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State and Regional Data Business Plans

TAKING IT TO THE NEXT LEVEL

presented to

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presented by

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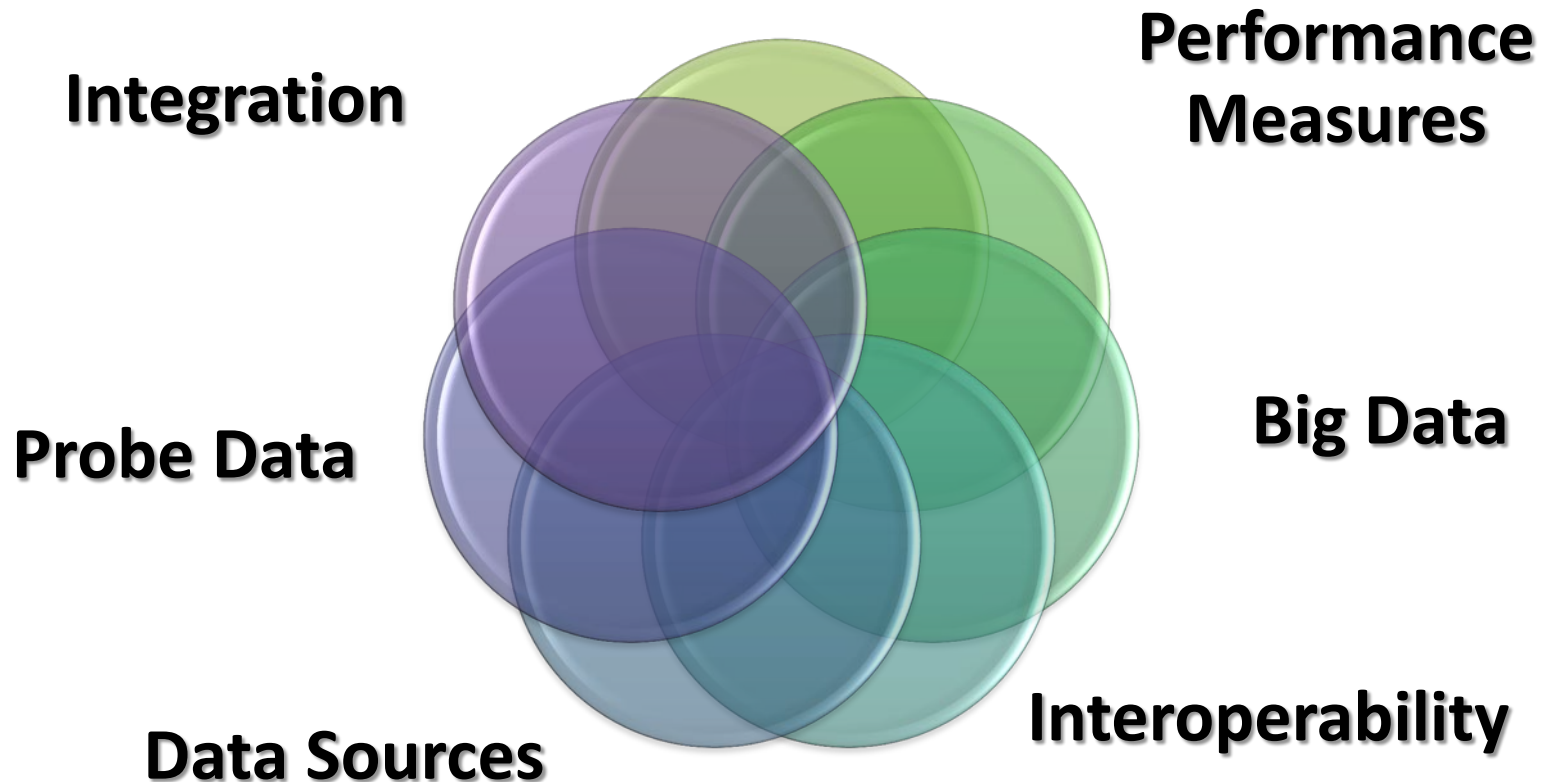
Topics

- Why Data Business Planning?
- Overview FHWA Data Business Plan Projects
- Draft Guides
- Pilot States and Regions
- Why does this matter to you?



Why Data Business Planning?

MAP-21



Challenges



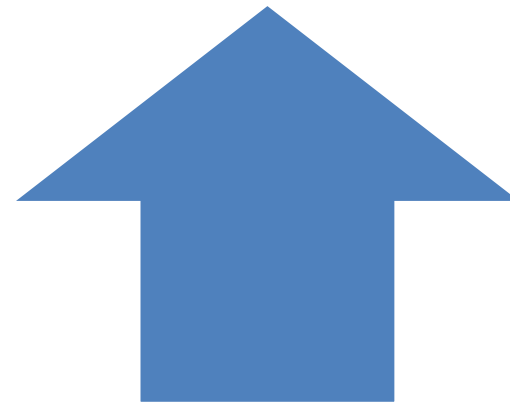
Technical

- Data integration
- Data sources
- Tools and technology



Institutional

- Costs
- Roles and responsibilities
- Data governance



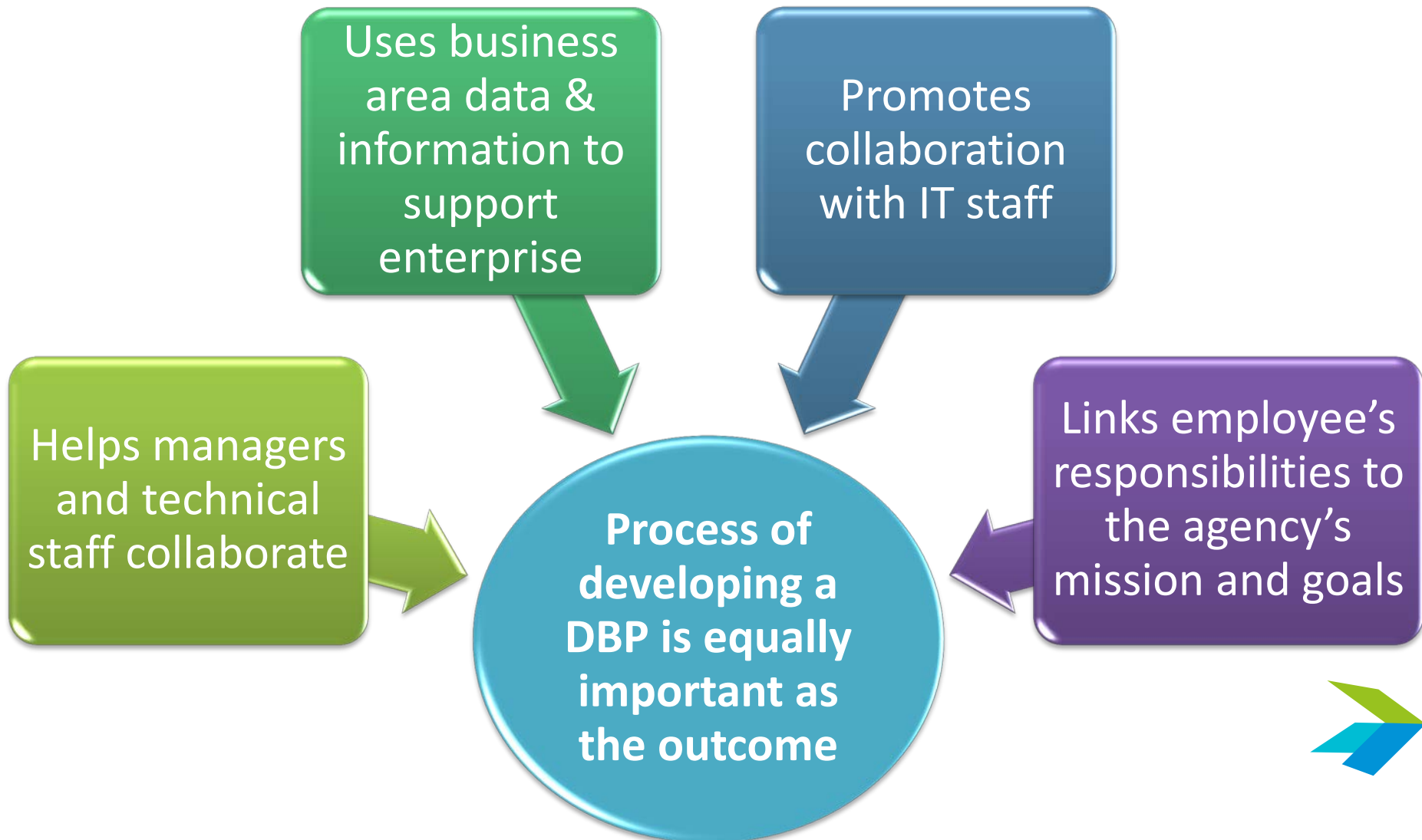
What is a Data Business Plan?

A Data Business Plan (DBP) guides an agency in data management practices

- A plan for efficient use of people, processes, and technology
- Links business objectives, programs, and processes to data systems, services and products



Why is a DBP Important?



FHWA Office of Operations Data Business Plan Draft Guide

- Help state DOT and local agency staff charged with mobility data-related responsibilities develop, implement, and maintain a tailored data business plan for roadway travel mobility data
 - Systematic instructions - stakeholder outreach, data assessment and improvement plan, data governance processes and documents, and data management practices





Definitions

➤ Data Management

- Development, execution and oversight of architectures, policies, practices, and procedures to manage the **information life-cycle** needs of an enterprise in an effective manner as it pertains to data collection, storage, security, data inventory, analysis, quality control, reporting, and visualization





Definitions

➤ Data Governance

- Execution and enforcement of **authority** over the management of data assets and the performance of data functions





Roadway Travel Mobility Data

- INCLUDES - vehicle volume, speed, and lane occupancy data, connected vehicle data
- MODES - vehicle, truck freight, bicycle/pedestrian, and transit
- EXAMPLES - vehicle location, presence and speed within the system, transit (location, speed and status data, passenger counts, and schedule adherence), Freight



Guide Steps



Guide Steps

1. Stakeholder Outreach
2. Data Assessment
3. Gap Assessment
4. Improvement Plan
5. Data Governance Processes and Documents
6. Data Management Practices
7. Develop Data Business Plan



Stakeholder Outreach



- Identify internal and external stakeholders
 - Anyone who collects, owns, maintains, uses, interfaces with, accesses, or benefits from roadway travel mobility data
- Develop registry
- Develop outreach plan
 - Stakeholder involvement
 - Desired feedback
 - Engagement mechanisms (meetings, focus groups, surveys, etc.)





Data Assessment

- Identify issues, symptoms, and root causes to be addressed in the DBP
 - Data collection, management, and technical standards
 - Data interoperability and expandability
 - Data storage and access
 - Technology and tools
 - Data governance
 - Culture
 - Collaboration





Data Assessment

➤ Assess current level of maturity in each area using Data Management Maturity Model

			Integrated	Optimized
Unaware	Initial	Managed	Integrated	Optimized
No activities or improvements in technology, business processes, collaboration, culture, or organization	Ad hoc activities and relationships Efforts are champion-driven	Developing processes for data management and governance Limited accountability Training staff	Processes Documented Performance is measured Organization and partners are aligned Program is budgeted	Improvements are Performance-based There is a formal Data Governance Program There are formal partnerships



continued

Gap Assessment



- Identify gaps and overlaps in program activities
 - Data Systems: Data systems, elements, collection methods, duplicative efforts, storage environments, quality of data, standards, integration, data analysis, documentation, and system access
 - Technology and Tools: Software, hardware, system interfaces, IT compatibility, business intelligence tools, analytical tools, knowledge management, and network issues



Gap Assessment



- Data Governance, Culture, and Collaboration: Gaps related to business rules and processes, data management, data governance, coordination across business lines, resource availability, and training needs



Improvement Plan



➤ Identify

- Improvements needed to address gaps within each area
- Strategies/actions needed to move to next level of capability
- Office responsible for implementing each action

➤ Prioritize

- Strategies/actions based on input

➤ Develop

- Implementation schedule



Data Governance Processes



- Develop Data Governance Model
 - Relationship between agency's strategic vision, mission, and goals for data, agency's data programs, offices responsible for implementing data governance, and users/ stakeholders for data programs
- Define the roles and responsibilities to support a data governance model
 - Data Governance Council
 - Data Stewards
 - Data Business Owners
 - Data Custodians
 - Working Groups
 - Community of Interest





Data Governance Processes

- Develop supporting documentation to define policies, standards, and procedures for data governance
 - Data governance manual
 - Data catalog
 - Business terms glossary



Data Management Practices



- Identify data management practices, standards, and policies that apply to the management of roadway travel mobility data
 - Data acquisition
 - Data quality
 - Data standards
 - Business analysis tools
 - Data privacy and security
 - Data storage and access
 - Traceability
 - Performance measures
 - Risk assessment
 - Knowledge management



Sample Data Principles

Data is an Asset (so it should be managed like an asset)

- Should have an owner
- Should have known quality rules
- Ensure meta data is in place
- Data standards to reduce time and costs of maintenance of redundant data sources

Create data once, store once, use many times

Define data from an enterprise perspective, define data so that it is sharable across partners

Develop Data Business Plan



- Compile results from previous steps into a single document
 - Desired state
 - Stakeholder outreach
 - Data assessment and gap analysis
 - Improvement plan
 - Data governance framework
 - Data management practices



Implement Data Business Plan



Implement the strategies & actions contained in Improvement Plan



Formalize staff roles & responsibilities to support data governance



Monitor & report on implementation progress

- Progress updates at Data Governance Council meetings
- Annual briefings to senior management



Pilot States and Regions



Pilot Testing of the Data Business Plan Guide

Three
pilot sites

Hillsborough MPO

Mid-America Regional Council (MARC)

Maryland SHA

Pilot
testing
objectives

Pilot test Data Business Plan Guide steps

Develop localized Data Business Plans for pilot sites

Revise the Guide based on lessons learned





Hillsborough County MPO, FL

➤ DBP Goal

- Develop a plan for integrating partner agency data into existing databases to achieve performance based planning



➤ Stakeholders

- Tampa-Hillsborough Expressway Authority
- Hillsborough County
- City of Tampa
- FDOT District 7
- HART
- CUTR
- The Planning Commission
- Pinellas MPO
- FDOT Central Office
- Florida Dept. of Health
- ITS Committee Members



Pilot Goals

Increase knowledge of current and future partner agency data sources available for performance based planning

Develop a data management plan that promotes collaboration and sharing of data sources needed to calculate performance measures

Develop a plan for integrating partner agency data into existing databases to achieve performance based planning

Speeds

Travel-time reliability

Return on investment

Connected vehicle outputs

Roadway Travel Mobility Data

Roadway travel mobility data is defined as travel time and speed data for roadway users in the Hillsborough MPO area.



Expected Outcome

A framework for partner agencies to share roadway travel time and speed data for people roadway users and freight within the Hillsborough MPO area for planning purposes



Stakeholder Discussion



Traffic Volumes

Speed

Travel Time

Transit Data

Stakeholder Discussion Data Systems

- What improvements are needed in current mobility data collection efforts to support calculation of performance measures?
- How can we improve the quality of mobility data currently collected?
- What are some current challenges in merging mobility data with other types of data to support performance based planning?
- What can we do to improve the way mobility data is shared with other organizations?



Traffic Volumes

Speed

Travel Time

Transit Data

Stakeholder Discussion Technology & Tools

- What are some obstacles we typically face when accessing or analyzing mobility data?
- What improvements are needed in software or tools we use to manage and analyze mobility data?
- What types of additional resources or support would be helpful for managing and maintaining mobility data?



Traffic Volumes

Speed

Travel Time

Transit Data

Stakeholder Discussion Collaboration

- Would additional mobility data from other MPO partner organizations be valuable?
- How can we improve the way we share mobility data among our organizations?
- What other types of activities would be beneficial to collaborate on?
- What should Hillsborough MPO's role be in improving collaboration among our organizations?
- What types of additional resources or support would be helpful for collaboration?



Pilot States and Regions



➤ DBP Goals

- Develop and implement a data governance framework that allows different offices and stakeholders to collaborate in their data business processes and build upon each other's strengths
- Bring together operations and planning data to better support asset management



➤ Stakeholders

- SHA Planning & GIS Offices
- University of Maryland's CATT Lab (Data Repository)
- CHART
- Data providers for speed, asset, and traffic count data
- MPOs



➤ DBP Goals

- Support regional efforts to measure multi-modal system performance in accordance with the MTP
- Establish a baseline and actionable plan for improving data management practices

➤ Stakeholders

- MARC Internal Offices
- Kansas City Area Transportation Authority (KCATA)
- MoDOT
- KC Scout
- Data Providers (HERE)



FHWA Safety Data Business Plan Guide Steps



1. Plan for Safety Data Management/ Governance



2. Assess Current State of Safety Data Program



3. Establish a Safety Data Governance Program



4. Leverage Technology for Safety Data Management



5. Develop Implementation Plan



6. Document the Safety Data Business Plan



7. Implement and Sustain Safety Data Business Plan





Safety Data Management Maturity Model

Most Agencies Today

Goal

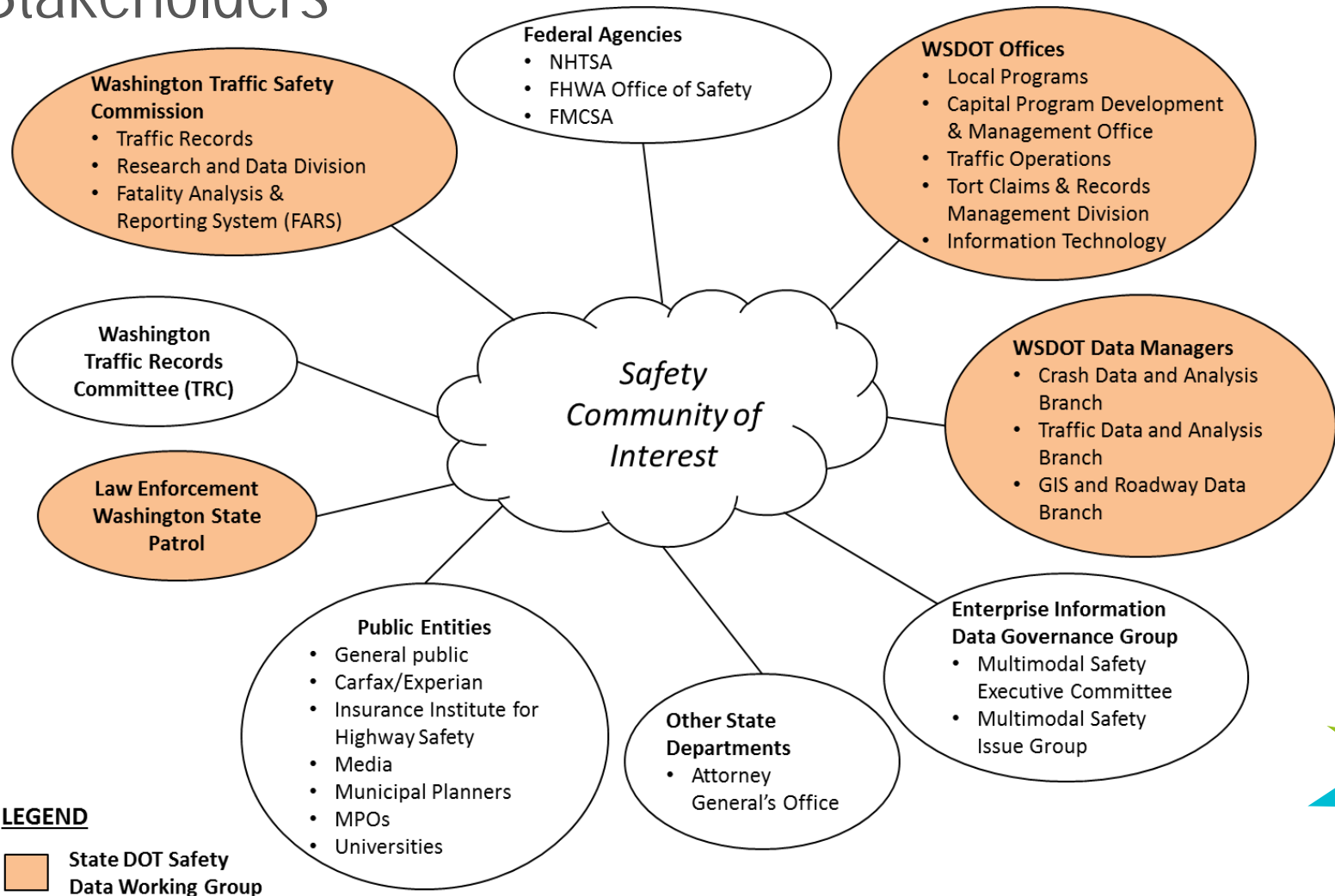


➤ Safety DBP Goals

- Develop an enterprise DBP with safety as a component
- Develop roadmap to address silo data & integration
- Develop strong, sustainable vision for safety data
- Implement formal safety data governance process



➤ Stakeholders

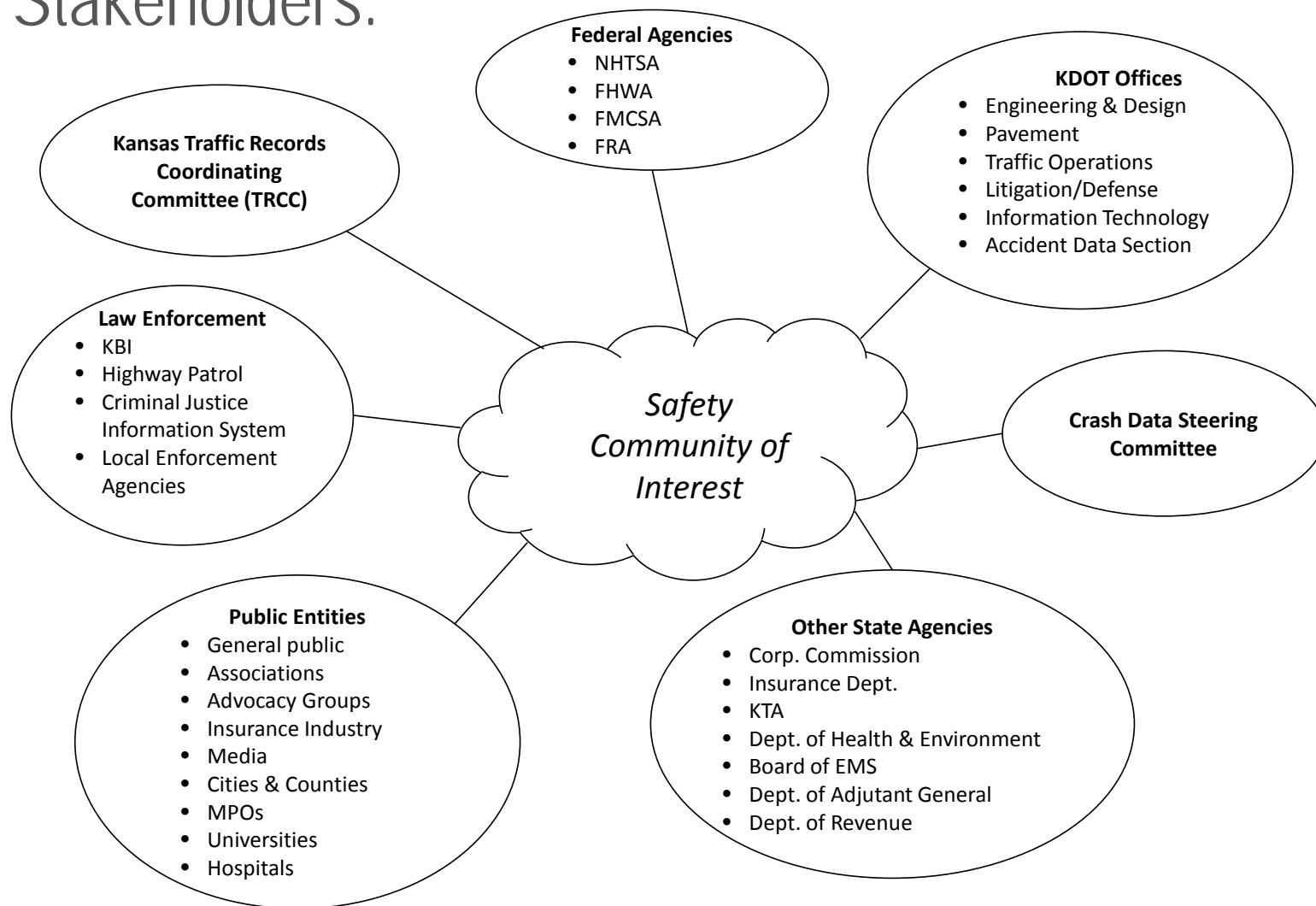


➤ Safety DBP Goals:

- Develop governance framework to better manage safety data resources and assets
- Develop roadmap for improving safety data resources
- Create communication & implementation plan



Stakeholders:



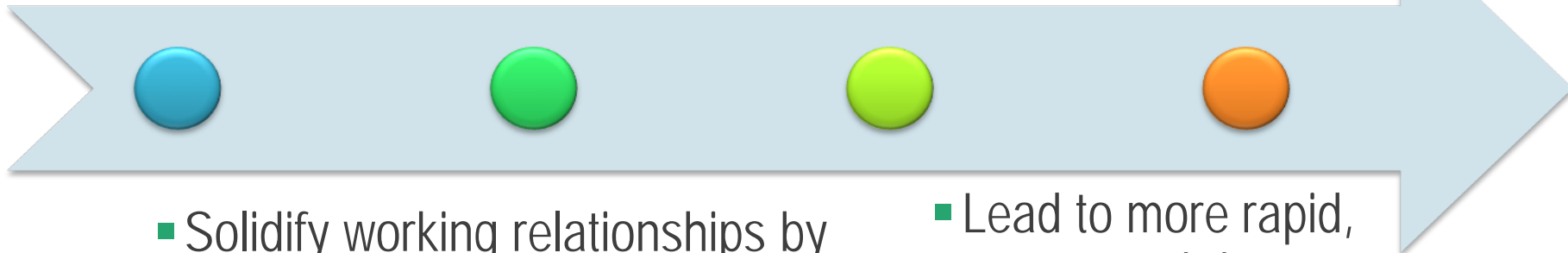
Why does this matter to you?



Benefits of Data Business Planning

Help understand

- What mobility data is being collected
- How the data supports mobility planning, operations & performance measure activities
- Who is responsible for managing/updating the data
- Help identify duplicative data collection efforts



- Solidify working relationships by identifying how partner agencies share and exchange mobility data
- Lead to more rapid, targeted data acquisitions and reduced costs



Questions

