Iowa Department of Transportation
Strategic Plan
for Digital Delivery

SPR 3224
DEVELOPING A ROADMAP FOR
DIGITAL DELIVERY IN IOWA

October 2022
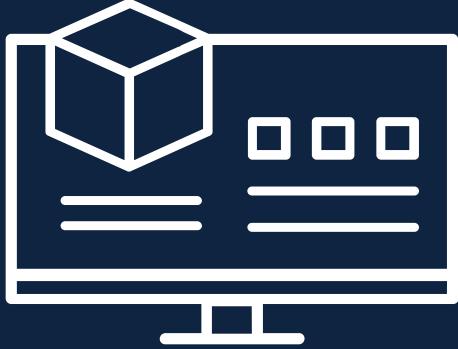
Digital Delivery Strategic Plan

Agenda

- Digital Delivery Vision
- Current Digital Maturity
- Strategic Plan
- Plan Implementation and Evaluation
- Q&A

# Digital Delivery Vision

What is Digital Delivery

DIGITAL DELIVERY is a modern process in which 3D models and other files are created and delivered to facilitate construction and incorporate digital information to support maintenance and operations activities and lifecycle asset management.
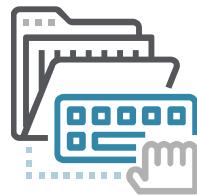
THE DEPARTMENT'S VISION for digital delivery is to enhance our abilities to share information seamlessly across the enterprise, significantly improve asset management, and provide greater value to all users, including construction contractors and suppliers.

OUR MISSION is to enable streamlined data sharing and active collaboration between different Divisions, Bureaus, as well as the public and other external stakeholders.
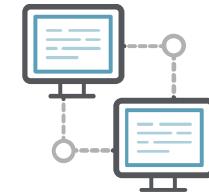
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Digital Transformation

ELECTRONIC WORKFLOWS are based on paperless, document-type exchanges, in which information must be manually extracted and entered into other systems.

DIGITAL WORKFLOWS are data-based exchanges, in which information can be easily transferred to a computer system with little to no manual entry.

Benefits of
Digital Delivery

Improved design quality

Early identification of potential issues that reduce change orders

Data visualization allows project teams to optimize construction means, methods, and schedules

Streamlined data collection that reduces duplication of work

Ability to access the right information at the right time

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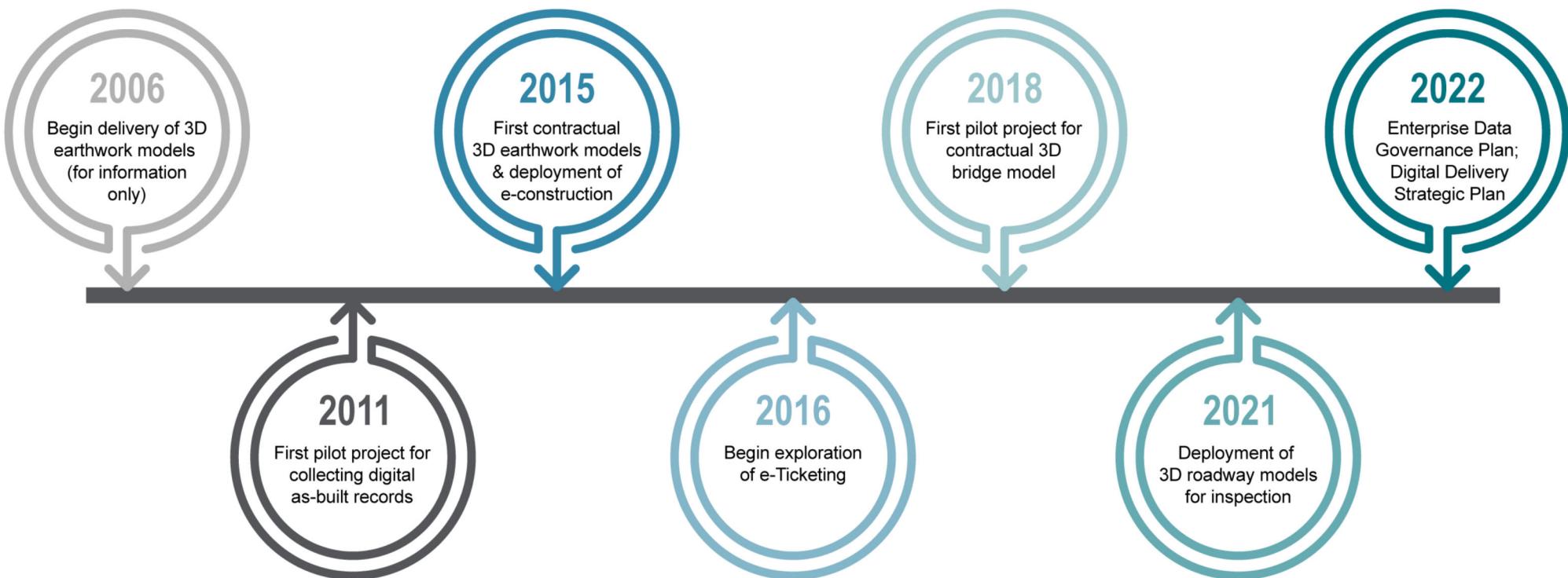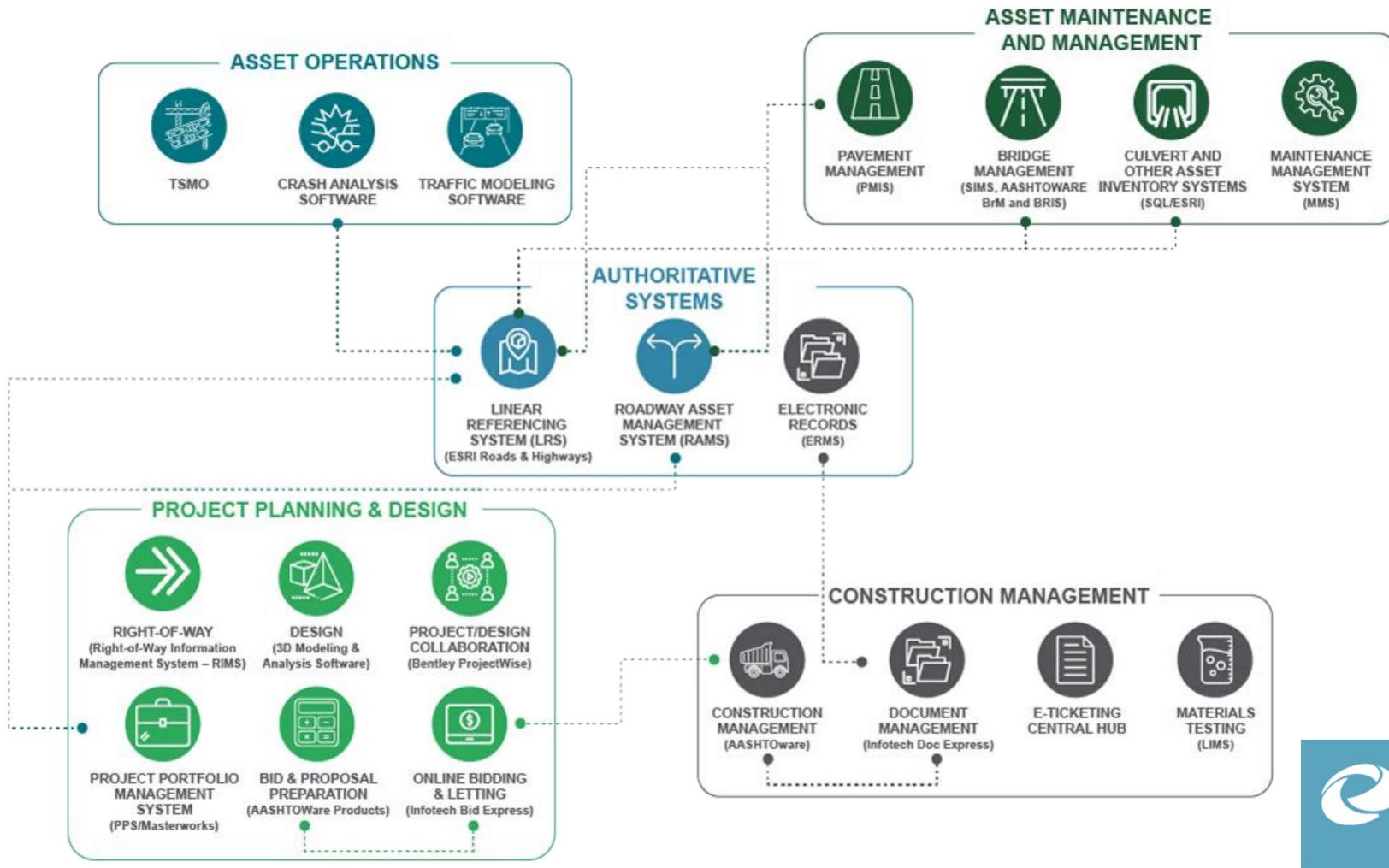
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Current Digital Maturity
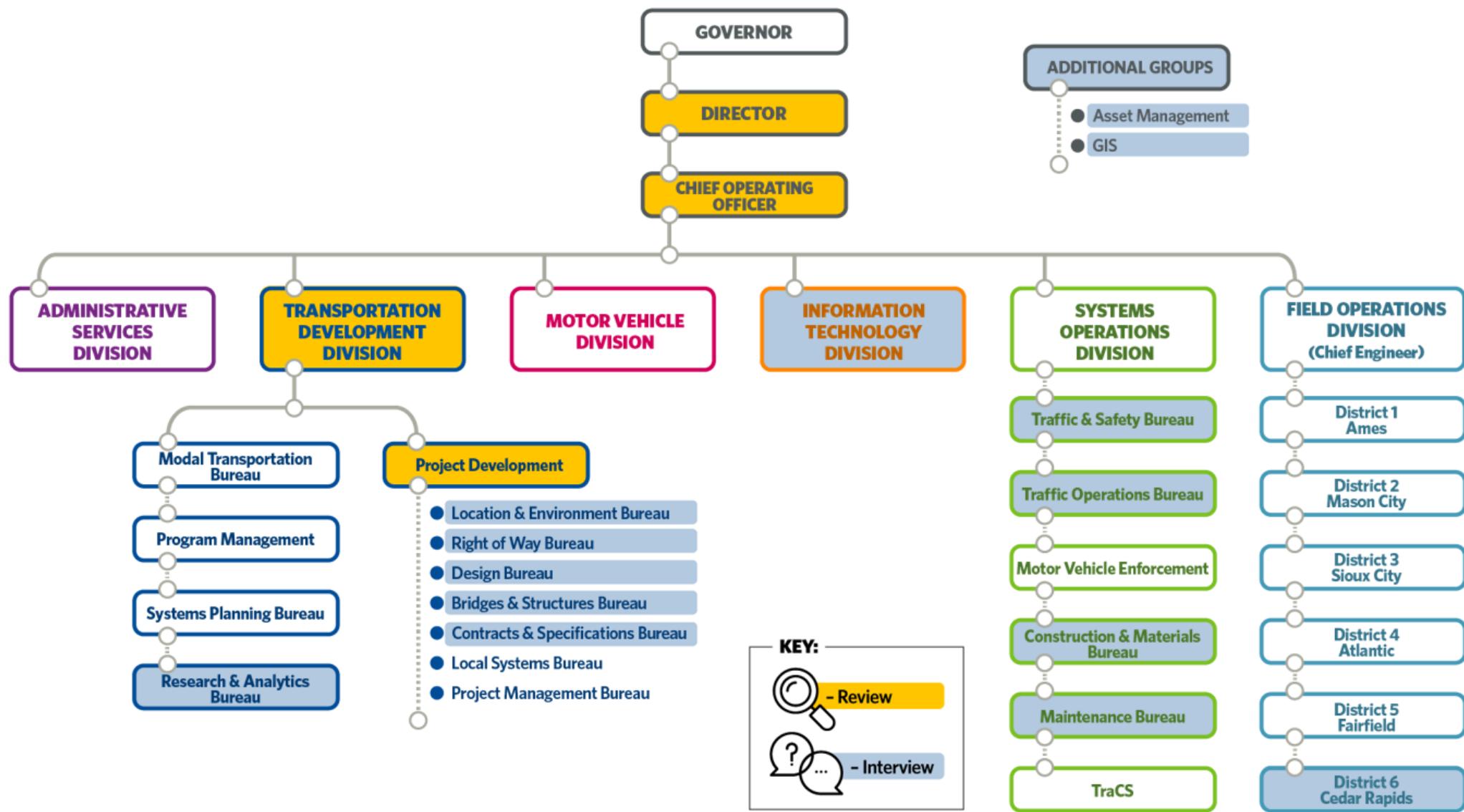
Iowa's Information Systems

Strategic Plan

GOVERNOR

DIRECTOR

CHIEF OPERATING OFFICER

ADDITIONAL GROUPS
- Asset Management
- GIS

ADMINISTRATIVE SERVICES DIVISION

TRANSPORTATION DEVELOPMENT DIVISION

Modal Transportation Bureau

Program Management

Systems Planning Bureau

Research & Analytics Bureau

Project Development
- Location & Environment Bureau
- Right of Way Bureau
- Design Bureau
- Bridges & Structures Bureau
- Contracts & Specifications Bureau
- Local Systems Bureau
- Project Management Bureau

MOTOR VEHICLE DIVISION

INFORMATION TECHNOLOGY DIVISION

SYSTEMS OPERATIONS DIVISION

Traffic & Safety Bureau

Traffic Operations Bureau

Motor Vehicle Enforcement

Construction & Materials Bureau

Maintenance Bureau

TraCS

FIELD OPERATIONS DIVISION (Chief Engineer)

District 1 Ames

District 2 Mason City

District 3 Sioux City

District 4 Atlantic

District 5 Fairfield

District 6 Cedar Rapids

KEY:
🔍 – Review
💬 – Interview

Focus Areas

Data Requirements, Standards and Guidelines

Data Collection and Storage

Workflow Efficiency

Technology Implementation

Workforce Development Outcomes
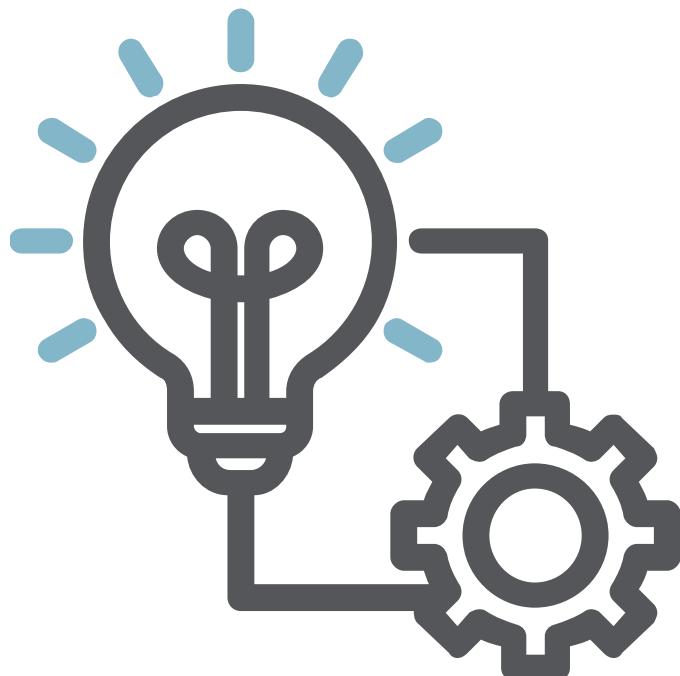
Digital Delivery Lead and Communications

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OUR GOAL is to advance the use of digital data for project development, construction activities, and maintenance and operations activities, specifically:

1 Use 2D and 3D modeling technology to develop project models that can be used as legal documents.

2 Leverage existing technology and explore new tools to support specific uses.

3 Expand data collection to manage assets by developing digital models that represent as-built conditions.

4 Develop and implement data management processes aligned with data management goals

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Achieving the Vision

TACTICAL GOALS set expectations for accomplishing foundational activities that have a lower barrier to entry and accelerates work already in progress.

STRATEGIC GOALS set expectations for accomplishing activities that are more complex and require longer a higher level of coordination and longer time to complete.

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Tactical and Strategic Goals for Digital Delivery	Anticipated Duration of Minimal Level of Effort									
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
TG1. Develop Stakeholder Communication and Engagement Plan (6 months)	�									
TG2. Define Organizational Information Requirements (6-12 months)										
TG3. Select Three Priority Assets and Develop a Prototype (2 years)										
TG4. Update Project and Exchange Requirements to Advance Digital Maturity										
TG5. Expand the Use of E-Ticketing to Include Additional Materials and Assets										
SG1. Develop Standards to incorporate or Connect Data Harvested from Digital Design through Digital As-Builts into Authoritative Systems										
SG2. Review Current Plan for Replacing ERMS and Make Updates to Improve Data Searching and Reporting										
SG3. Improve Transfer of Data Between Various Department Systems										

Plan Implementation and Evaluation

Considerations for Implementation

1 **CHANGE MANAGEMENT**

Large and complex undertaking that require:
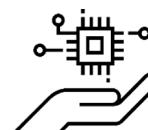
- Dedicated team to oversee the implementation plan

- Careful planning and communication

- Continuous engagement with stakeholders

2 **TECHNOLOGY ASSESSMENT**

Implementation approach that sets approach for:

- Assessment and acquisition of new technology

- Collaboration between IT staff and technology users for piloting new tools

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Considerations for Implementation

3 **PILOT PROJECT INITIATIVES**

- Manage and scale adoption
- Develop tools, procedures and training
- Test new digital approach on specific use cases
- Increase complexity as the initiative progresses
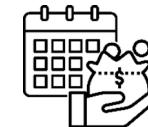
4 **RISK MANAGEMENT**

- Manage risk through this digital transformation
- Create and maintain risk registry

5 **SCHEDULE AND FUNDING**

- First 3 years to be funded by FHWA AID Grant funds
- Schedule is dependent on the resources available to complete activities

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Key Success Factors

- Project champion and executive support

- Coordination and communication

- Business process improvements

- Innovation through empowerment

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Measuring Success

Transparency serves as a powerful foundation for accountability. The Department will:

- Define metrics to assess progress and the effectiveness of the Digital Delivery Initiative

- Establish realistic metrics with easy to acquire data for reporting

- Evaluate progress every year and adjust plan as digital maturity increases

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Q&A