NDOT current state

- Conducted a FHWA Workshop held on February 17, 2020 and developed a summary of needs:

  - Consistency in data format and Data access - Standards to share data across the region
  - Coordination and communication between stakeholders - Agreement between the agencies on their role and responsibilities to share their own portion and keep it updated
  - Data maintenance to keep track of data ownership, consistency, and updating the system
  - Data inventory/catalog to document who has what and where it resides and how to access it
  - Champion to lead the effort and identify data stewards
  - Systematic/Automated data and analytics to support signal timing and performance measures
  - Awareness of each agency/group with respect to data initiatives
  - Data platform/framework
  - Formalized process – memorandum of understanding
  - Data visualization/ Analytics
  - Attention to data privacy and cybersecurity
  - Defined network/GIS/Linear Referencing System (LRS)

NDOT current state

- Conducted a FHWA Workshop held on February 17, 2020 and developed a summary of needs:

  - Define Return on Investment (ROI) of data sharing across the region
  - Having institutional guidelines in place for sharing data
  - Prioritization of needs for data collection and maintenance
  - Targets for asset management

- Completed NDOT TSMO Program Plan on May 13, 2020:
  - To further NDOT's mission, we have developed a TSMO Program—founded on the NDOT TSMO Program Plan—and are now in the process of incrementally implementing it. This Program Plan provides specific guidelines to implement the TSMO Program and lays the foundations to mainstream TSMO at the agency level. Our Director has encouraged all NDOT divisions to work collaboratively and follow the recommended steps within the document to instill TSMO in our everyday business.

NDOT future plans

- Although challenging from a time commitment standpoint, we recognize the need to take the next steps toward data business and governance activities. We are looking at developing a **Regional Coordination Group** and possible activities for the group include:

  - Develop a flowchart of the problems
  - Field requests for data
  - Share upcoming data projects/RFPs and results of completed ones
  - Develop a Data Business Plan
  - Develop data catalog
  - Pool resources for data purchases
  - Act as a technology/data/innovation sandbox approval/review committee
  - Lead development of data standards to share
  - Develop a "Framework" which could consist of a committee, rules of engagement and technical platform
  - Facilitate memoranda of understanding

NDOT future plans

The outcome was to formulate a more focused Coordination group related to mobility performance measures and data. The goal of the group will be a "formalized initiative to provide quality, accessible mobility data for decision making." The coordination group will investigate aligning mobility data with One Nevada.

- The **Regional Coordination Group** will:

- Develop a standard format for traffic data sharing across the region
- Develop a data inventory
- Include the data producers and data users in the committee
- Keep the core small and interactive. Reach out to others as needed
- Focus on action items
- Find 4-5 targets for everyone to be interested and assign teams of 2+ for working towards a target

NDOT future plans

- **NDOT Overall Strategic Data Governance Plan**:
    - Enterprise Data & Analytics Program Governance Committee established meeting every 2 months commencing August of 2020
    - Traffic Operations draft for the Strategic Data Plan developed. This aligns with the FHWA Mobility Data Business Plan NDOT Workshop action items and the U.S. DOT ROADWAY MOBILITY DATA COORDINATION GROUP Data Coordination Manual provided to us from the workshop.
    - We also wanted to ensure the Traffic Operations Mobility Data Business Plan efforts are working to align with the NDOT Overall Strategic Data Plan and have noted that within the strategic plan and have listed dates that we believe align with some of Traffic Operations ongoing efforts with the TSMO Program and our Technology Group asset management program.

Best Practices to share

From the Traffic Management Center Pooled Fund Study Project: Performance Measures and Health Index of Intelligent Transportation Systems Assets:

- Guidelines for performance management, health index of ITS assets, and reporting and visualizing ITS asset and performance data were developed. Several case studies of locations that have implemented successful asset management techniques, such as Utah and Georgia were included along with others.

Best Practices to share

From NDOT's TSMO ITS Assets Business Plan:

- NDOT has developed this Business Plan to provide an overview of current NDOT ITS asset management strategies, federal reporting requirements, overlaps and gaps analysis, and a three-year implementation plan for Statewide ITS Asset Management. Some of the strategies adopted by different organizations to manage their ITS assets include Caltrans, Utah DOT, Oregon DOT, Arizona DOT, Colorado DOT, Florida DOT, Georgia DOT,   Seattle DOT, Pennsylvania DOT, Louisiana DOT

Challenges/Gaps

- Maintaining data (possibly more than sharing data)
- Keeping the conversation around data sharing and knowledge sharing alive and ongoing between and among agencies – people get busy and go back to normal routines/everyone is busy/how to make time for data sharing
- May need a "project" to ensure commitment to data coordination effort or data business plan development
- Cultural changes – NDOT had some challenges when they were moving to use ESRI in all departments
- Some areas moving more quickly with respect to technology and are not coordinating across the state
- Data quality
- Timeliness
- Complete
- Coverage
- Accuracy
- Fit for purpose
- Relevance

Challenges/Gaps

- Knowing where to go for data
- Lack of expertise to deal with TB size data and transform data into insightful information
- Information about cyber security
- Data analysis capability
- Documentation of business processes
- Different formats between traffic and ITS data
- Common "platform" to store and share data that is of interest to many within and external partners
- Plan for ITS performance measures and visualization
- Standardization of data formats (ids and assets)
- Lack of a champion to organize sharing of data
- Workforce development and training
- Decision Support System

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