



Adoption of 3D Model-based Design, Digital Delivery, and BIM

2D

3D

RENDER



- BIM Background
- Digital Delivery
- M.A.L.D.
- FHWA and Strategic Roadmap
- TxDOT
- Digital Delivery Implementation



BIM Background



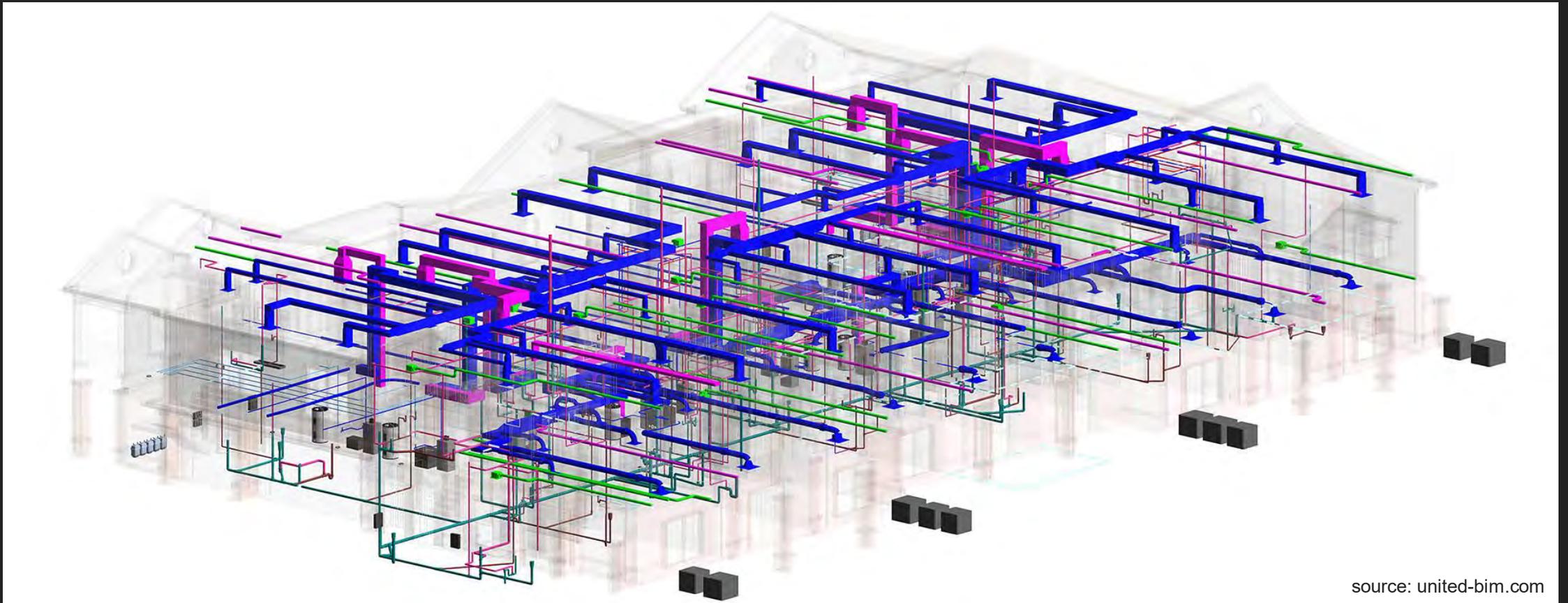
What is BIM

BIM = Building Information Modeling

BIM is a noun

BIM is a verb

BIM is what you need it to be

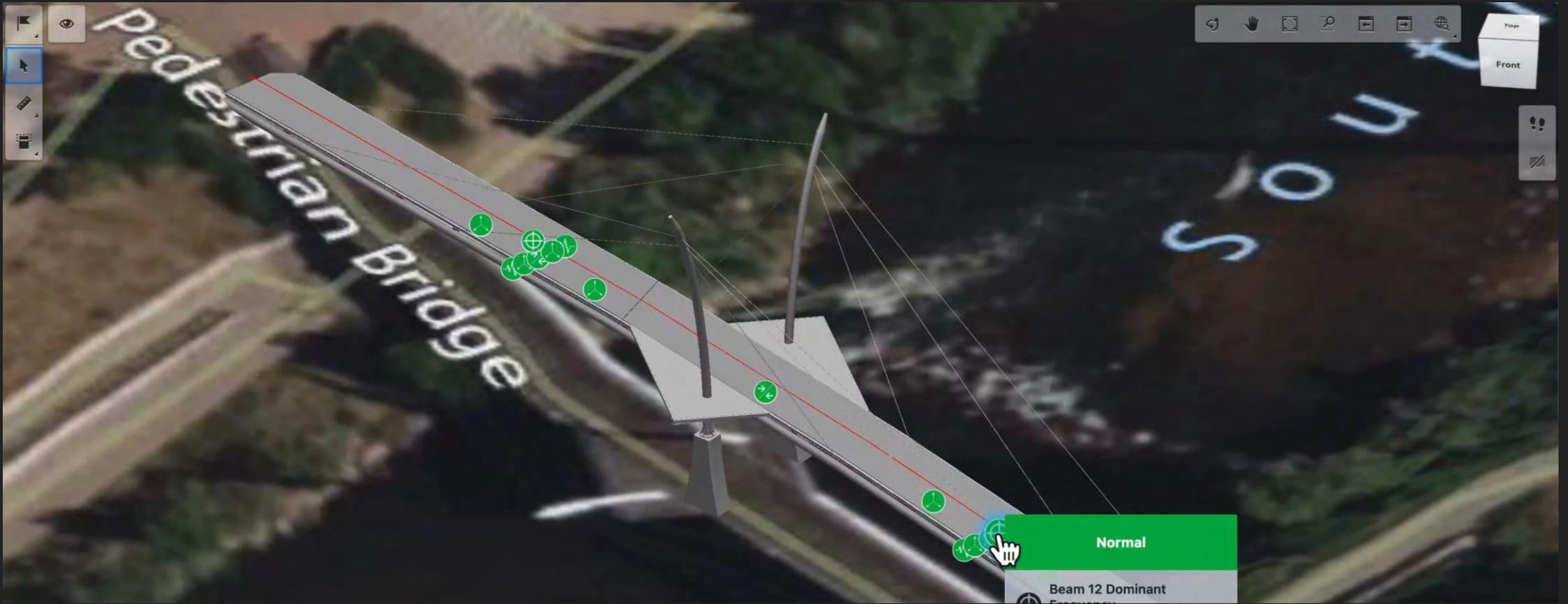


source: united-bim.com

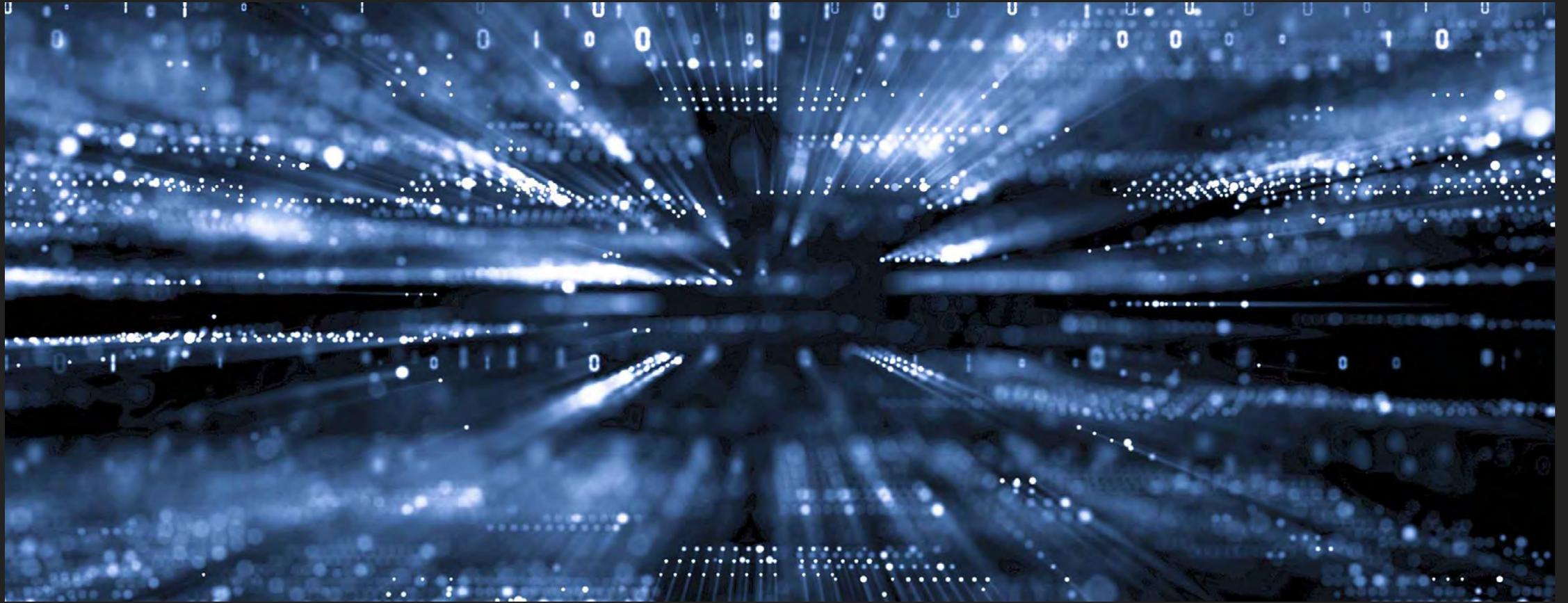
Levels of BIM



Dimensions of BIM



Parameters



Digital Delivery



What is Digital Delivery?

Digital Delivery status at State DOTs

Benefits and challenges of Digital Delivery

The future of Digital Delivery



M.A.L.D.



Model As Legal Document

“Delivery of 3D model geometries as legally binding entities, in lieu of traditional paper or PDF construction document (plans).”

-Utah DOT



U.S. Department of Transportation
**Federal Highway
Administration**

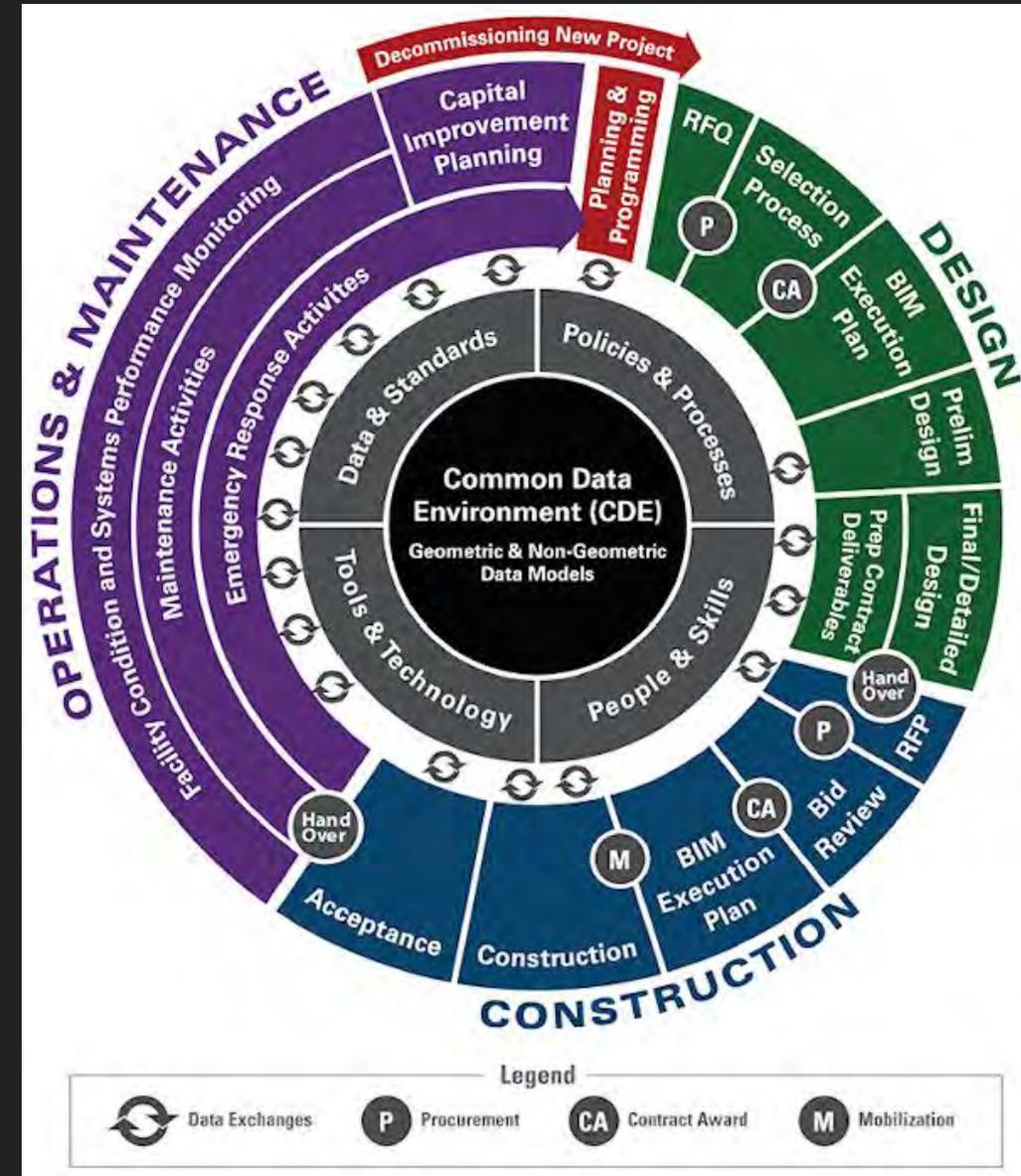
FHWA



Who is FHWA?

Federal Highway Administration

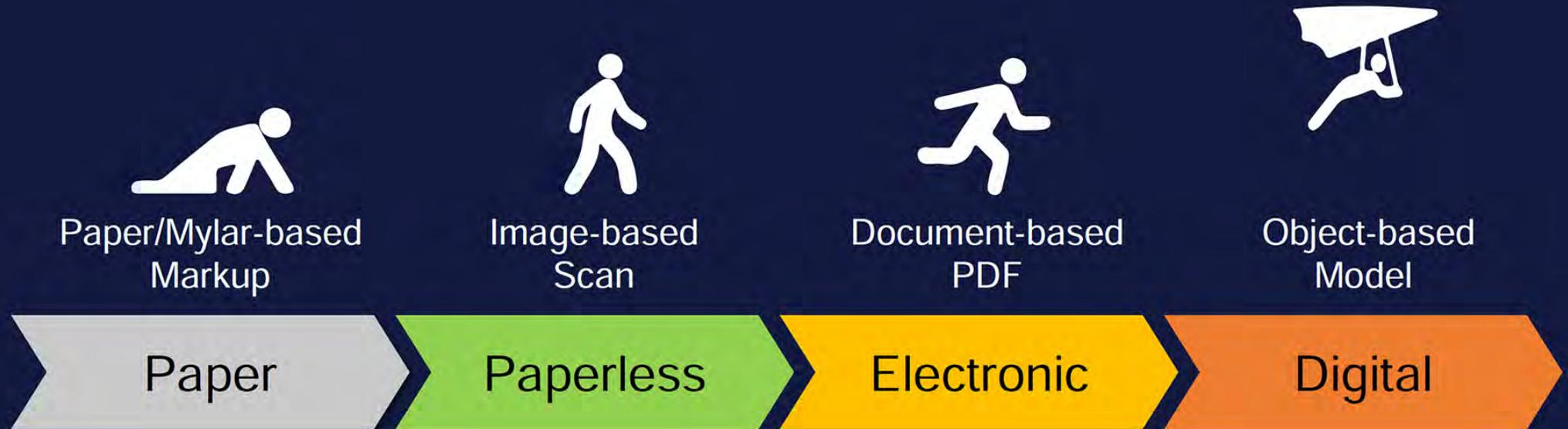
- Safety
- Infrastructure
- Innovation
- Accountability





What do they do?

Maturity Levels for Digital As-Builts





National Strategic Roadmap

ADVANCING BIM FOR INFRASTRUCTURE NATIONAL STRATEGIC ROADMAP

JUNE 2021



U.S. Department of Transportation
Federal Highway Administration





TxDOT Digital Delivery Implementation



TxDOT Digital Delivery Program

- Model Development Standards
- Understanding risks with Digital Delivery





Digital Delivery Implementation



Why is Digital Delivery Happening?

\$ R.O.I. \$

BETTER PUBLIC INVOLVEMENT DIGITAL TWIN
REDUCED CONTRACT CHANGE ORDERS
PROJECT RISK MITIGATION ASSET MANAGEMENT DATA
INTEGRATED BUSINESS PROCESSES CONSTRUCTABILITY
IMPROVED PROJECT COMMUNICATION DATA DRIVEN DECISIONS
REDUCED CONSTRUCTION COST
IMPROVED CONSTRUCTION SAFETY
FINISH ON SCHEDULE CONNECTED LIVE DATA
IMPROVED DESIGN QUALITY PROJECT COLLABORATION



What to Consider

Workflow needs identified for each stage

Appropriate technology stack assembled for this stage

Custom integrations developed for cross-platform interoperability



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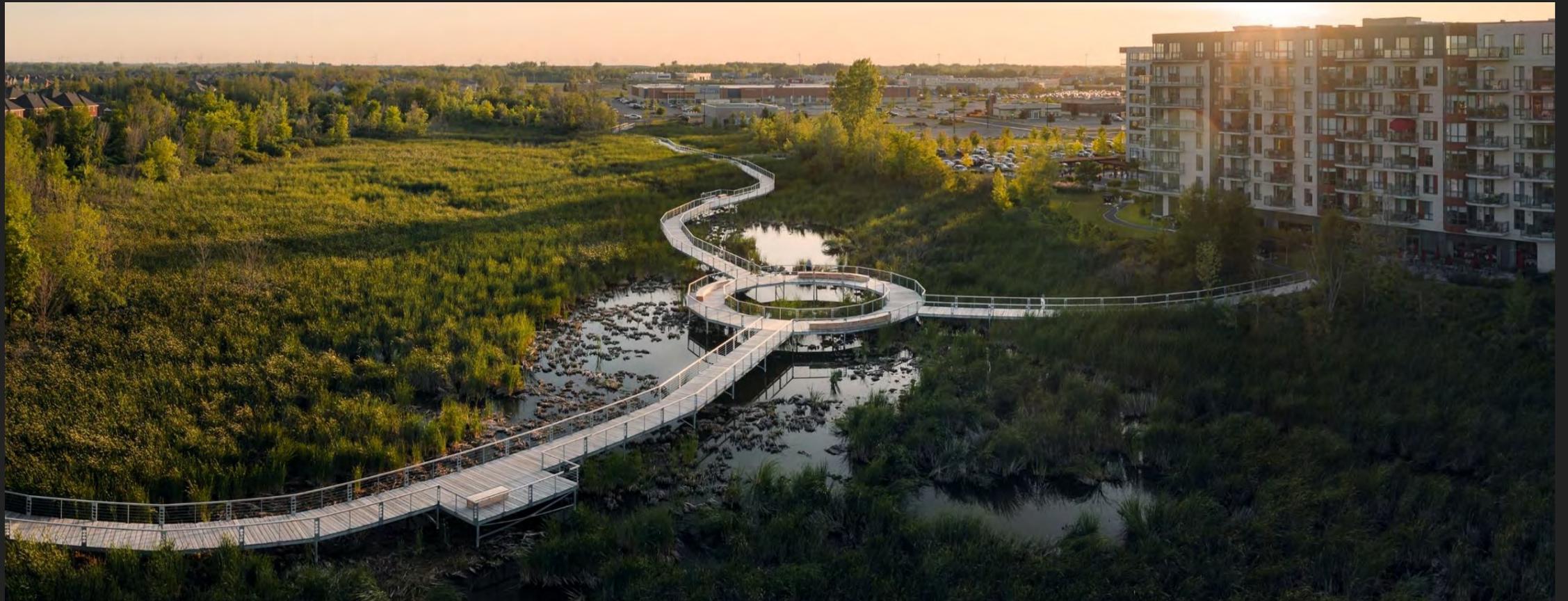
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Questions?