

Data Stewardship

Data Resource Management Issues

- Movement toward enterprise data management and knowledge management
- Increasing accessibility by use internal and external entities through data warehouse architectures and internet deployment
- Lack of designated responsibility for data stewardship activities
- Potential privacy and security issues
- Data ownership
- Intergovernmental data collection and sharing – federal, state, MPO, local
- Private – public data sharing and cooperative collection/dissemination
- Identification of costs associated with inaccurate data
 - Inaccurate fund allocation
 - Policy evaluation
 - Safety analysis
- Archived data
 - What data should be archived?
 - Access and distribution
 - Storage media – how long?
 - Integration and synchronization of historical data e. g. changes in definitions over time
- Lack of emphasis and funding for data collection activities

Data Issues

- Inconsistent Data Definitions
- Inaccurate Data
- Lack of Metadata and Metadata standards
- Lack of Quality Control/Quality Assurance methods
- No method to rank relative importance of individual data elements – data valuation measures
- Need for data access and dissemination criteria
- Data discrepancy issues for comparison and trends formulation

Data Stewardship Responsibilities

- Identify critical business processes e.g. asset management
 - Identify critical business process areas
 - By mode – surface, transit, rail, waterway, air
 - By function – passenger, freight, safety
 - Data valuation?
 - Focus on critical data that supports these processes
 - Inventory
 - Performance measures
 - Identify levels of data for information system usage functions
 - Strategic planning
 - Operational/Control planning
 - Transaction systems

- Assets and resources
- Data Stewardship responsibilities
 - Data definitions and standards
 - Data acquisition
 - Data quality assurance
 - Data dissemination
- Assignment of data stewardship responsibilities
 - Coordination with data collectors, data reporters and database administrators
 - Communication with internal and external users
- Data Stewardship Funding and Support
 - Stable funding source
 - Dedicated personnel
 - Equipment
 - Hardware/software/communications infrastructure

Data Stewardship Functions

- Specify data definitions and standards
 - Data dictionary
 - Naming standards, data formats
 - Metadata Standards
 - Standard calculation and summarization definitions
- Data acquisition
 - Data sources
 - Collection standards and timeliness requirements
 - Reporting standards
- Data Quality Assurance
 - Examine overall data quality - Gap analysis
 - Data Quality Control / Quality Assurance process
 - Data Quality criteria
 - Accuracy
 - Precision
 - Completeness
 - Timeliness
 - Data defaults or penalties for nonreporting
 - Data Certification?
- Data dissemination
 - Identify users and uses of data internally and externally
 - Identify sensitive data
 - Data accessibility standards
- Data retention and storage
 - Archiving
 - Access