

# 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

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. **Blynscy 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**

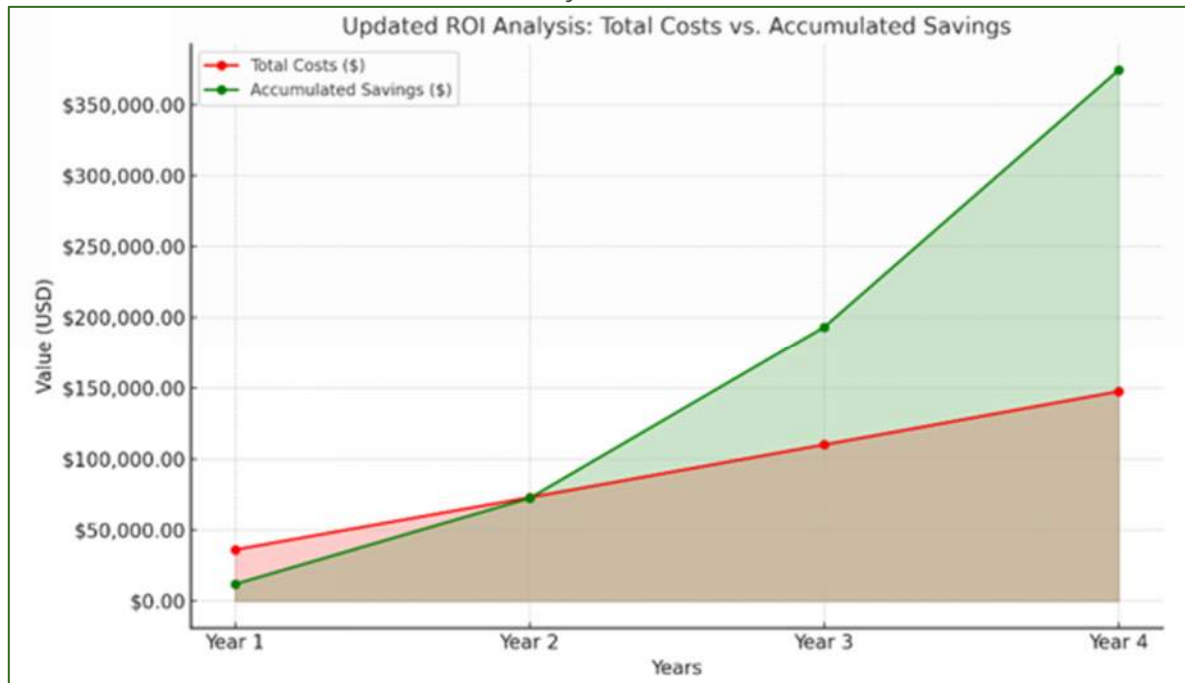
- See Form 425 for budget update.

## **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.



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

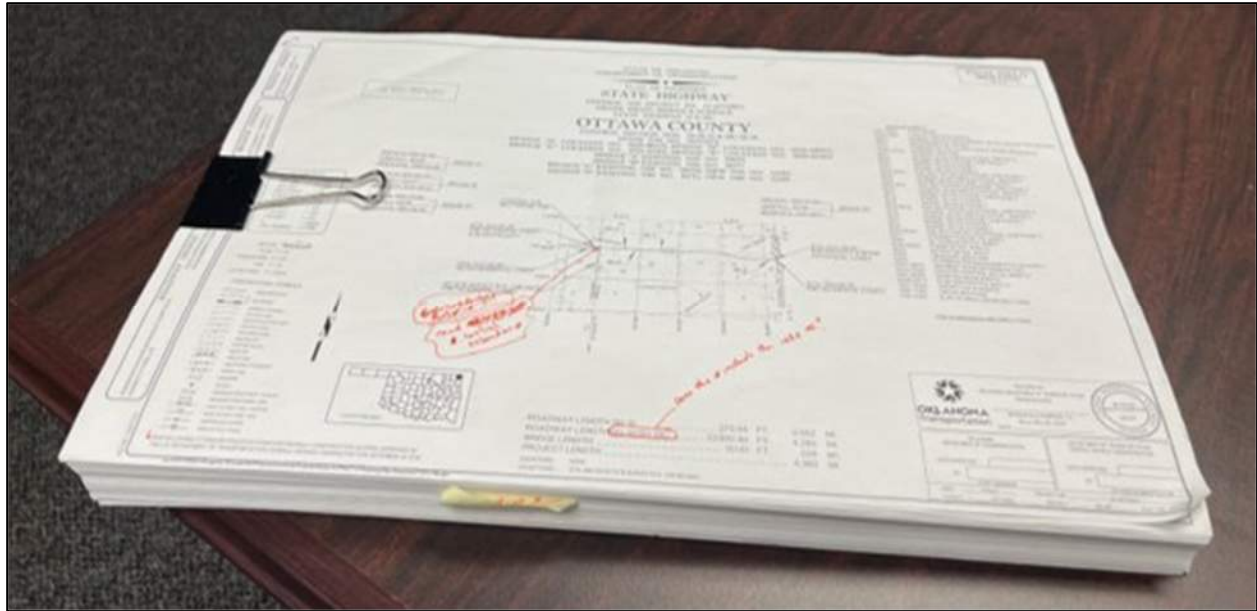


Figure 4 - 2D paper-based process

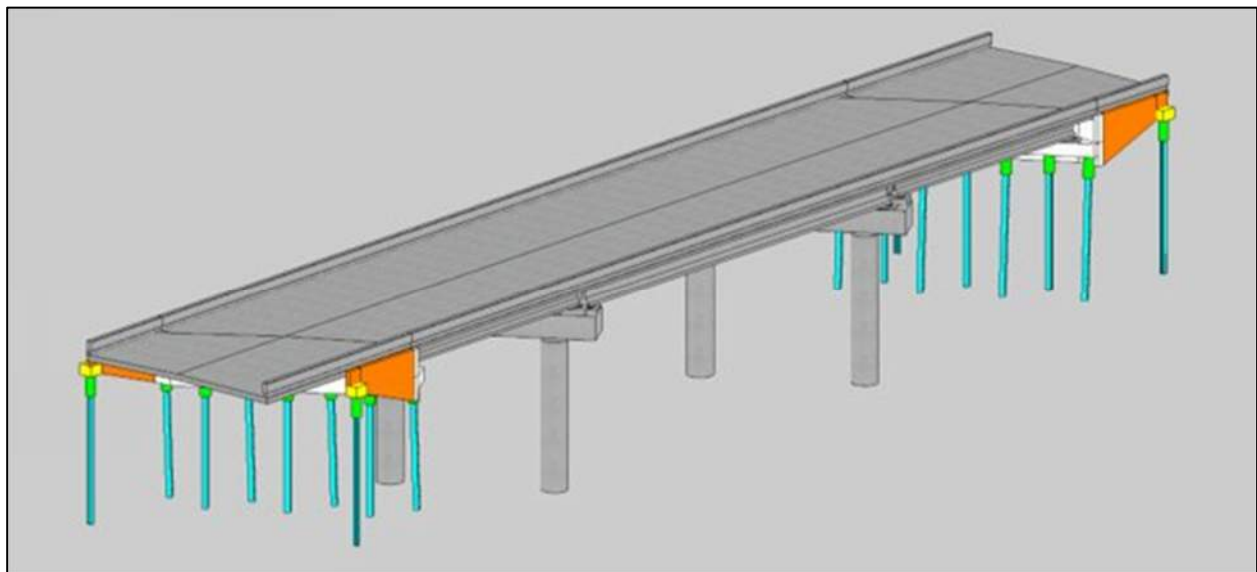


Figure 5 – OpenBridge Model



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

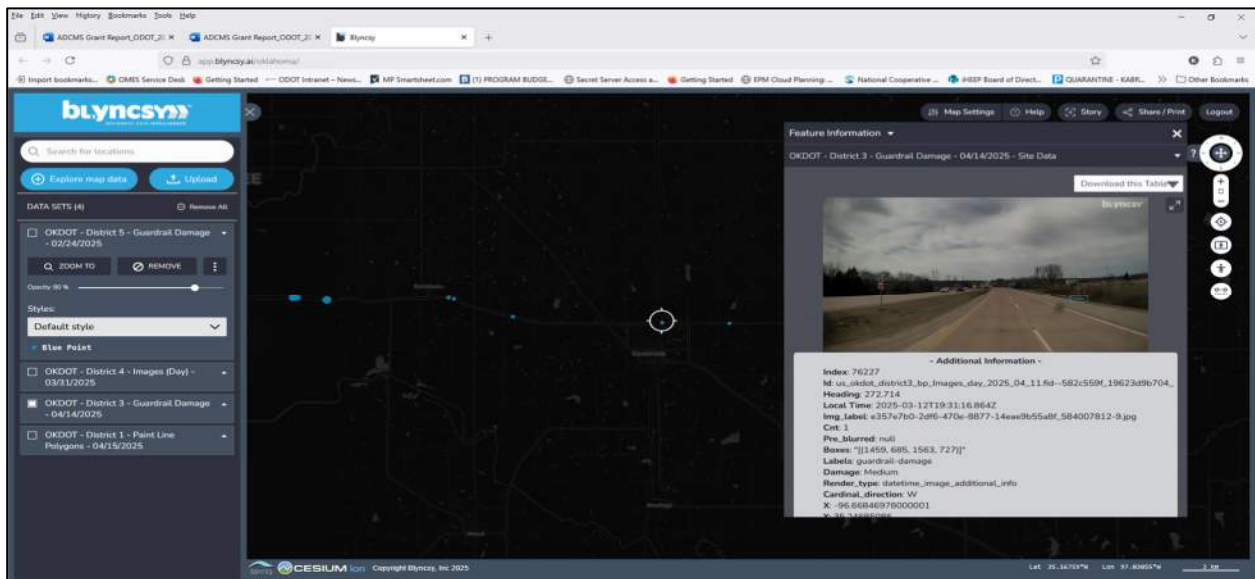


Figure 9 – BlyncoSy data captured

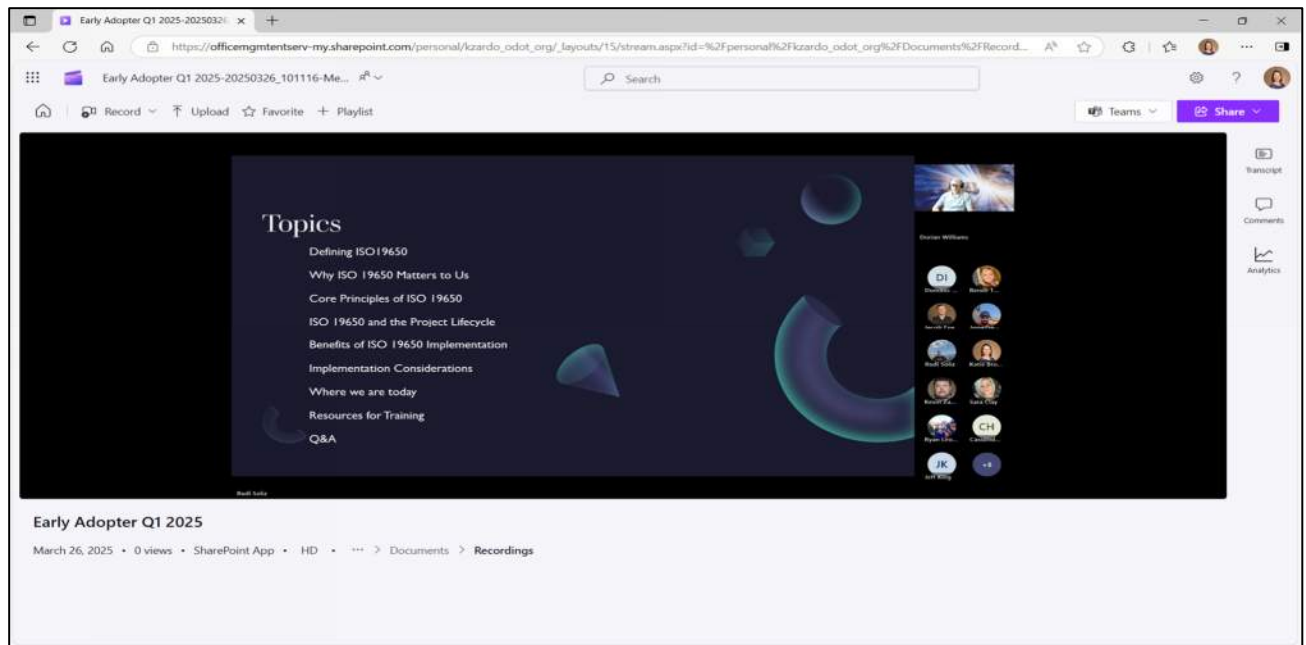


Figure 10 – Early Adopter meeting Q1 2025

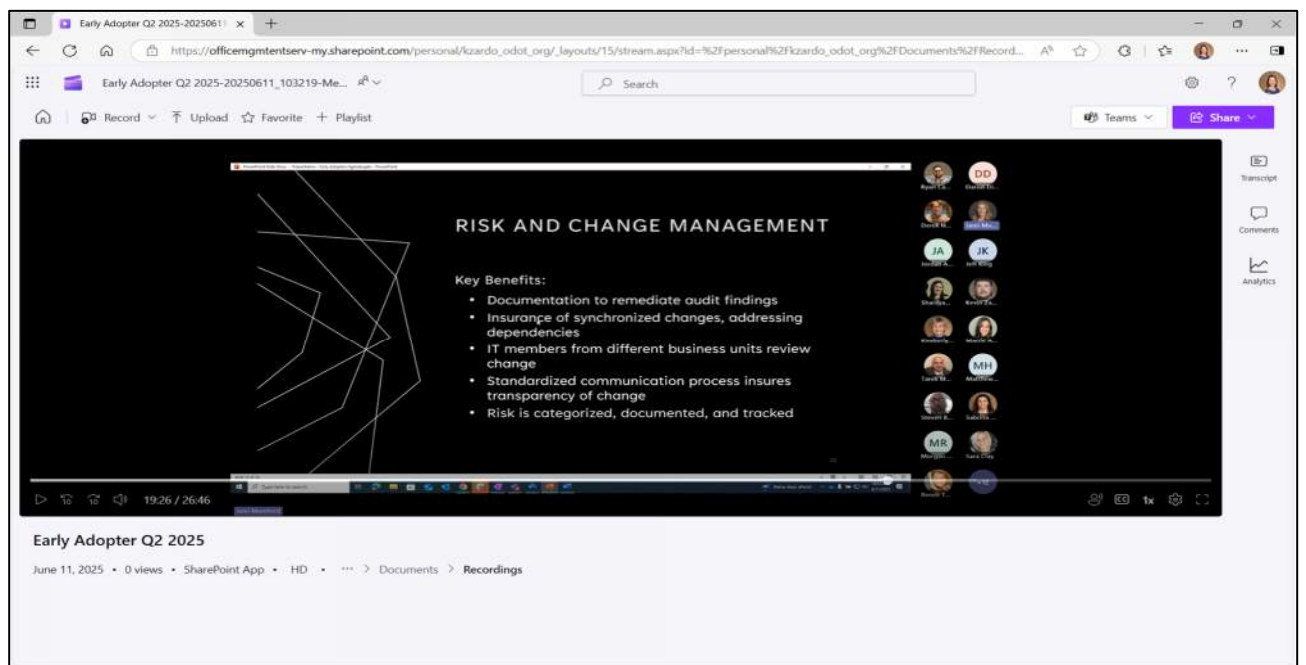


Figure 11 – Early Adopter meeting Q2 2025



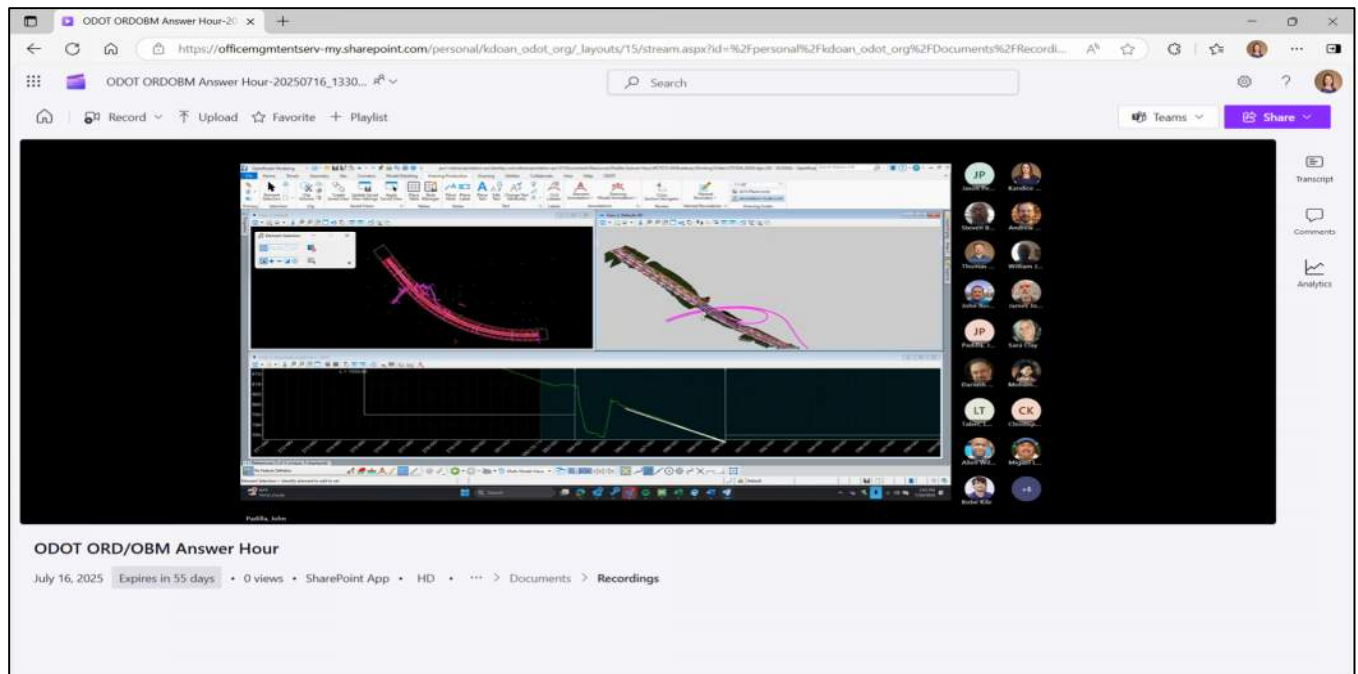


Figure 12 – ORD/OBM Answer Hour training

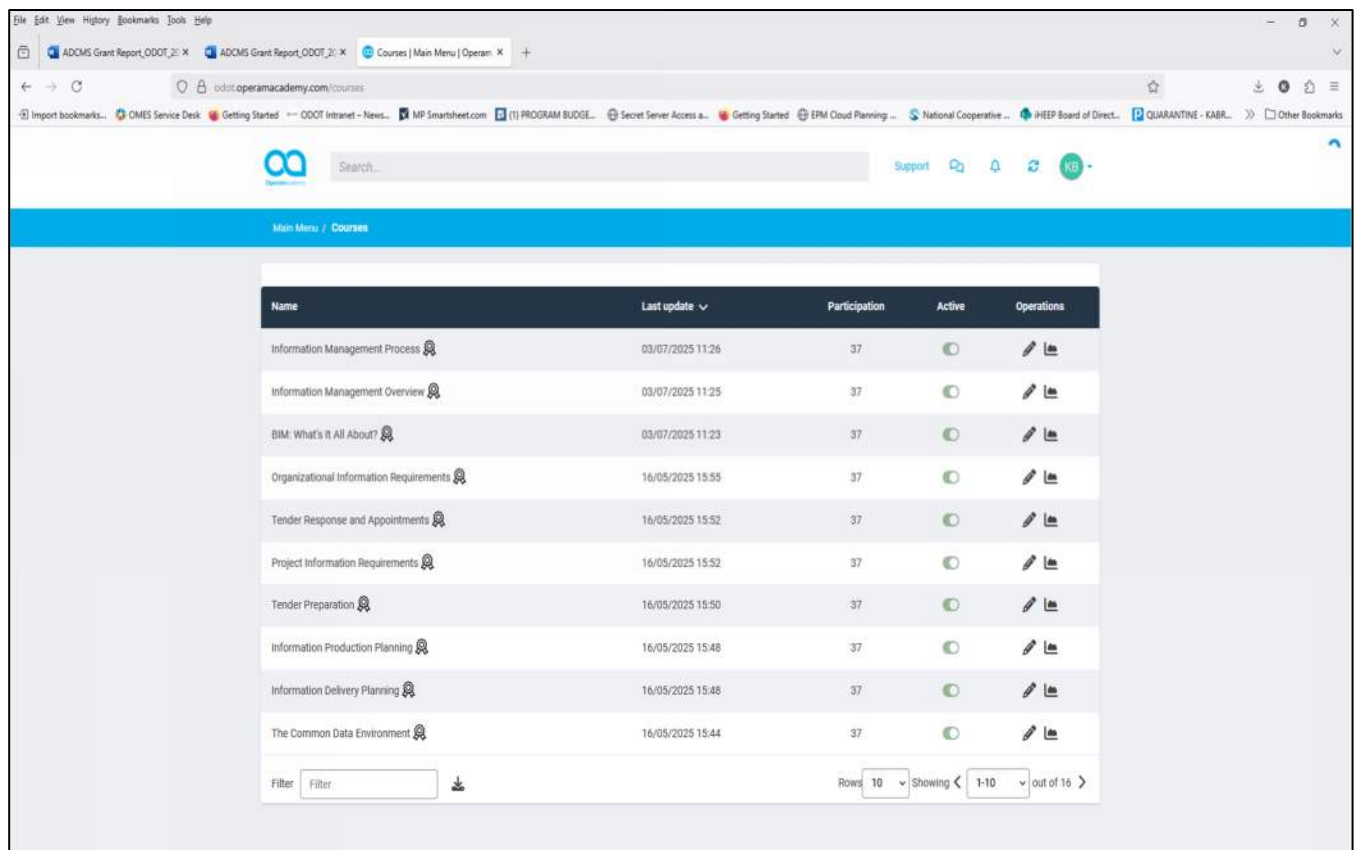
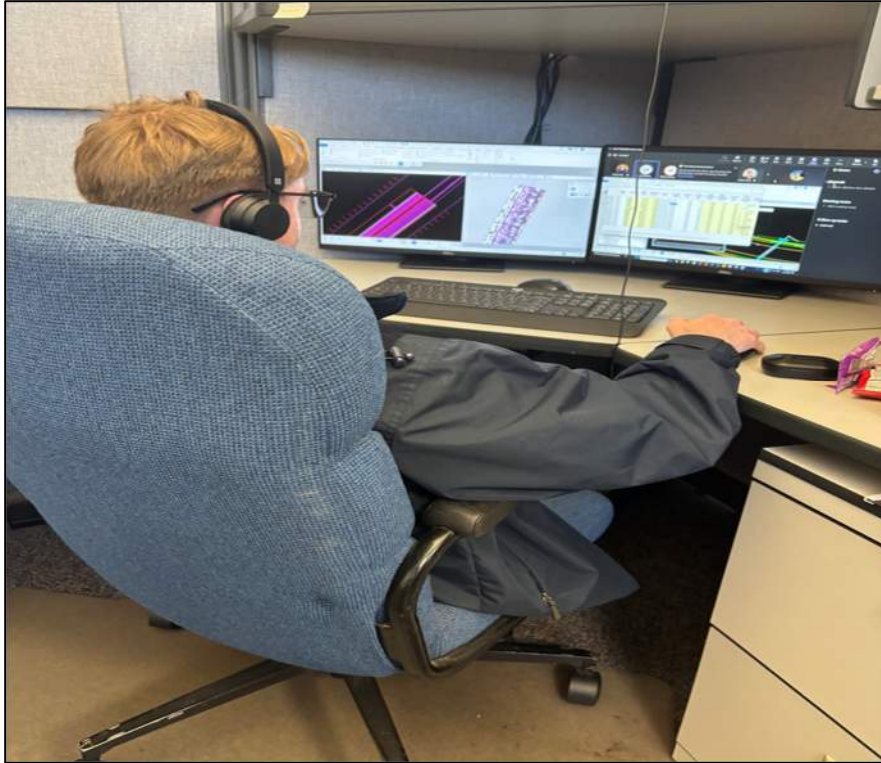


Figure 13 – Operam Academy ISO 19650 training – managing data using BIM processes



*Figure 14 – University students learning model authoring*



*Figure 15 – University students learning model authoring*