

October 31st 2024 Meeting Agenda

10:00 am – 12:00 pm

Meeting Location: Virtual

Welcome and Opening Comments

Tara: Thank you for attending today and thank you to the ODOT & FHWA champions for updating your reports.

Souzan: Yes, thank you for joining. I want to introduce our acting Deputy Division Administrator Bindu Johnson. She's in the Texas Division and has graciously volunteered to help us for the next 90 days, until the vacancy is filled.

Bindu: Good morning, I am the program management team leader at the Texas division. It's very nice to join you all this morning for this meeting and to get to hear some of the great initiatives that's going on in Oklahoma. Thank you!

Souzan: Thank you Bindu, I appreciate all the ODOT and Federal Highway champions for working so diligently and getting the progress reports submitted. I wanted to mention Federal Highway Office of Innovation is working hard on the EDC-8 initiatives. Launch dates are not set in stone right now, but as soon as I hear more information, I'll be sure to share that with you guys. With that, I'm going to turn it over to Tara.

Tara: Thank you and Bindu it's great to virtually meet you. We're happy to have you on the team. The first thing that we do have on the agenda is Mr. Daniel Nguyen, who's at AASHTO this week, so he's not able to join us, but has nominated Tim Tegeler to be the chair for the Standing Committee on pre-Construction. I'm sure everyone knows Mr. Tegeler, but for those that don't, he's our pre-Construction engineer. Tim, if you want to say a few words.

Tim: I just started about two days ago, I'm glad to be here to help out where I can and I look forward to hearing all these great ideas. Good to see everybody from Federal Highway and many on this call that I haven't seen in a while. Thank you!

Tara: Let's get started with updates from Katie. The final report has been sent off to Suzanne and her team. Katie, if you want to go ahead and take over and discuss what's been going on with this initiative and where it stands.

Standing Committee on Pre-Construction (Tim Tegler)

STIC Incentive Project:

Develop Strategic Plan & Roadmap for Digital Delivery

(ODOT Champion: Katie Brown & FHWA Champion: James Bui) Final Report

Katie: Digital delivery is new to the agency; we started with a gap analysis to document what our current state practices are. After that, we needed a strategic plan to document where we want to be in the future. That's where the STIC money came in handy. We used that to develop strategic and tactical goals for the agency. That led to an implementation plan, more specific activities we'll be doing and a timeline. Recently that has included things like: Cleaning up our Software environment. Moving everybody onto open roads, so all future projects will be designed in the open roads, open bridge environment. We only have a handful of people in construction & survey who still have the InRoads software. They are currently in the process of completing their training to move off that. We started work on our Project Wise rebuild. We kicked off our workspace meetings to redo that and make it more conducive to the modeling environment. We also completed a risk registry workshop to identify the various risks to different stakeholders implementing new processes and then finally we've been working on some STEM outreach.

We collaborated with Jennifer and Workforce development as well as Anthony over in the engineering development program. We're about to kick off the First AASHTO STEM Outreach program training for teachers in Oklahoma. We have a partnership with the Tulsa Regional STEM Alliance to look at ways to distribute STEM kits to teachers in classrooms.

Tara: Next, we have the Standing Committee on Construction Materials and maintenance, and Mr. Romero, you are up.

Standing Committee on Construction, Materials, and Maintenance (Matt Romero)

EDC-7 & STIC Innovation Combined Efforts:

Enhancing Performance with Internally Cured Concrete & Pilot Internal Curing for Bridge Decks

(ODOT Champion: Matt Romero/Walt Peters/ Nairi Matevosyan-FHWA Champion: Ralph Nguyen & Waseem Fazal)

Matt: Dr. Tyler Iey has been conducting a lot of research with this incentive. He's done 5 different mix designs, using lightweight aggregates from Oklahoma, Colorado, Texas and doing a control. The results we're getting from these mixed designs are really promising. As far as our pilot project, I've reached out to District 6 earlier this week. They've got the detour in place on the bridge that we're doing this on. The drill shafts are completed with columns in place. The south abutment is complete, and beams are tentatively scheduled for November 7th. We were not anticipating doing the deck until the spring. They're trying to get the deck poured before winter. Once they start pouring the deck, we plan to be out there in person to monitor. But it's weather dependent if they can get it poured at the beginning of the year.

Innovative High-Performance Geotextiles for Stabilization of Problematic Roadway Subgrades

(ODOT Champion: Bryce Hanlon - FHWA Champion: Waseem Fazal)

Bryce: We haven't started yet. FHWA gave us authorization last week. We're in the process of getting the work order in place with OU. Hopefully we can get them going in the next month. I talked with Dr. Tommy, he's trying to get contacts to get the materials to do the research. He's doing large scale testing trying to identify the structural benefit of the geotextiles that are used in our pavement sections. These materials are being used mainly for subgrade stabilization for construction. It helps with erosion and helps keep construction projects on time. A lot of these manufacturers are claiming there's a structural benefit where we could potentially thin up our pavement sections and layer thicknesses. No real data yet, but we will be hopefully starting in the next month or so.

Standing Committee on Safety, Mobility, and Technology (Alan Stevenson)

EDC-7 Innovation:

Next-Generation Traffic Incident Management: Integrating Technology, Data, and Training

(ODOT Champion: Caitlyn Carolus & FHWA Champion: Raghu Kowshik)

Alan: In assessment stage; Most districts have integrated Pi-Lits into their daily operations, collecting data and locations. Currently analyzing and nearing readiness to share with the public through Oktraffic.org. Plans to select wrecker companies to gather further data and advance public warning. Identified a need for additional training on the Pi-Links, which connect to the Pi-Lit system when deployed. Organizing another training session for how to effectively use the Pi-Links, gathering the necessary data more efficiently. Presented innovation at the EDC 7 Workshop for Advanced Technologies. The workshops and peer exchanges are incredibly valuable. Engaging with other states on their implementations and the opportunity to discuss these topics is essential for growth.

Nighttime Visibility for Safety

(ODOT Champion: Marty Farris & FHWA Champion: Huy Nguyen)

Marty: No major updates, we're continuing work on updating all standards across traffic. A part of that is new lighting standards. We have a couple of projects in motion that we've got lighting on. As of yesterday, there's another upcoming peer exchange next spring that we're going to be able to send two people. We're identifying those two and getting them set up to be able to go in the spring. We're still in the developing stage; nothing is institutionalized yet. It won't be

at the demonstration stage since we're still identifying specific lighting types and their associated projects. Things have been taking more time than we thought.

Transportation AI Projects Team

(ODOT Champion: Joni Seymour & Sam Coldiron & FHWA Champion: Huy Nguyen)

Sam: We just got approved as a STIC initiative. We have two major AI initiatives that we're using this for. Asset Image Recognition Initiative: A successful pilot project was conducted on SH-66 in Bethany for this project. Accuracy of asset collection was very high but also showed areas of false positives for improvement. Next steps include moving to a polygonal vs rectangular bounding box method, text extraction from signs, assigning MUTCD Sign Type to signs that are extracted. Once the next steps of enhancing the AI model are complete, the AI/ML team will proceed with a full run of the State Highway System. The second is Rights-Of-Way (ROW) Legal Description Conversion Initiative. A successful pilot project was conducted on 60 ODOT owned property legal descriptions. Accuracy for the conversion of Legal Description to GIS COGO instructions was very high for Legal Descriptions that contained all relevant information. Several older Legal Descriptions were either missing relevant information or were too vague to create a full set of COGO instructions. Next steps are developing a workflow to address manually the Legal Descriptions that are missing information and how to complete the full automation from the AI Model to GIS for Legal Descriptions that can be fully processed. It's converting the property deed into what's called Cogo instructions, where any GIS software can take that in and draw lines automatically based on the instructions. We're partnering with OMES for their AI machine learning team. They're currently bolstering that team to help get these initiatives back up and running and advance them in the next steps. We have not submitted for the FEMA authorization, hopefully in the next week we'll get with Lisa. In the test project, they afflicted signs, guardrails, rumble strips, lighting structures and pavement markings. The next steps are to increase the amount of assets it'll collect to include delineator posts, guardrail in treatments and other things that we can add to that as it runs against the whole state. We're trying to collect any physical object within the right of way to add to this model. This project doesn't allow for identifying damaged guardrail cable barriers, signs, things of that nature. Utah is currently doing that with a concrete jersey barrier. We'll keep an eye on how that's going for them.

STIC Incentive Projects:

Expand Utility Surveying Capabilities

(ODOT Champions: Siv Sundaram & FHWA Champion: Scott Armstrong) Final Report

Siv: As ODOT is starting to develop 3D design models for construction and as the cost of right-of-way acquisition and utility relocation is becoming a significant portion of project costs, it is more important than ever to identify the exact location of utilities early in project development and discuss ways to minimize or avoid utility relocation through design. It is also important to capture the exact location of existing utilities left in place as well as relocated utilities so that the construction contractors have better information on avoiding utility conflicts during construction. In addition, ODOT needs to capture this information in a statewide GIS database and continue to maintain the utility information in our right-of-way. The intent of collecting utility information during design is to combine all the data for an accurate 3D depiction of existing utilities for the purpose of developing a utility conflict matrix and minimization of utility relocations. At the same time, it also provides more accurate information on existing utilities left in place as well as the relocated utilities to the contractors for use during construction. ODOT is planning to use the Field Construction Survey crews to capture the relocated utilities accurately with X, Y, Z coordinates and incorporate the information into Open Roads to include in the construction plans or 3D model to provide to the contractors. The utility permits issued by Field districts outside of construction are currently just kept in files at each District. ODOT is looking into working with the ODOT Field Utility Coordinators to have the utility permit applicants work with the Construction Survey to have the Construction Survey crew pick up the actual utility locations from the permits to include in our statewide GIS database. ODOT entered a contract with a consultant for updating the outdated Construction Survey Manual from 1989 and capturing the collection of as-built utility data in 2024. The consultant will review practices by other States and ODOT's current survey practice and provide proposed format for a construction staking manual which will also capture a section on collecting X, Y, Z coordinates for relocated utilities. The Survey Division held a SUE summit in April 2024. They are developing a workspace in Open Roads for SUE. Construction survey focused ORD training was done June 2024 to transition from InRoads to ORD before ODOT removed InRoads from all computers.

Challenges: Actual implementation of this equipment in the collection of Utility as-built data. Passage of HB 3253 which will affect the survey data collection for as relocated utilities by requiring more involvement from licensed land surveyors in construction survey. ODOT is working with the Oklahoma Board of Licensed Surveyors in developing additional guidance to navigate this. Lack of statewide coordination of principles and practices for Construction Survey. There is no statewide standardization of operational procedures for these work units. The new Construction Staking Guide under development will assist ODOT in developing some standardization of the daily operational duties and responsibilities of personnel assigned to Construction Survey units throughout the state. And the lack of people in survey as we keep losing people or they don't have the experience.

I wanted to say thank you for letting me work on it. This will be my last STIC meeting with Oklahoma. I am going to work for Federal Highway in Colorado next month and maybe I'll get involved from there, so thank you.

Tara & Souzan: Thank you for your dedication and service and all your hard work.

Standing Committee on Special Initiatives (Jennifer Hankins)
EDC-7 & STIC Innovation Combined Efforts:

Strategic Workforce Development & Pre-Apprenticeship Stakeholder-Focused Training Program
(ODOT Champion: Jennifer Hankins & FHWA Champion: Souzan Bahavar)

Jennifer: We are finally at the finish line, not the finish line where we thought we would be, but we are there. We had \$50k and spent all but \$800.00. Completed survey of top trades most difficult to fill with percentages: Pipefitters 100%, Mechanic truck drivers/CDL 97%, Machine operators 93%, heavy equipment operators. Prime contractors seem hesitant in identifying needed courses. ODOT has dedicated State funds to continue SWD programs moving forward. We ended up training 10 folks for approximately \$5000 a person. Some were CDL drivers, we also trained some diesel mechanics and a welder. It'll be interesting to see how those transition. We switched focus on working with STEM projects and looking into bringing in folks into transportation. This last week we saw about 2K Juniors and Seniors and had conversations about the possibilities in transportation. They said they had no idea we could do that. Looking forward to seeing where we go with it and still trying to develop those relationships with our primes. We'll have the final report for the next meeting.

Souzan: I recommend polishing the proposal to have it ready when there's another grant coming up because the money goes up to \$300K per proposal. That would be something that we could entertain.

Jennier: We definitely want to look into that, and we have a good partner for it in an industry that could potentially bring some additional training opportunities. I think they would partner with us on this. They've met with us and director Gatz. We'll see if we can build that up and have it in place and ready to go.

Dr. Zaman & Katie: We're interested in working together as it aligns with what we're currently doing.

Closing Comments:

Tara & Souzan: It's not too soon to start thinking about different innovative initiatives for the next round of applications. Thank you for all your updates, Happy Holiday's.

Next Meetings/Events:

- TBD January 2025 STIC Quarterly Meeting – In-Person