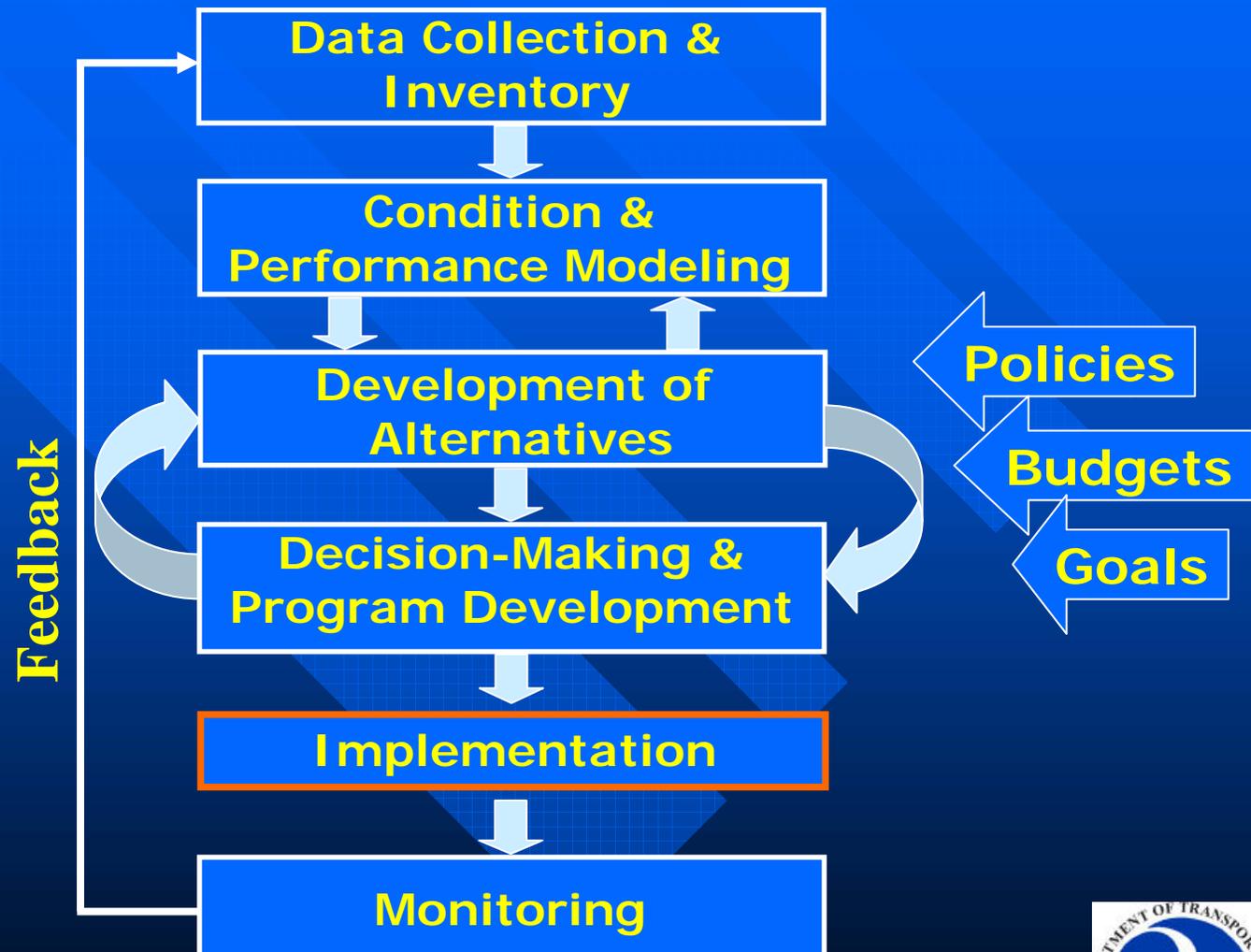
Asset Management Principles

Generic Overview



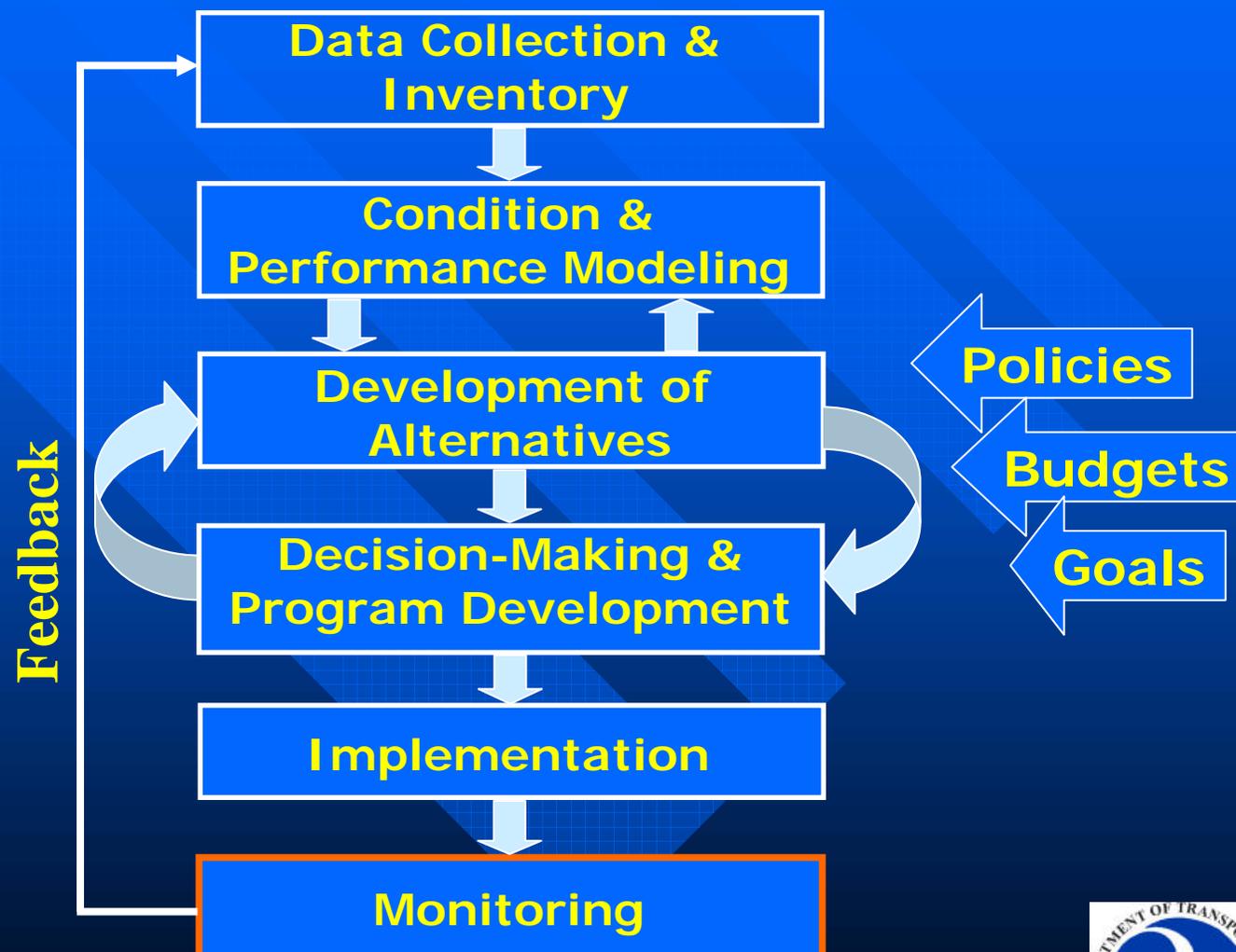
Asset Management Principles

Generic Overview



Asset Management Principles

Generic Overview



Asset Management Principles

Steps to Implementation

- **Understand the Process**
- **Operationalize the framework**
- **Obtain Leadership and Organizational Commitment**
- **Learn from Actual Experience**

Importance of AM

Why Now?



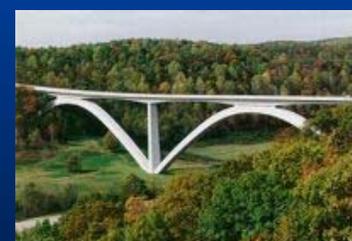
- **Enormous highway investment**
- **Aging infrastructure**
- **Change in government role/function**
- **Performance-based management**
- **Emphasis on preservation**
- **Demand for increased accountability**



AM Tools and Techniques

Information Management and Decision-Support Systems

- **Pavement**
- **Bridge**
- **Maintainable Assets (Signs, etc)**
- **Tunnels**
- **Construction**
- **Equipment, Materials and Vehicles**



AM Tools and Techniques

Data Collection Technologies

- **Ground Penetrating Radar**
- **Sonar/Acoustic Devices**
- **Videolog and Photolog Systems**
- **Laser Range Finders**
- **GPS Receivers**
- **Portable Data Recorders**
- **Other Sensors/Equipment**



AM Tools and Techniques

Analytical Tools

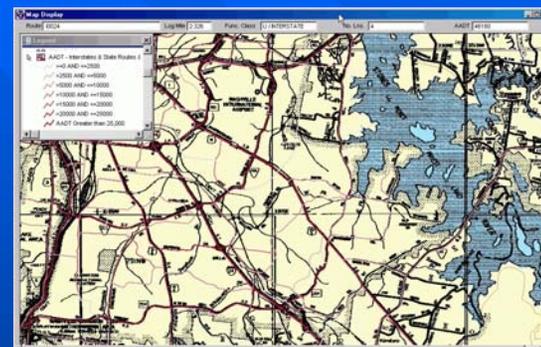


- **Needs and Alternatives Definition**
- **Benefit-Cost Analysis**
- **Resource Allocation/Trade-off Analysis**
- **Deterioration Modeling**
- **Optimization of Investment Decisions**
- **Performance Evaluation**
- **Life-Cycle Cost Analysis**

AM Tools and Techniques

Information Technology

- **COTS Software**
- **ERP Packages**
- **GIS Software**
- **Data Modeling Software**
- **Application Development Toolkits**
- **Data Integration Technology**



Status Report

State DOT's

- **With Comprehensive AM - None**
- **With Some Components – All**
- **AM Legislation/New Offices**
 - ✓ MI, VT



Status Report

State DOT Leaders

- **Michigan**
- **New York**
- **Pennsylvania**
- **Arizona**
- **Colorado**
- **Vermont**



The Role of FHWA

Mission

- **Provide national leadership and expertise**
- **Develop and deliver tools and techniques**
- **Provide technical assistance and training**
- **Build and utilize partnerships**



The Role of FHWA

Delivery Approach

- **Incremental**
- **One size does not fit all**
- **No Mandates**
- **Partnerships Essential**



Conclusion

- **Asset Management not a new concept**
- **Transportation agencies need to use AM principles for their facilities**
- **Tools and technologies are available**
- **Many agencies adopting AM**
- **FHWA plays leadership role**



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