# ADCMS Grant Progress Report

**Date:** July 31, 2025

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

**Attn:** James Grey, PE, Viplav Reddy, David Scott, Brian Hogge

**From:** Katie Brown, PE – ODOT Digital Delivery Engineering

**CC:** Viplav Reddy

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Oklahoma Department of Transportation (ODOT) is submitting their semi-annual progress report for the Advanced Digital Construction Management Systems (ADCMS) Grant (FY 2022 & 2024) along with Form 425. The progress report will be organized into the eight (8) program components outlined in the grant application and shown below in Figure 1.

### Figure 1: Program Components

## A. Reporting Period: January 1, 2025 to June 30, 2025

### 1. Program Management

a. **2025 Task Order Completion for Consultants**
b. **Smart Sheet Schedule and Budget Updates**
c. **Establish Email Marketing & Automation Program (MailChimp)**
d. **Check In Meetings – held most Fridays at 8:30 AM**
   - Coordination & Scheduling using smart sheet
   - Summary
   - Action Items list to team via email
e. **Technical Committee Meetings with Consultants, Contractors & ODOT**
   - TC Meeting No. 8 – held 02/25/2025

### 2. Strategic Plan & Implementation Plan Development

a. **Gap Analysis & Strategic Plan – complete**
b. **Implementation Plan – complete**
c. **Change Management Plan**
   - Phase 1: Overview – Complete
   - Phase 2: Organizational and Technical
     - Draft complete 06/19/2025
     - Review complete
     - Updates in progress
d. **Communication Plan**
   - Phase 1: Team Communication – Complete
   - Phase 2: Industry Communication
     - Draft Complete 06/16/2025
     - Review in progress
e. **Information Management Implementation Plan**
   - Meeting held 2/19/2025 with data governance (North Highland)
   - Draft in progress
f. **Strategic Communications**
   - General presentation developed for education of various groups 05/23/2025

### 3. Implementation – Design

a. **Early Adopter's Meetings (Internal ODOT Staff)**
   - Q1: 03/26/2025 – Program Update: ProjectWise Rebuild, Workspace Updates, Design Work & Modeling Training Resources, ISO 19650 Information Management.
   - Q2: 06/11/2025 – Introduction of Jami Mumford from ODOT's Innovation team. Discussions showcased how Jami's team drives adoption of tools and processes to mature ODOT's digital delivery program.
b. **ORD Workspace Development**
   - Working through bugtracker comments and Envision CAD report
   - Meeting with business units to develop requirements to create opportunities to advance BIM workflows into normal practices

- Hydraulics & Hydrology – standardizing levels needed and naming convention
- Survey – standardizing codes, new zones, moving to international feet, workflow to maintain integrity of survey and accommodate annotations, cloud computing to process point clouds

- Biweekly meetings
- New workspace released OKDOT1012.4.0 on 1/9/2025
- Workspace updated OKDOT1012.4.1 on 1/30/2025
- Next release under development for late 2025 release
  - Piloting Item Types for Quantity Takeoffs

c. **Digital Delivery Guidelines**
- Information Gathering Meeting held 01/14/2025
- Outline completed 03/14/2025
  - Model Element Breakdown Structure in progress
  - Model Management Plan template in progress
- Initial draft in progress

d. **Modeling Standards**
- Biweekly meetings held with ODOT, Envision CAD, Freese & Nichols and HDR in conjunction with workspace updates
- Initial outline for authoring document to align the modeling standards and digital delivery guidelines sent out 04/15/2025 – updates in progress

e. **Miscellaneous Items**
- Padilla Power hour ongoing and well attended for instruction on ORD
- Meeting scheduled with OK PELS Board to discuss signing and sealing digital models
- Proof of concept for GIS Connection to Bentley Infrastructure Cloud
- Bentley RE onboarded

## 4. Implementation – Design & Construction

a. **Pilot Project Matrix**
- Final Draft completed 02/21/2025
  - Plan Approach
  - Use Cases & Workflows
  - Project Nomination Form
  - Evaluation Criteria

b. **Pilot Projects for Discovery** –
- JP 35427(04) – SH-152 over Washita River & Overflow in Washita Co.:
  - 30% milestone review in June 2024. 60% plans in progress
  - This included 2D plans and 3D model using Bentley Infrastructure Cloud (BIC) and QC/QA Review using BB for 2D and BIC for 3D.
- JP 35578(04) – SH-152 over Deep Creek in Beckham Co.:
  - 60% milestone review in 02/26/2025.
  - This included 2D plans and 3D model using Bentley Infrastructure Cloud (BIC) and QC/QA Review using BB for 2D and BIC for 3D.
- JP 38257-04 - US-56 Cimarron Co: 7.99 mi widen and resurface
  - Assigned to Digital Delivery Team 04/2025
- On the shelf projects assigned to summer students
  - JP# 21007(07) - I-40 Pottawatomie Co: Grade Drain Bridge and Surface

- JP# 35589(04) - I-35 McClain Co: Grade Drain Bridge and Surface
- JP# 29580(04) - US-62 Caddo Co: Grade Drain Bridge and Surface

- Supporting Tasks
  - Teaching future engineers model authoring for ORD & OBM
  - Piloted managing workspaces with Pencil 9
  - Investigating new workflows and model development techniques for use in production teams

c. **Quantimate (Minnesota DOT, Bentley & AASHTOware)**
- Phase 2 aims to expand upon the functional prototype delivered in Phase 1, which included core features
- Oklahoma included due to initiative with Bentley and AutoCAD 3D

## 5. Implementation – Construction

a. **Engaged Construction Contractors in ProjectWise and Risk Registry workshops**
- Contractor email list created
  - DOT Contractors
  - Municipal Contractors
  - DBE Contractors
- Contractor Engagement Survey sent to AOGC and OMCA
  - AOGC sent to membership on 03/14/2025
  - OMCA sent to membership on 04/22/2025
  - Outcomes
    - 5.a...1. 10 responses
    - 5.a...2. General times for in person workshop
    - 5.a...3. Summary document completed 05/04/2025

## 6. Implementation – Asset Management & Maintenance

a. **AEGIST Integration**
- Internal assessment of general report completed
- Oklahoma specific report to come later

b. **Blyncsy AI**
- 300 Miles piloted
- Gathered current conditions data

c. **Pointman**
- Acquiring software and equipment to pilot collection of utilities, culverts, drainage inlets and construction as-built information
- Producing CAD Files and GIS Data
- For use in design and construction via Bentley Infrastructure Cloud

## 7. Foundational Program Support

a. **ProjectWise Implementation Plan & Platform Integration**
- Draft Business Requirement Documents Finalized 03/14/2025
- Architecture Mapping
  - Draft completed 04/22/2025

- Review completed (ODOT, OMES, Digital Delivery Team)
- Approved 04/25/2025
- Training in progress

**b. ISO 19650 Training & Certification**

- Eleven ODOT employees have completed (4 additional since last report)
- Thirty-seven ODOT employees are currently enrolled in ISO 19650 certification class

**c. Risk Management**

- Last Update and Alignment meeting 03/11/2025
- Updates planned for twice a year, or as needed

**d. Peer Exchange**

- Digital Delivery Peer Exchange: 3/26/2025 – PennDOT, PTC, NDOT, TxDOT Digital Delivery Transportation Efficiency & Collaboration event.
- ADCMS Peer Exchange – 6/24/2025
- ODOT agreed to host peer exchange for FHWA for Workforce Development and Connected Data Environment

## 8. Industry Outreach & Workforce Development

**a. Website Updates - https://odotdigitaldelivery.com/**

- Postings/Announcements & Report Uploads – 3 during reporting period
  - 2 workspace updates
  - January ADCMS Grant report (abbreviated version)
- Monthly Analytics – 6 month summary below, see **Attachment B**
  - 896 Unique Visitors
  - 2,334 Views
  - Traffic down due to reduced amount of new content

**b. STEM Outreach**

- Embedded third AASHTO STEM Outreach teacher training into OSU STEM camp

**c. Local Agency Support & Outreach – nothing to report**

**d. Industry Stakeholder Collaboration**

- ACEC 3D Working Group – Workspace and software review and discussions
  - March 11, 2025
- Oklahoma ACEC
  - General Meeting – Digital Delivery Update 05/01/2025
- GIS-T Presentation – 04/9/2025
  - INTEGRATING AI, GIS, AND BIM FOR EFFICIENT ROUNDTRIP DATA FLOW, by ODOT/Michael Pearson
  - Proof of concept for GIS Connection to BIC
- Upcoming presentations accepted
  - WASHTO (2) – July 20-23, 2025
    - 8.d...1. Reimagining Project Delivery Together, by ODOT/Michael Pearson
    - 8.d...2. Educational Session, by ODOT/Michael Pearson
  - IHEEP (3) – Oct. 5-9, 2025
    - 8.d...1. ODOT - Digital Delivery Journey: A Collaborative Approach to Modernizing Project Delivery, by ODOT/Michael Pearson
    - 8.d...2. Bridging Platforms and Standards - A Real-World Digital Delivery Use Case - Oklahoma & Pencil 9, by ODOT/Michael Pearson

8.d...3. Lunch Keynote: Winning the War on Productivity - Tara Blythe - Infotech with ODOT/Michael Pearson

e. **Workforce Development**
   - Quarterly ODOT Roundtables – 04/02/2025
     - BIM Micro-credentialing
     - Modeling authoring curriculum for Vo-tech
     - Participants

8.e...1. ACEC
8.e...2. AGC
8.e...3. Bentley
8.e...4. Infotech
8.e...5. TXDOT

## B: Upcoming Work Plan: July 1, 2025 to December 31, 2025

- **See Attachment A for 6 month look ahead.**

## C: Problems Encountered & Recommended Solutions

- **Implementation taking longer than expected -**
  - Will compress schedule for second half of 2025
  - Use of AI for some tasks
  - Multiple Teams working in parallel
  - Initiating tasks sooner to work in parallel
- **Software Challenges**
  - Pencil 9 – discovered that all projects have to be managed by Pencil 9 or ODOT cannot open projects, have to deploy in house as well as to consultants
  - Workspace needs for 3D modeling in ORD are significantly different than for InRoads, will require total rebuild of workspace to function properly with use of "feature definitions". This is a critical foundation piece to being able to start modeling guidelines, training. and construction.
  - Working with Bentley to determine fixes and work arounds of current workspace
  - Consultant coaching
- **Funding Gap – ODOT will apply for future grants or budget for activities**
- **Reliance on Technology – specifically cloud storage/services**
- **Managing legacy projects through transition from paper to models – Inroads vs. ORD**

## D: Program Estimate Budget

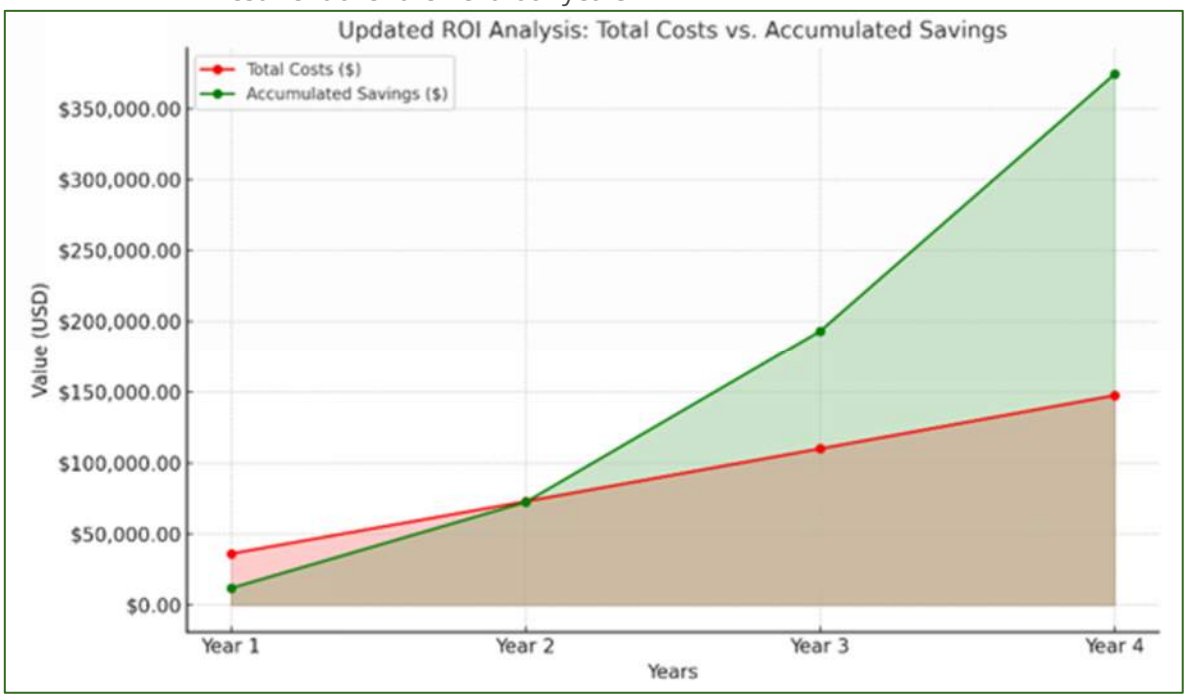
- **See Form 425 for budget update.**

## E: Project Improvements

- **Federal, State or Local Cost Savings**
- **Project Delivery Improvements**
  - Improved communication and discussion at milestone meetings due to reviewing model, see examples below

- Discussion of Fill placement
- Better Understanding of Field approach
- Employees feel more involved
- Potential Conflicts

- Lessons Learned in Real Time
  - Change Order – Potential savings of $900,000 if model had been used, discovered from after action reviews
- Software
  - Pencil 9 – Assist in standards management, graph below shows potential return on investment over the next four years




***Note: Program is in early stages with pilot project still under development. Project improvements are anticipated later in this four-year program.***

## F: Website link

- https://odotdigitaldelivery.com
- **See "resources" tab for workspace files and documentation**

## E: Photos

- **Attachment C – Photos of various activities supported by ADCMS Grant. All pictures have captions and are in support of activities documented in this report.**

**ADCMS Grant Report - Photos** **Attachment C**


*Figure 1 - ACEC Oklahoma Presentation: May 1, 2025 - ODOT Digital Delivery Update*


*Figure 2 - ACEC Oklahoma Presentation: May 1, 2025 - Audience*

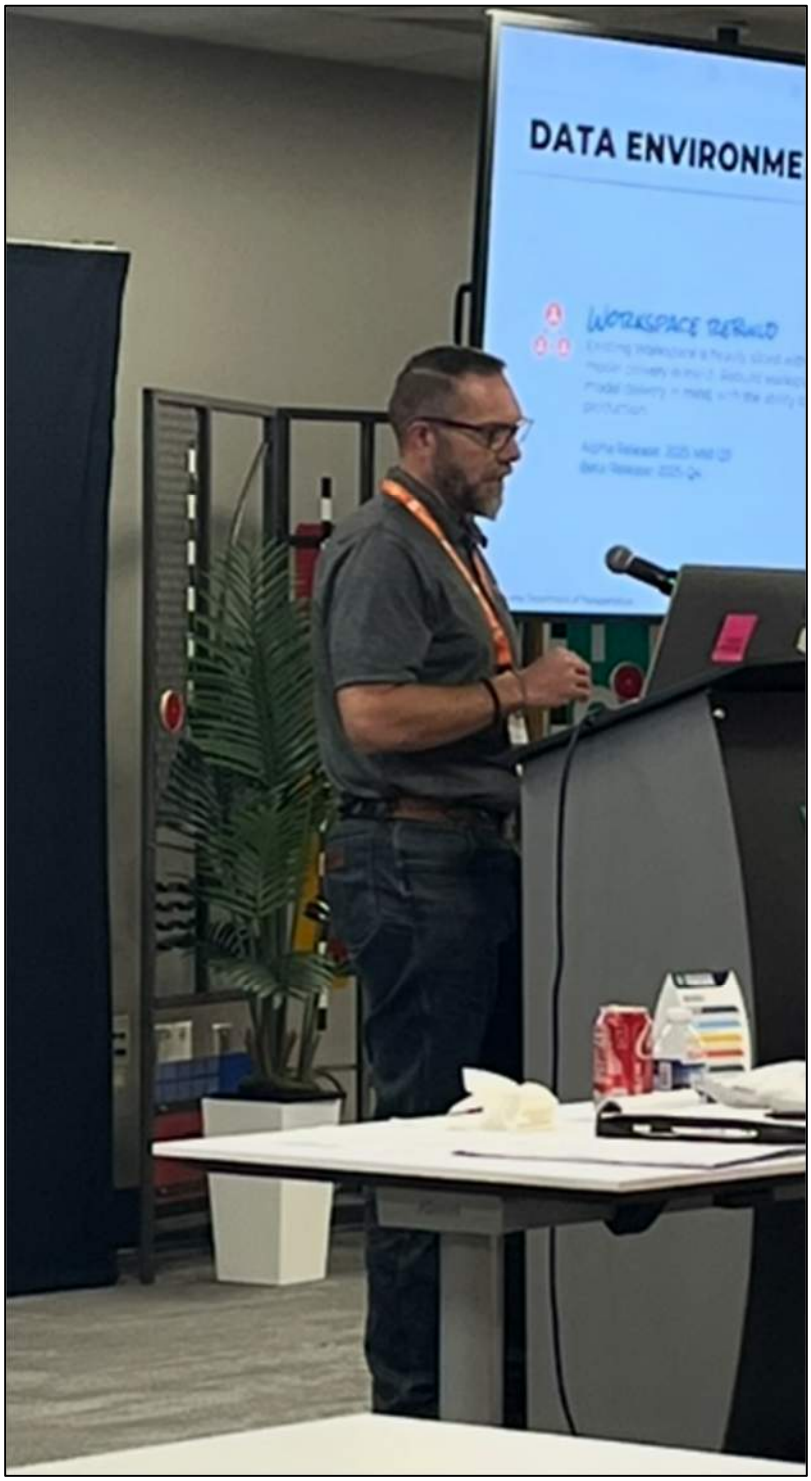



*Figure 3 - ADCMS Peer Exchange: June 24, 2025 – ODOT update*

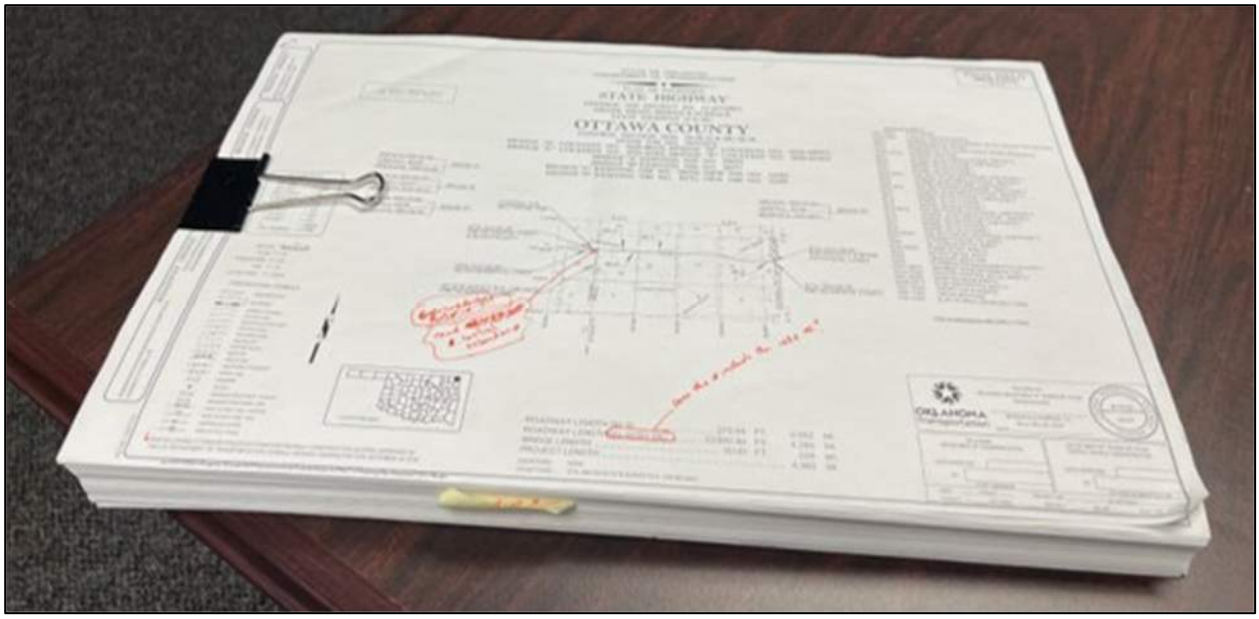



*Figure 4 - 2D paper-based process*

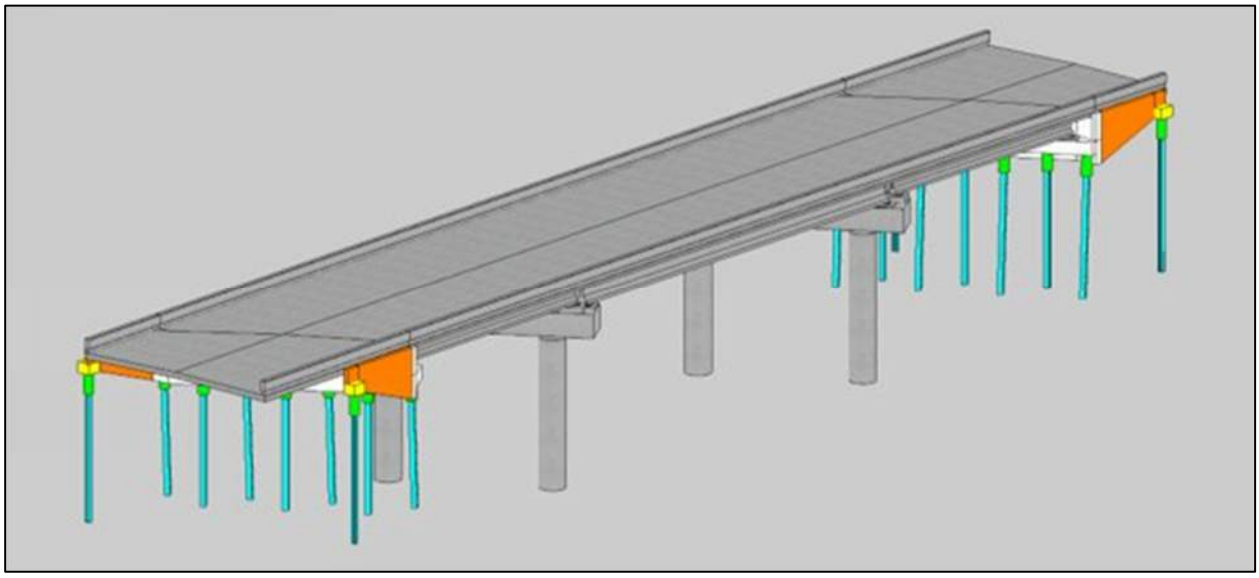


*Figure 5 – OpenBridge Model*

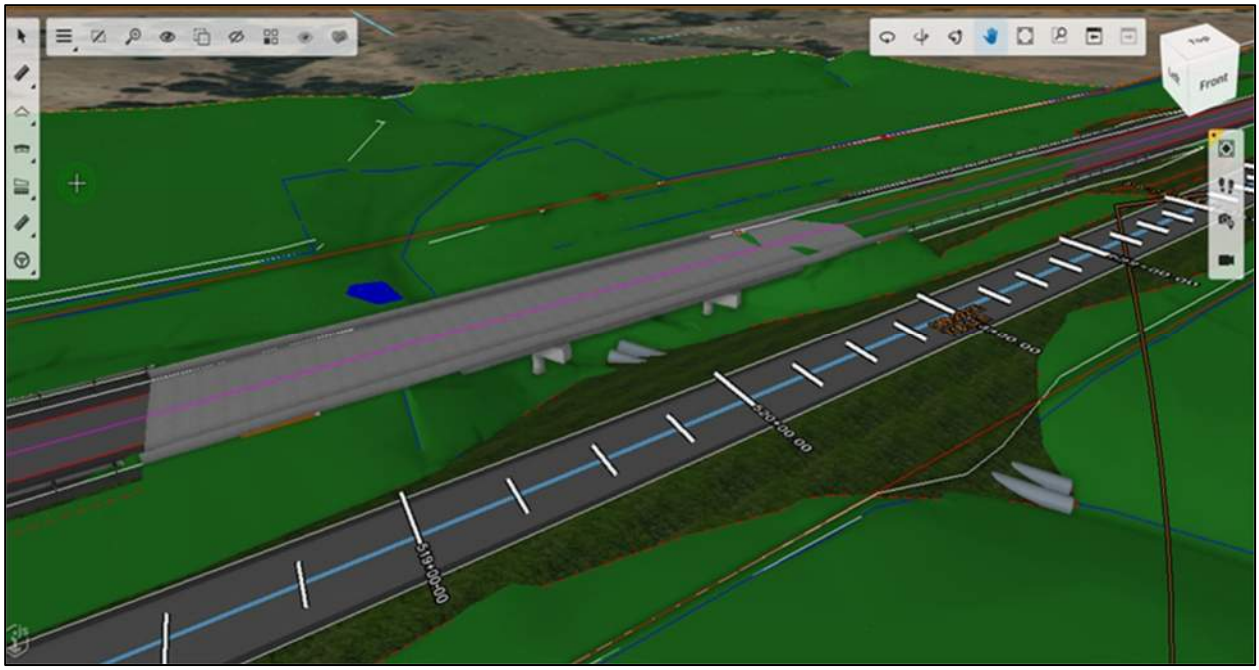



*Figure 6 – OpenRoads and Open Bridge models displayed in Bentley Infrastructure Cloud*


*Figure 7 – Pointman data collection process*

*Figure 8 – Equipment to be deployed in the field for Pointman pilot*

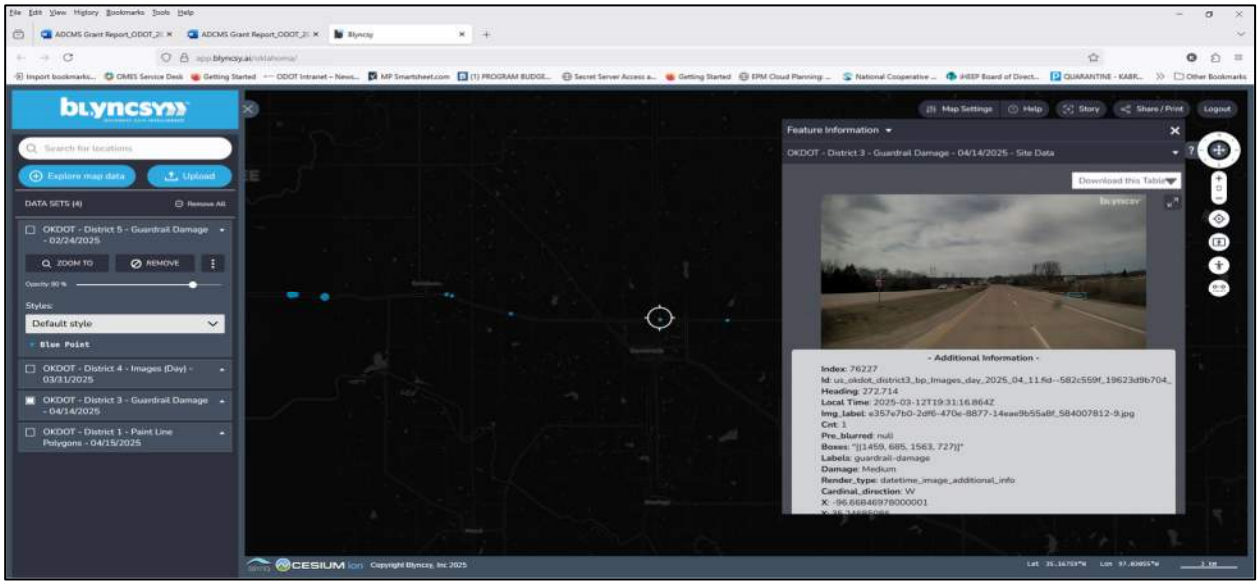



*Figure 9 – Blyncsy data captured*

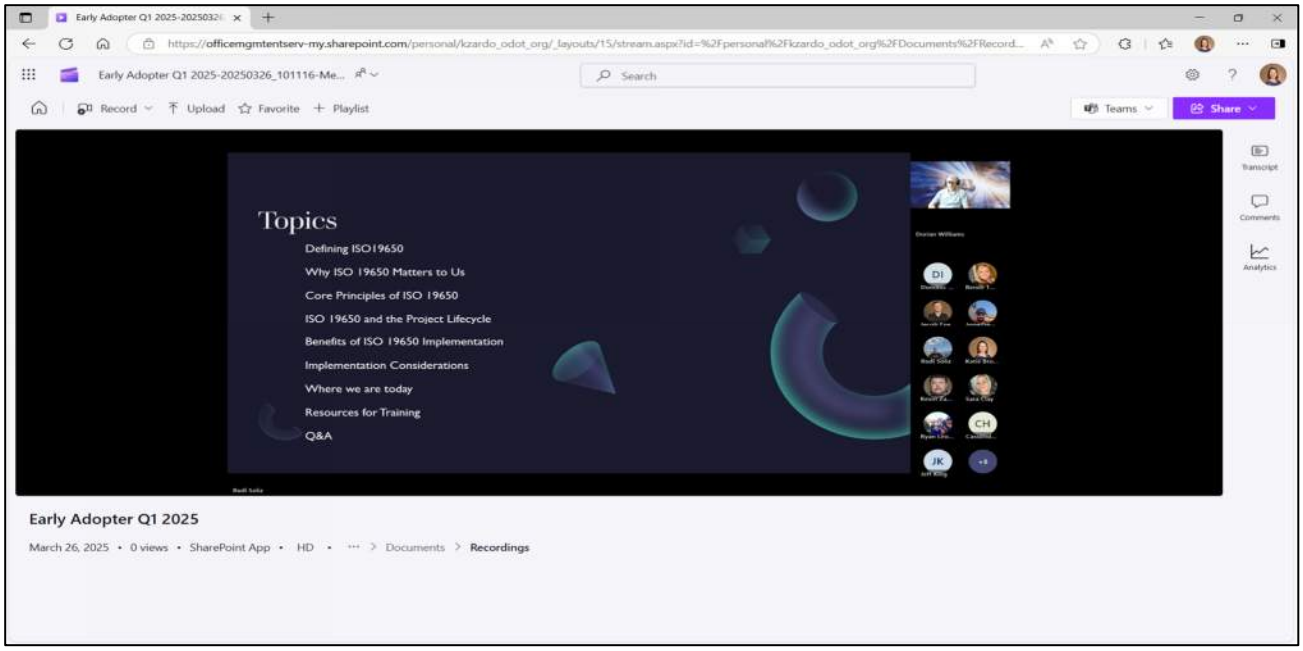



*Figure 10 – Early Adopter meeting Q1 2025*

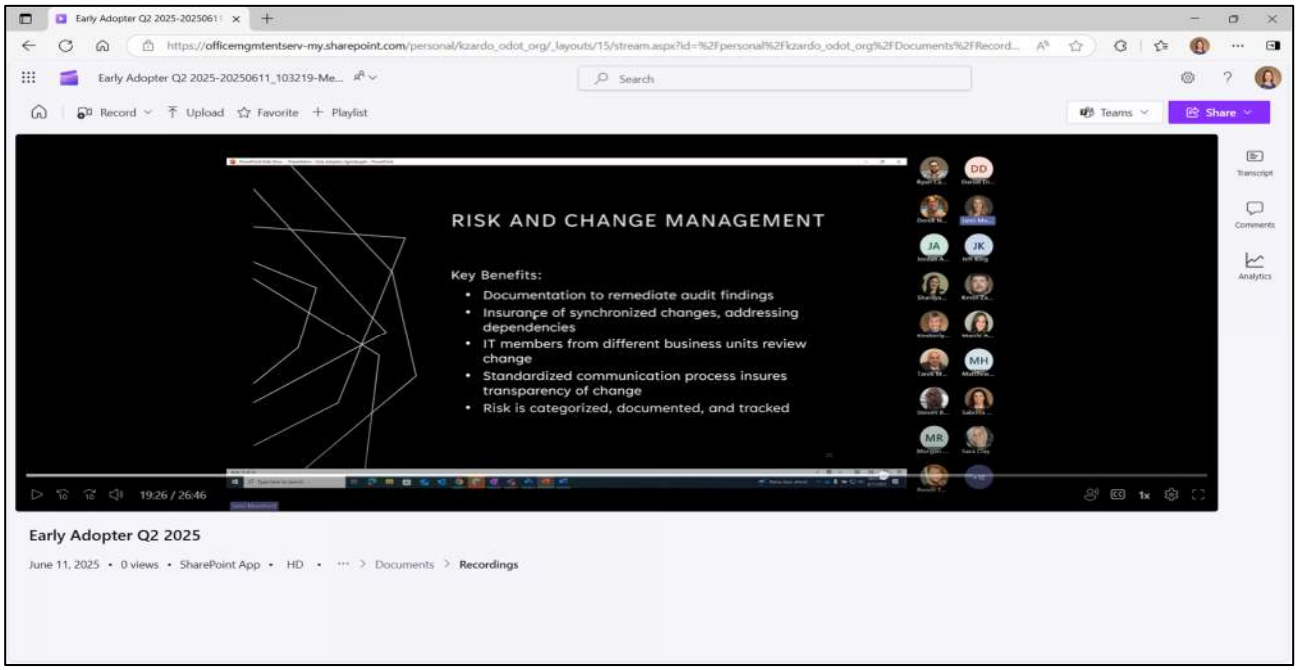



*Figure 11 – Early Adopter meeting Q2 2025*

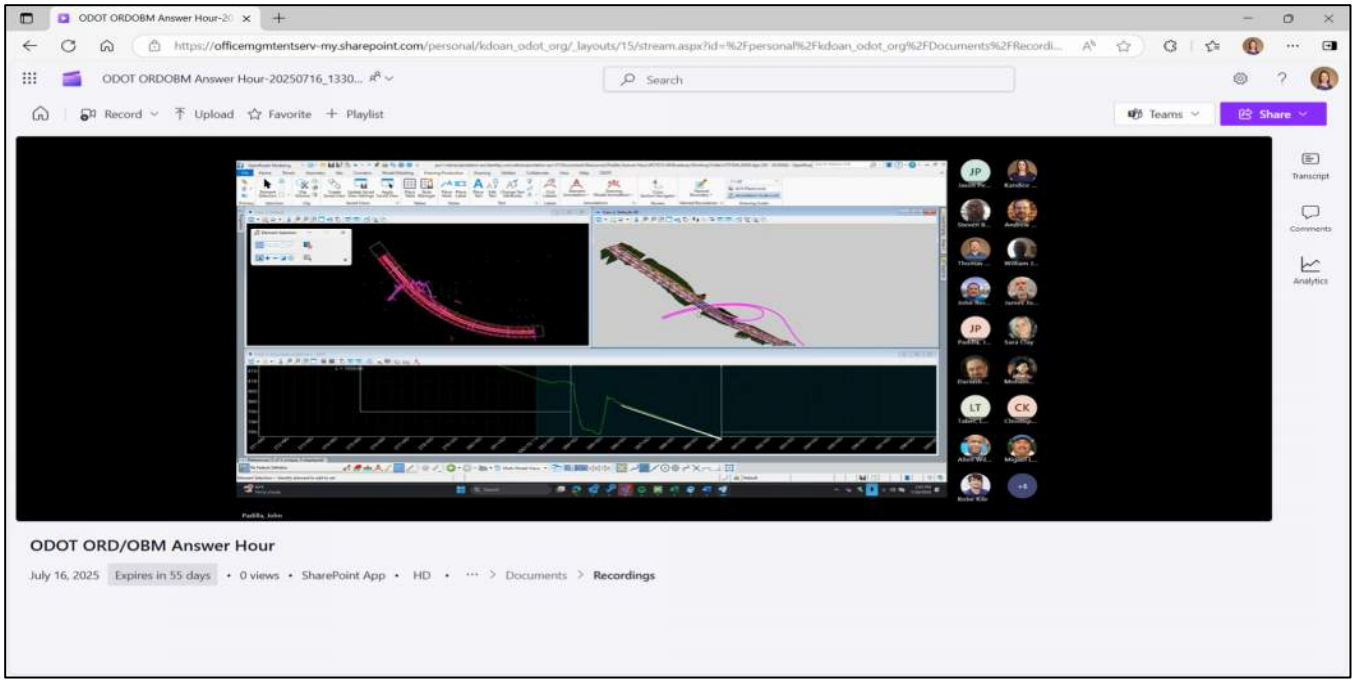



*Figure 12 – ORD/OBM Answer Hour training*

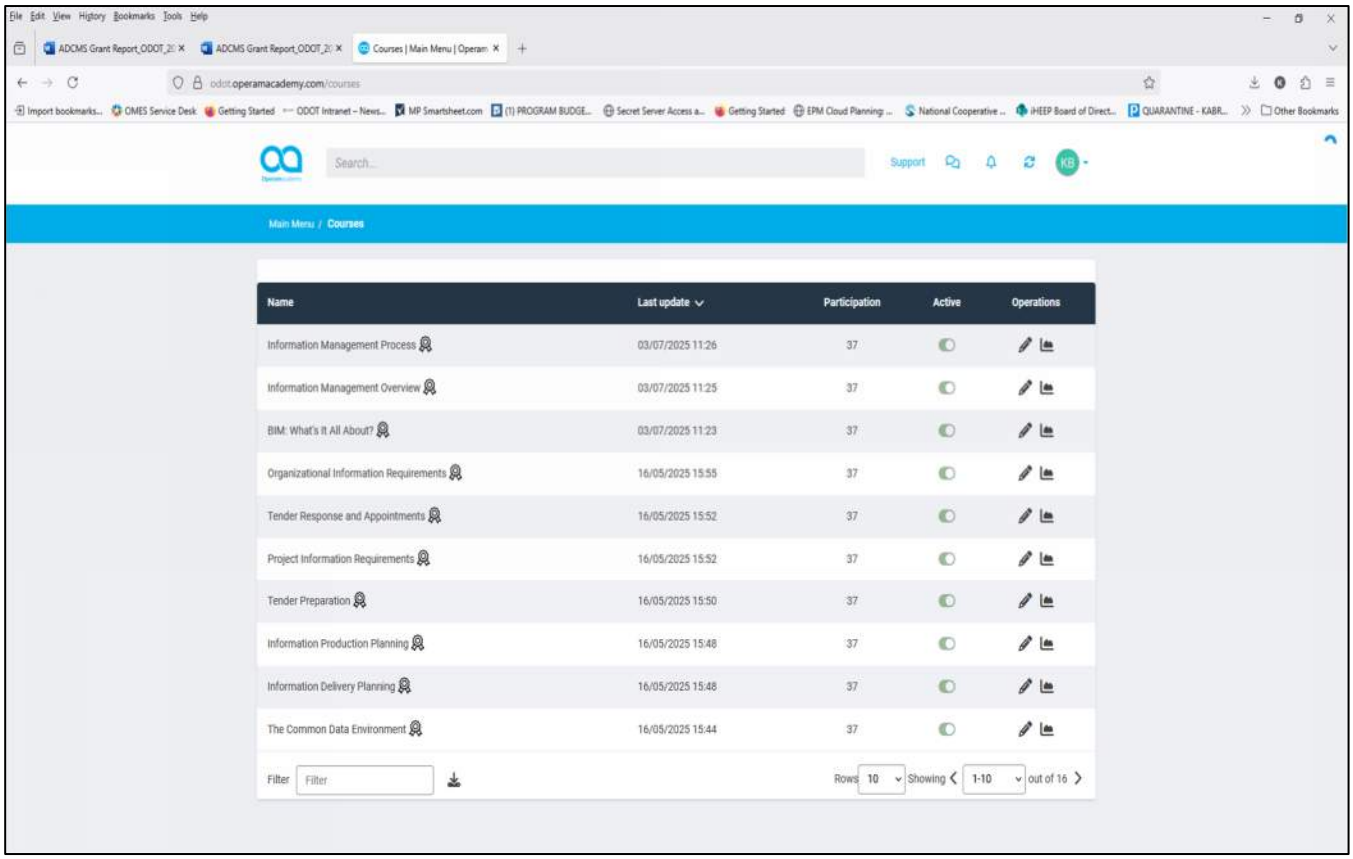



*Figure 13 – Operam Academy ISO 19650 training – managing data using BIM processes*

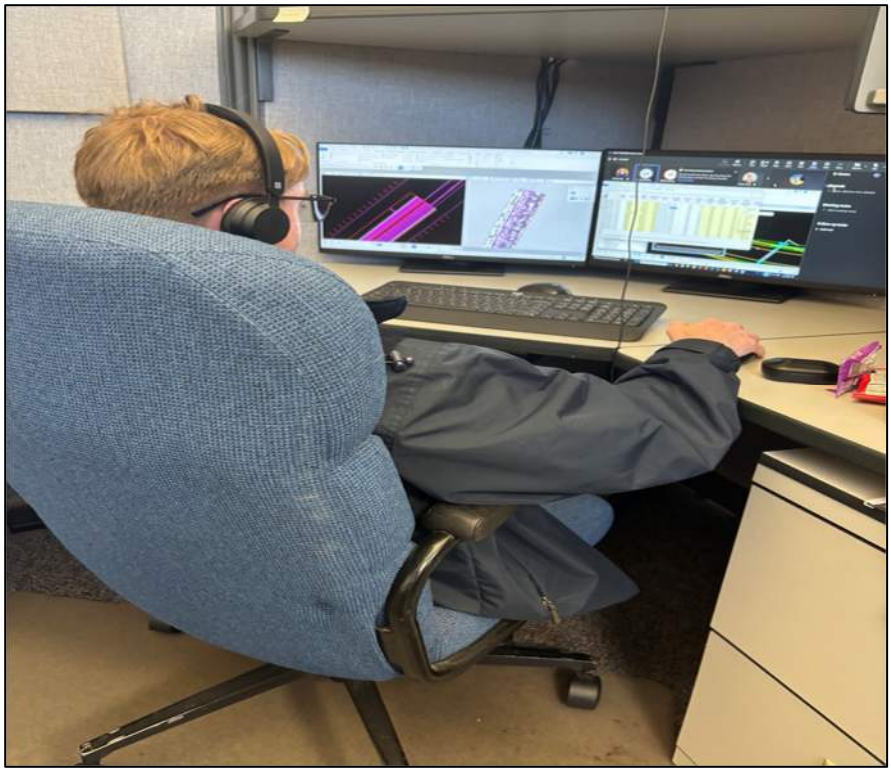


*Figure 14 – University students learning model authoring*

*Figure 15 – University students learning model authoring*