Division of Planning ROC 2024-14 Task 1: ODOT Local Programs Data Systems Peer Exchange 2023

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16. Abstract

The Ohio DOT Office of Local Programs hosted a peer exchange meeting on July 25-26, 2023. The peer exchange meeting was held for the purpose of benchmarking Ohio's local-let program with those of departments of transportation (DOTs) in other states; collecting information and input on technological advances for data capture, reporting, and assurance of program compliance for these programs; and learning about the ways that various state DOTs collaborate with local public agencies (LPAs) to allow LPAs to administer federal-aid projects. The overall goal of the meeting was to exchange policies, best practices, and concepts that will help Ohio DOT improve its overall program compliance tracking and the collection of the required data for federal-aid local projects.

Five departments of transportation participated in the peer exchange meeting, including Ohio DOT, Virginia DOT, Oregon DOT, Iowa DOT, and Michigan DOT. The meeting was attended by Ohio DOT Office of Local Program personnel. Representatives from FHWA Ohio Division, other personnel from Ohio DOT Central Office, district engineers and construction monitors from different Ohio DOT district offices, and representatives of local agencies were also in attendance. The meeting covered two main topics. The first topic focused on the current state-of-the-practice on data collection for local projects and project tracking, the benefits and shortcomings associated with the use of the DOTs' current systems for these purposes, and any lessons learned in the process of selecting the current system(s). The second topic focused on providing recommendations for an improved system or systems that Ohio DOT could use for data capture, data analysis, reporting, and assurance of federal-aid program compliance.

This report was prepared to document the information shared during the peer exchange meeting and to summarize the policies, best practices, and concepts discussed during the meeting with regard to improving the data collection and overall compliance tracking for federal-aid local projects. System recommendations for potential consideration by the Ohio DOT Office of Local Programs are also provided in this report.

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Executive Summary

The Ohio DOT Office of Local Programs hosted a peer exchange meeting on July 25–26, 2023. The peer exchange meeting was held for the purpose of benchmarking Ohio's local-let program with those of departments of transportation (DOTs) in other states; collecting information and input on technological advances for data capture, reporting, and assurance of program compliance for these programs; and learning about the ways that various state DOTs collaborate with local public agencies (LPAs) to allow LPAs to administer federal-aid projects. The overall goal of the meeting was to exchange policies, best practices, and concepts that will help Ohio DOT improve its overall program compliance tracking and the collection of the required data for federal-aid local projects.

Five departments of transportation participated in the peer exchange meeting, including Ohio DOT, Virginia DOT, Oregon DOT, Iowa DOT, and Michigan DOT. The meeting was attended by Ohio DOT Office of Local Program personnel. Representatives from FHWA Ohio Division, other personnel from Ohio DOT Central Office, district engineers and construction monitors from different Ohio DOT district offices, and representatives of local agencies were also in attendance. The meeting covered two main topics. The first topic focused on the current state-of-the-practice on data collection for local projects and project tracking, the benefits and shortcomings associated with the use of the DOTs' current systems for these purposes, and any lessons learned in the process of selecting the current system(s). The second topic focused on providing recommendations for an improved system or systems that Ohio DOT could use for data capture, data analysis, reporting, and assurance of federal-aid program compliance.

At the peer exchange meeting, Andrea Stevenson delivered a presentation on the current state-of-the-practice by Ohio DOT for managing federal-aid local projects. As discussed during the presentation, Ohio is a home rule state, where locals have jurisdiction over all roads that are not under the state system. The average annual budget for federal-aid local projects in Ohio is approximately $300M to $400M per year with an average of 250 projects completed each year. For state fiscal year 2023, Ohio has a total of 292 federal-aid projects with a construction value of $518 million. The participation in the federal-aid highway program requires that the locals collect and retain a large amount of information to demonstrate compliance with the FHWA requirements. At the local level, much of this documentation is maintained in the form of hard copies. Therefore, in many instances, when the Office of Local Programs at Ohio DOT Central Office needs to obtain information on a local federal-aid project, the office personnel must ask the district offices to contact the local agencies to get this information. The LPAs will then need to retrieve the information and report it back to Ohio DOT.

Given the limited staffing at many Ohio LPAs and the reduction in staffing at Ohio DOT over the last ten to fifteen years, it has become more challenging to administer the large number of local-let federal-aid projects in the state. Therefore, the Office of Local Programs would like to have an easy-to-use web-based system that can be used by Ohio DOT for these projects to perform audits and demonstrate compliance with the different requirements of the federal-aid program, where locals (or their consultants) can log into to upload information and Ohio DOT personnel can perform the required audits without the need to contact the locals or travel to meet with them in person. The new system needs to reduce paper processes that have been used by the DOT since the 1990s, provide improved program and project analytics, reduce travel time and cost by Ohio DOT personnel to meet with locals, and allow for faster retrieval of data for oversight, audits, and compliance. It is also desired that the new system be made available to locals at little or no cost and be relatively easy for LPA personnel to use. One of the limitations

of the many web-based systems currently used by Ohio DOT is that they are not available to external users. The new system should not have this limitation.

The LPA Peer Exchange meeting provided an opportunity for the participating DOTs to share information regarding the systems they use to manage, capture, evaluate, and analyze program data to demonstrate efficient use of funds, demonstrate compliance, and ensure program success. Two web-based systems received considerable discussion at the LPA Peer Exchange meeting for managing and tracking federal-aid local projects that Ohio DOT may want to consider for this purpose. The first system is *ProjectWise* developed by Bentley Systems and used by Virginia DOT and Michigan DOT. The second system is *Appia* developed by infotech, Inc. and used by Iowa DOT. At the current time, most construction-related information is shared using these two systems in the form of PDF files (including scanned hard copies), without the ability to automatically retrieve the data contained in these files to perform an audit to demonstrate compliance. Iowa DOT mentioned that it is currently developing a web-based portal for project documentation creation that will be used in combination with Appia and Doc Express. Upon completion, the web-based portal, which will incorporate the DOT's standard item tracking forms used by the LPAs, would allow the forms to be completed and printed for Doc Express, but the data will be extractable for analysis so that Iowa DOT can identify trends and easily pull the FHWA requested data. Michigan DOT also mentioned that it is in contract with Michigan Local Technical Assistance Program (LTAP) at Michigan Technological University (Michigan Tech) to develop a software platform called "Road Construct" for managing construction data for LPAs in Michigan. Dynamic data will be submitted via this software, which would allow the DOT to access and process the data.

Based on the above discussion, two options appear to be available for the Ohio DOT Office of Local Programs to consider for improving its current processes for managing federal-aid local-let projects. The first option is to adopt a cloud-based system like ProjectWise or Appia and utilize various workflows to perform different tasks. The advantage of this option is that these systems are currently used by Ohio DOT for other purposes, and the DOT is already paying for the license fee for their use. Therefore, it would likely be relatively inexpensive for Ohio DOT to adopt this option. Based on the experience of Virginia DOT and Iowa DOT, the estimated time to develop and implement the different workflows is approximately three to five years. Utilizing a cloud-based system will also address some of the challenges faced by external users in accessing the system, as is the case for Ohio DOT platforms that are protected by a firewall and have limited access to external users. Ohio DOT currently uses AASHTOWare to manage construction data for ODOT-let projects. The Office of Local Programs may also want to inquire regarding the possibility of modifying AASHTOWare to accommodate the needs of the local programs. The second option is to develop an entirely new system that will include all the functionalities desired by the Office of Local Programs. This option will be significantly more expensive and will take longer to develop and implement. The estimated time for the development and implementation of such a system is approximately five to ten years.

The LPA Peer Exchange meeting attendees encouraged the Ohio DOT Office of Local Programs to consider the following factors when selecting one of the previous two options: required support from Ohio DOT Division of Information Technology (i.e., required IT support), ability to accommodate future upgrades, amount of information and data to be stored, required training for Ohio DOT and LPA staff on the new system, and need for new staff by Ohio DOT or locals to accommodate the transition to the new system. Regardless of which of the above two options the Ohio DOT Office of Local Programs chooses to pursue, coordination with and buy-in from locals will be critical for the successful implementation of any new system for managing federal-aid local-let projects.

Introduction

The Federal Highway Administration (FHWA) encourages peer exchange meetings among state transportation agencies with the goal of increasing capacity and knowledge for the participating agencies on specific topics. At these meetings, the participating agencies provide information on their policies and processes. They also share information on best practices, real-world examples or case studies, and lessons learned from past efforts. The information and input gained at these peer exchanges can be used by the participating agencies to strategically improve particular programs.

FHWA awarded a technology transfer (T2) grant for fiscal year 2023 to the Ohio Department of Transportation (Ohio DOT) Office of Local Programs to enable it to host a peer exchange meeting on various topics related to federal-aid local projects. The peer exchange meeting described in this report was held for the purpose of benchmarking Ohio's local-let program with those of departments of transportation (DOTs) in other states; collecting information and input on technological advances for data capture, reporting, and assurance of program compliance for these programs; and learning about the ways that various state DOTs collaborate with local public agencies (LPAs) to allow LPAs to administer federal-aid projects. The overall goal of the meeting was to exchange policies, best practices, and concepts that will help Ohio DOT improve its overall program compliance tracking and the collection of the required data for federal-aid local projects.

The Ohio DOT Office of Local Programs hosted the peer exchange meeting on July 25–26, 2023, at Ohio DOT Central Office in Columbus, Ohio. The meeting covered two main topics. The first topic focused on the current state-of-the-practice on data collection for local projects and project tracking, the benefits and shortcomings associated with the use of the DOTs' current systems for these purposes, and any lessons learned in the process of selecting the current system(s). The second topic focused on providing recommendations for an improved system or systems that Ohio DOT could use for data capture, data analysis, reporting, and assurance of federal-aid program compliance. The agenda for the peer exchange meeting is presented in Appendix A.

Five transportation agencies participated in the peer exchange meeting, including Ohio DOT, Virginia DOT, Oregon DOT, Iowa DOT, and Michigan DOT. Andrea Stevenson gave a presentation on the Ohio DOT local programs, Russ Dudley gave a presentation on the local programs at the Virginia Department of Transportation (Virginia DOT), Tiffany Hamilton and Hanne Eastwood presented the current practice on local programs at the Oregon Department of Transportation (Oregon DOT), Dillon Feldmann gave a presentation on the local programs at the Iowa Department of Transportation (Iowa DOT), and Bruce Kadzban presented the current practice for local programs at the Michigan Department of Transportation (Michigan DOT). Additional attendees of the meeting included representatives from FHWA Ohio Division, other personnel from Ohio DOT Central Office, district engineers and construction monitors from different Ohio DOT district offices, and representatives of local agencies (including Madison County and the City of Columbus). The list of meeting participants is presented in Appendix B.

The University of Akron was awarded an Ohio DOT Research-on-Call (ROC) task to prepare a synopsis of the peer exchange meeting. As part of this task, the research team attended the peer exchange meeting and moderated the meeting and discussion. The research team also documented the information shared during the peer exchange meeting and prepared this report to summarize the policies, best

practices, and concepts presented during the meeting with regard to improving the data collection and overall compliance tracking for federal-aid local projects.

Current State-of-the-Practice

At the peer exchange meeting, the five participating states delivered presentations on the current state-of-the-practice for managing federal-aid local projects. A short question-and-answer session followed each presentation. Appendices C through G include copies of the five presentations. A summary of the current-state-of-the-practice by each DOT is presented in the following subsections. Each summary includes a discussion of the organization of the DOT, the average budget and number of projects in the local program, who is responsible for administering the local projects, and the systems and software used to support federal-aid local projects.

Ohio DOT

Ohio DOT has 12 district offices, with an LPA manager and construction monitors in each district. It employs a decentralized structure, with oversight from the Office of Local Programs at Central Office. In Ohio, 172 local public agencies (counties, cities, villages, and townships) are eligible for funding for federal-aid projects. The average annual budget is $300M to $400M per year with an average of 250 projects completed each year. In recent years, Ohio DOT has experienced growth in the program due to funding from the Infrastructure Investment and Jobs Act, post-pandemic catch-up, and the new Construction Manager-at-Risk program. For state fiscal year 2023, Ohio has a total of 292 federal-aid projects with a construction value of $518 million. For projects that are let by Ohio DOT, the DOT is responsible for cradle-to-grave management of the project. For local-let Federal-aid projects, the locals are allowed to administer the project, and oversight is provided by Ohio DOT. Prior to allowing locals to administer their own projects, Ohio DOT first checks to confirm that the locals have sufficient experience and qualifications. A summary of the software/platforms that are currently used by Ohio DOT to support the administration of local federal-aid projects in Ohio is provided in Table 1.

Table 1. Ohio DOT Systems used for Local Programs.

Ohio DOT	OHIO DEPARTMENT OF TRANSPORTATION
Project development	***Ellis*** is an in-house web application providing comprehensive planning, funding, and project development tracking – including project milestones, Statewide Transportation Improvement Program/Transportation Improvement Program (STIP/TIP) tracking, funding designation, and overall program tracking and accountability for all projects. It provides access to external customers and is updated on a nightly basis. Ohio DOT uses ***Ellis*** for specific federally funded items (Buy America, etc.), but there are a number of things that Ellis does not track, and Central Office must ask the district offices to contact the local agencies to get this information. Locals are able to view information on ***Ellis*** but cannot enter information into the system. Upcoming regional projects are posted on the ODOT website, enabling contractors to see projects at a work-type level. This promotes teaming and encourages sub-contractor alliances.

Bidding	***Bid Express*** is a web-based platform (developed by Infotech) that enables locals to participate in electronic bidding for construction projects. Ohio DOT has an extended pilot program (no contract yet) for 123 LPAs that are currently participating (currently no charge for LPAs, but contractors pay a $50 annual fee).
Construction Management	***AASHTOWare*** (developed by AASHTO) is currently used to track goals and wage/payroll payments to contractors for Ohio DOT-let projects, but its use "remains to be seen" for local-let projects. It could potentially be used for civil rights. Some contractors use it for ODOT-let and local-let projects. ***SiteManager*** is a system that was developed in-house by Ohio DOT for use in construction and material management. This is a legacy program that will no longer be supported by Ohio DOT, and Ohio DOT is seeking to migrate construction management to **AASHTOWare**. ***SharePoint***, a web-based program marketed by Microsoft as a document management and storage system, is used by Ohio DOT for construction documentation (including submission of invoice and prompt payment forms) for future reference.
Civil rights documentation	***GoFormz*** (a mobile digital forms and data capture platform that allows users to add signatures, images, logic, and other information) is used by Ohio DOT for disadvantaged business enterprise (DBE) and prompt payment documentation. ***GoFormz*** has large spreadsheets that contractors use, and subcontractors and materials suppliers are able to access **GoFormz** to confirm payments. It allows multiple forms, reports can be printed from reporting services, and data entry is truly paperless. More efficiency is needed in order to eliminate redundancy. ***CRL*** is a web-based management system developed by AASHTOWare for administering external civil rights and labor compliance activities. It is used by Ohio DOT for collecting certified payrolls and subcontractor payments. Some locals did not like ***CRL***. Therefore, Ohio DOT turned to Infotech, and they created a new payment tool product, ***Cygnet***, that was developed in conjunction with ***CRL***.
Environmental compliance	***EnviroNet*** is Ohio DOT's online documentation system for environmental compliance (per the National Environmental Policy Act [NEPA] environmental law). It allows for review, accounts for progress of studies, approval of NEPA documents, and storage of environmental documentation collected during the environmental engineering phase of a transportation project. It is accessible to FHWA, consultants, and Ohio DOT staff.

Virginia DOT

Virginia DOT has nine (9) districts that oversee maintenance and construction on state-maintained highways, bridges, and tunnels in their respective areas of Virginia. Virginia DOT operates and maintains the bulk of local roads in the state – only 85 cities/towns and two counties operate/maintain their own road systems. The structure of the agency is decentralized: Central Office determines policy, procedures, and qualifications, while the districts perform the work. Virginia's program averages ~$400 M/year, encompassing approximately 225 projects. About one-third of the money for the program is used for local projects (and this covers about half of the projects in any given year). Virginia DOT manages the larger projects (each project coordinator at Virginia DOT manages anywhere from 40 to 50 projects at a time), while localities have smaller projects. Virginia DOT does not automatically allow localities to administer projects (they must request to do so, and the process involves requiring the locals to submit forms).

Virginia DOT now handles everything or nothing for a given project (e.g., surveying or right-of-way to construction, submittals, authorizations, etc.). Other projects are performed by locals, where the locals perform an entire project with VDOT oversight. A summary of the software/platforms used to support the administration of local federal-aid projects in Virginia is provided in Table 2.

Table 2. Virginia DOT Systems used for Local Programs.

Virginia DOT	
Project development	***Project Pool*** is a scheduling software used by VDOT for project management. ***Dashboard,*** which is used for performance monitoring, was developed in-house and is available on VDOT's external webpage. It displays performance metrics for VDOT-funded transportation projects. It includes template schedules for locals. *Dashboard* is a data reporting system and not a data collection system.
Bidding	None mentioned in the Virginia DOT presentation or website.
Construction Management	***ProjectWise*** is an automated web-based workflow and document management system (connects to Project Pool) used by VDOT to manage local-let federal aid projects and monitor deliverables for these projects (full implementation in November 2023). VDOT has implemented 30 workflows into ProjectWise to support exchange of information and improve the submittal, review, and approval process of the most critical locally administered project (LAP) workflows. ***PowerBI***, which is an is an interactive data visualization software product developed by Microsoft, is used to manage the data warehouse.
Right of Way and Utilities	***Right of Way and Utilities Management System (RUMS)*** is VDOT's in-house developed software that is used to manage the right-of-way process from start to finish. It is an independent system that provides right-of-way managers with a single, comprehensive view of project and land parcel status and lets them track deadlines more efficiently. It helps Right of Way and Utilities agents generate, customize, store and retrieve appraisal forms, letters of correspondence, and other documentation.
Civil rights	The civil rights workflow in ***ProjectWise*** is only used for the purpose of setting goals; the rest is on paper, but they can build civil rights on the construction side. Part of the package goes for review and part of it goes to civil rights. There may be some uploading or inputting data from localities by the Civil Rights Office at Virginia DOT, and the civil rights and right-of-way reports are sent to the district.
Environmental compliance	***Comprehensive Environmental Data and Reporting System (CEDARS)*** is an internal web-based application that serves as an environmental data repository and is used to track all of the environmental data (National Environmental Policy Act [NEPA] assessments, hazardous materials). It connects to *Project Pool*. It allows the assigning of tasks to personnel and can be used to assign a deadline for a given task.
Others	Buy America compliance and Real Estate (not project-specific) are still using paperwork.

Oregon DOT

Oregon DOT divides the state of Oregon into five (5) geographic regions. Some services are provided by the central offices in Salem; regional offices provide other services, including maintenance, project development/delivery, and traffic management. As of June 22, 2023, the local program of 2021–2024 STIP projects had a total funding of $465M and included 117 projects as well as nine projects that are COBO (certified on behalf of) agreements with Oregon DOT. Approximately 30% of federal funding goes to LPAs. Federally funded contracts are either let/administered by Oregon DOT (where the DOT delivers for the LPAs) or 12 certified LPAs (these agencies represent five cities, five counties, and two metropolitan planning organizations). The LPAs administer state fund exchange projects and grant projects. A summary of the software/platforms used to support the administration of local federal-aid projects in Oregon is provided in Table 3.

Table 3. Oregon DOT Systems used for Local Programs.

Oregon DOT	Oregon Department of Transportation
Project development	Forms are the primary method for collecting information at the program level. Forms in **Adobe PDF** format or **Microsoft Word** (in use for 20+ years) with information that is entered manually are manually shared. Oregon DOT is exploring the development of externally accessible dashboards for certified LPA projects and program-level tracking (options are **Smartsheet, Power BI, ProjectWise, Virtual PM**). Oregon DOT is looking at having locals enter information directly into a spreadsheet as opposed to opening PDFs of quarterly reports and inputting the information into another document (in MS Word format); it is a six-step process, it is inefficient, and it is time-intensive. They also use PowerBI reports, and some have certified project data in them. Other reports can be updated, and documents can be extracted by adjusting the filters in Smartsheet.
Bidding process	**Bid Express** is used for electronic bidding for state-let construction contracts. Certified LPA bidding processes and systems vary by agency.
Construction management	Data is available to Oregon DOT only through a combination of databases: **Microsoft Access** (in use ~10 years) database with manual input is connected but not automated. **STIP-FP** (in use ~9 years), a web-based database is connected. **TEAMS** (in use ~30 years) is a connected database. Oregon DOT has **AASHTOWare Project**, a web-based database in development, which would be available on an as-needed basis to contractors and potentially certified LPAs. The level of access for certified LPAs is still to be determined. Oregon DOT is also considering the use of **Smartsheet** (a web-based system that enables a combination of inputs) to replace some existing PDF forms that would be available to Oregon DOT and LPAs. **ProjectWise** and **DocExpress** are also available to Oregon DOT and contractors, and they can be used as potential software for document storage and management.
Civil rights and environmental compliance	**Civil Rights Compliance Tracking (CRCT)** is currently being used by Oregon DOT. However, the DOT is in the process of migrating its civil rights tracking from CRCT to the **AASHTOWare Civil Rights and Labor module**.

Iowa DOT

Iowa DOT divides the state of Iowa into three (3) regions (which are west, central, and east). The DOT serves and collaborates with 941 cities, 99 counties, and numerous consultants. Iowa has ~600 active state and federal-aid construction projects with a total awarded amount exceeding $1.1B and lets about 300 LPA projects per year. Iowa DOT only allows construction-related costs for most of the federal-aid projects, and funds are distributed among local agencies using a formula. All federal-aid projects in Iowa must be advertised, let, and awarded through Iowa DOT's Contracts and Specifications Bureau. A summary of the software/platforms used to support the administration of local federal-aid projects in Iowa is provided in Table 4 and Figure 1.

Table 4. Iowa DOT Systems used for Local Programs.

Iowa DOT	IOWA DOT
Project development	**Transportation Program Management System (TPMS)** is an on-line system developed and maintained by the Iowa County Engineers Association (ICEA) Service Bureau. It includes county budgets and 5-year programs, Federal-aid TIP / STIP Data, and project development data. It is available to DOT, LPA, regional planning, and consultant personnel. For project tracking, it has some automated monitoring features (with alarms to alert users), permits electronic file management (that has a built-in messaging tool and allows electronic files to be uploaded, downloaded, and stored for future reference), and allows for the management of letting dates. **MasterWorks** construction management is used for project development for DOT projects. Project data in **TPMS** is synchronized in real time with Iowa DOT's **MasterWorks** system.
Bidding process	**Bid Express** electronic bid submission system (by Infotech) is used for both LPA projects and Iowa DOT projects. **AASHTOWare Pre-Construction** (which **MasterWorks** & **Bid Items** can "talk" to – and which can "talk" with **Bid Express**) is used for contracts and proposals.
Construction management	**AASHTOWare Pre-Construction** is used to create a project .json file for **Appia** (performed by local systems staff, ~15–45 min. per contract). The .json file allows the LPA to import the contract data (item quantities and unit prices, contract times, etc.) into Appia for easy project setup. Appia will eventually be connected to Iowa DOT's financial system to issue automatic payments for county projects located on the Farm to Market system. All data is stored indefinitely and can be downloaded by all users. **Appia** is a cloud-based construction management platform developed by Infotech. Appia is used – in combination with Doc Express – by Iowa DOT and LPAs for daily diary entries, bid item quantity placement records, time charge tracking/reporting, pay vouchers, change orders, stockpiles, punch lists, and other activities related to construction. The LPAs ultimately own the Appia files and provide Iowa DOT with "Read Only" access. **Doc Express** (which is like an electronic file cabinet) allows documents to be uploaded and stored in the appropriate file drawer. Some drawers allow for documents to be signed electronically (e.g., construction contract, change orders, project closeout documents). All data is stored indefinitely and can be downloaded

	by users that have been provided access for a particular contract. Testing began in 2015, with full implementation by cities/counties beginning in 2018. The system is free to all users; Iowa DOT has a license that costs $240K/year. Local Systems staff use drawer templates to set up contracts (in ~ 15 minutes). LPAs currently use standard forms in .pdf format or hard copy to track item progress, test results, etc. Change orders and pay vouchers are printed in Appia, then exported to Doc Express for signing and documentation. Iowa DOT is currently looking to develop a future portal to allow standard forms to be completed and printed for Doc Express so the data will be extractable for further analysis.
Civil rights documentation	Disadvantaged Business Enterprise (DBE) shares documents, but civil rights is handled by another office. The Civil Rights Bureau has access to Doc Express documents.
Environmental compliance	LPAs currently use standard forms in .pdf format or hard copy, but Iowa DOT is currently looking to develop a future portal will allow the standard forms to be completed and printed for **Doc Express**, and the data will be extractable for analysis.

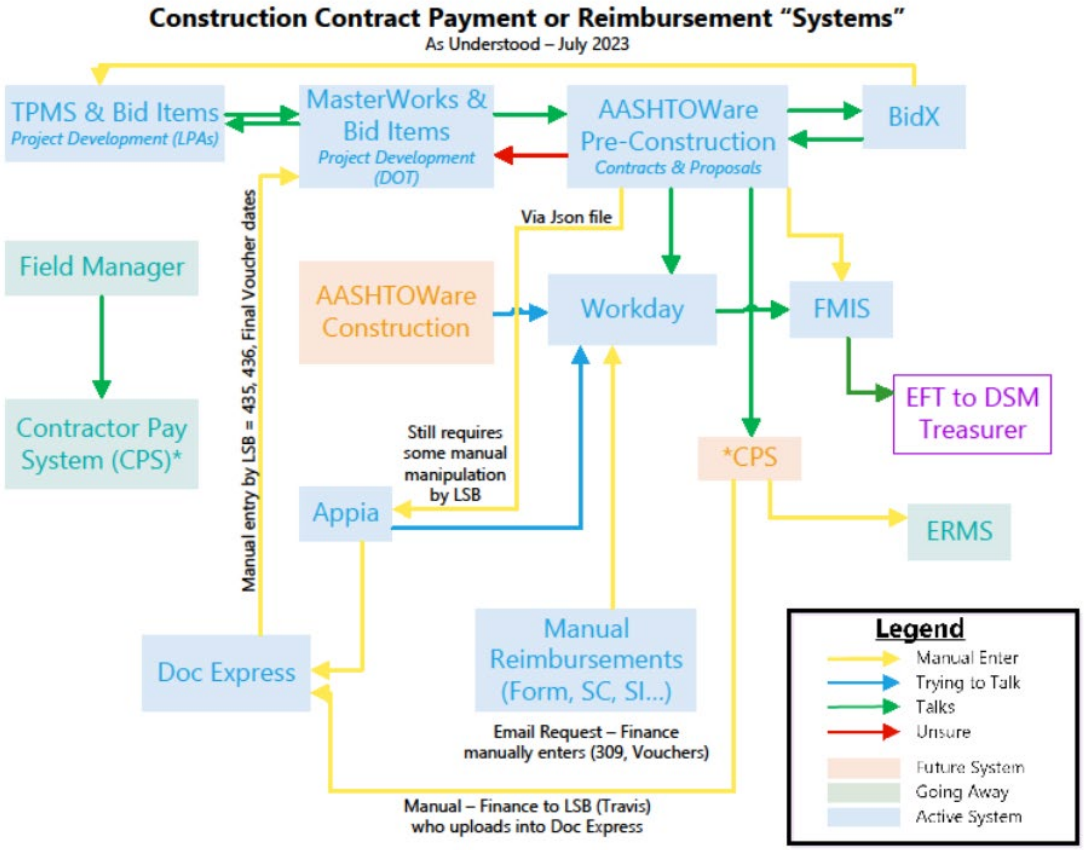

Figure 1. Flow Chart Showing Iowa DOT's Construction Management Systems.

Michigan DOT

Michigan DOT is organized into seven (7) regions, with one "technical service center" in each region to service the state's 630+ total customers. Federal-aid projects are delivered by cities, villages,

county commissions or road departments as well as various partners and other federal and state agencies and departments. In Michigan, the local agencies deliver the projects, while Michigan DOT has a stewardship agreement with FHWA to handle some administration responsibilities. The Local Agency Program (LAP) Unit at Michigan DOT includes 110,000 miles of federal aid–eligible roads (1,200 in the national highway system) which are not trunklines (i.e., state routes, US routes, or interstates) but include minor collectors, rural roads, private roads, and other roads. In FY 2022, the unit delivered over 500 projects for a total of over $645M (with an average project cost of over $1.2M). Michigan DOT finances only the construction aspects of the projects. About 75% of federal aid is dedicated to federal or state routes (trunk lines). Between 15%–20% of total Michigan DOT federal aid funding is for locals, with about $250M per year budgeted for local projects (and these funds are distributed by population). Based on compliance assessment program (CAP) reviews, the entire program was at risk because locals were bidding/awarding projects without following Michigan DOT and FHWA requirements. Because of this, all projects are now administered by Michigan DOT, not by locals. A summary of the software/platforms used to support the administration of local federal-aid projects in Michigan is provided in Table 5.

Table 5. Michigan DOT Systems used for Local Programs.

Michigan DOT	MDOT
Project development	Michigan DOT advertises and collects bids through Michigan DOT letting; they discourage locals from advertising, letting, or administering projects. Michigan DOT will allow locals to use funds from an emergency repair program to advertise and bid projects – but with Michigan DOT supervision and support. An example of emergency repairs is repairs for washed-out roads.
Bidding software	**Bid Express** is used for electronic bidding.
Construction management	**ProjectWise** – Michigan DOT has a whole host of workflows that are established in ProjectWise. Michigan DOT enters/uploads data, but locals have access. Michigan DOT has been finding many other uses for ProjectWise, including financial tracking, construction testing/documentation, Civil Rights/DBE, track comments and reviews, etc. It makes easier for staff engineers to work with local agencies. **JobNet** – This system is used to store project information for projects let through Michigan DOT. It electronically facilitates the Statewide Transportation Improvement Program (STIP) required by federal agencies. Michigan DOT enters/uploads data, but locals have access. **Phase Initiator** – This system is used to initiate phases of jobs. Michigan DOT had considered **Appia**, but it did not work for their purposes. MDOT will implement AASHTOWare for trunk lines starting in FY 2024 and for local projects supervised by Michigan DOT for FY 2025. Some legacy projects for locals use **Field Manager** (but Infotech will no longer support that system, with a firm cut-off date for support), and it is not clear how locals will handle this. Michigan DOT contracted with Michigan's Local Technical Assistance Program (LTAP) at Michigan Technological University (Michigan Tech) to develop a software platform called **Road Construct** to be used instead of **AASHTOWare** for federal-aid local projects (as the use of AASHTOWare is more involved). **Road Construct** does include

	some modules but cannot have too much similarity to **Field Manager** due to proprietary issues; for example, it does not do a lot of checks for federal-aid projects and does not include environmental issues.
Civil rights	The Civil Rights/DBE group uses ***ProjectWise*** for submissions and approvals.
Environmental compliance	The NEPA group uses ***ProjectWise*** for submissions and approvals.

System Recommendation

Ohio is a home rule state, where locals have jurisdiction over all roads that are not under the state system. Locals in Ohio control 84% of center lane miles and 67% of bridges. Federal aid provides funding for the operations and maintenance of all roads and structures that locals have under their jurisdiction. In the federal-aid program, Ohio DOT provides development, support and oversight of training for locals, advocacy, local-let construction and capital program management, LTAP, and contract support for locals. Ohio DOT provides policy and oversight along with FHWA, while locals do all of the work. In Ohio, each district has an LPA manager and one construction monitor. The system is decentralized. Central Office provides manuals, training, and program-related items while locals provide project-related items.

The average annual budget for federal-aid local projects in Ohio is approximately $300M to $400M per year with an average of 250 projects completed each year. For state fiscal year 2023, Ohio has a total of 292 federal-aid projects with a construction value of $518 million. The participation in the federal-aid highway program requires that the locals collect and retain a large amount of information to demonstrate compliance with the FHWA requirements. At the local level, much of this documentation is maintained in the form of hard copies. Therefore, in many instances, when the Office of Local Programs at Ohio DOT Central Office needs to obtain information on a local federal-aid project, the office personnel must ask the district offices to contact the local agencies to get this information. The LPAs will then need to retrieve the information and report it back to Ohio DOT.

Given the limited staffing at many Ohio LPAs and the reduction in staffing at Ohio DOT over the last ten to fifteen years, it has become more challenging to administer the large number of local-let federal-aid projects in the state. Therefore, the Office of Local Programs would like to have an easy-to-use web-based system that can be used by Ohio DOT for these projects to perform audits and demonstrate compliance with the different requirements of the federal-aid program, where locals (or their consultants) can log into to upload information and Ohio DOT personnel can perform the required audits without the need to contact the locals or travel to meet with them in person. The new system needs to reduce paper processes that have been used by the DOT since the 1990s, provide improved program and project analytics, reduce travel time and cost by Ohio DOT personnel to meet with locals, and allow for faster retrieval of data for oversight, audits, and compliance. It is also desired that the new system be made available to locals at little or no cost and be relatively easy for LPA personnel to use. One of the limitations of the many web-based systems currently used by Ohio DOT is that they are not available to external users. The new system should not have this limitation.

The LPA Peer Exchange meeting provided an opportunity for the participating DOTs to share information regarding the systems they use to manage, capture, evaluate, and analyze program data to demonstrate efficient use of funds, demonstrate compliance, and ensure program success. Two web-

based systems received considerable discussion at the LPA Peer Exchange meeting for managing and tracking federal-aid local projects that Ohio DOT may want to consider for this purpose:

1. The first system is ***ProjectWise*** developed by Bentley Systems, Inc. ***ProjectWise*** is an automated web-based workflow and document management system used by Virginia DOT and Michigan DOT to manage federal-aid local projects and monitor deliverables for these projects. Virginia DOT Local Assistance Division mentioned that they first considered Microsoft SharePoint for document management, but they switched to ProjectWise (which is more commonly used for sharing files for design-build projects in Virginia) when they became aware of its capabilities, in particular with regard to the "Workflows" feature in ProjectWise. ProjectWise is currently being beta tested by Virginia DOT with a couple of districts. Full implementation is expected by all districts in November 2023. ProjectWise was relatively inexpensive for Virginia DOT to adopt, since it was already being used for other purposes by the DOT and the DOT already paid for the license fee. VDOT has implemented 30 workflows into ProjectWise to support exchange of information and improve the submittal, review, and approval process of the most critical locally administered project (LAP) workflows. It replaces email submittals, integrates with ProjectWise folders, and includes a dashboard for process improvement analysis. Every district has a project team: people are added to create teams for a project, and a state-wide workflow or a new part of the workflow is created. A matrix for the project is created to show which people are involved in each workflow, and new people can be added to the existing matrix based on their roles in the project. In ProjectWise, a locality (or one of their consultants) chooses the project workflow and attaches a packet. The packet is then sent to someone for review (the recipient has 2 days to acknowledge receipt of the packet and has a due date in 20 days to complete a review). There are different options for the reviewer to choose (incomplete, approved, etc.). Incomplete submittals can be sent back for follow up. Once approved, markups are attached and sent to the locality, and the workflow is documented in the system. ProjectWise is integrated with other systems developed in-house and used by Virigina DOT to conduct performance tracking at the program level. A new program called LAP Sustained Performance Program was implemented this year to track the performance of local agencies in administering their projects. Projects can be tracked considering milestones and time duration and flagged if needed. Michigan DOT also reported using ***ProjectWise*** to manage construction documents for federal-aid local projects. It has also been used for other purposes such as financial tracking, tracking comments and reviews, etc. For construction projects, it was estimated that the use of ProjectWise resulted in a cost saving of approximately $100k per project for larger projects (from the reduced paper costs and mailing costs), in addition to savings in personnel time. Oregon DOT also mentioned that they are considering the use of ***ProjectWise*** to manage federal-aid local projects. Virginia DOT agreed to share its 30 ***ProjectWise*** workflows with other DOTs interested in using ProjectWise for managing federal-aid local projects.
2. The second system is ***Appia*** developed by infotech, Inc. Appia is a cloud-based system used by Iowa DOT – in combination with a file management system called ***Doc Express*** – for construction administration and project tracking of federal-aid local projects. Appia might be considered the "field book," while Doc Express is the "project file." In addition to providing the standard construction functionality, daily reporting, change order management, contractor payments, etc., Appia's web-based infrastructure provides access from anywhere with internet service and can be used off-line in the field through Appia's mobile application. The LPA can provide "read only" access to the DOT and FHWA. "Read Only" access does not require a license for use. Doc Express can be accessed by the DOT,

LPAs, consultants, and FHWA. User access is unique for each contract based upon the Contractor, LPA and/or consultant involved, and the physical location of the project to determine appropriate access for DOT staff. Data input into the system is synched in real-time and uploaded documents are time-stamped. Email notifications are possible, and reporting is more easily achievable. All LPA contracts let through Iowa DOT (all federal-aid projects) have been required to use Doc Express since 2018. All counties in Iowa have been required to also use Appia since April 2022. Cities will also be required to use Appia in the future. Appia is currently used to track items and quantities for payment. Appia and Workday (the financial system used by Iowa DOT) are building an interface for direct payments. Payment information is available, and payments can be authorized online. The DOT statewide license fee for Appia is $150k per year. It is free to all LPAs, but consultants must pay $2,100 per year per license plus a one-time $2,000 implementation fee (implementation fee is waived when purchasing three or more licenses). It was noted that setting up a new contract in Appia takes approximately 15 to 45 minutes. Infotech wrote codes to manually extract data from AASHTOWare Pre-Construction to create the Appia project file. Doc Express is used by Iowa DOT to store all documents. The cost of Doc Express to Iowa DOT is $240k per year, but it is available to all users, including consultants, at no extra charge. Doc Express setup for DOT-let projects (all federal-aid projects in Iowa) is performed by Iowa DOT staff using different drawer templates. The time required for setting up a project is about 15 minutes. Iowa DOT also maintains a standard naming convention for LPA projects to define what drawer documents are to be uploaded to and what to title the documents when uploading. Tremendous time savings were reported by Iowa DOT due to the ease of access to the shared documents. Formerly, paper files for audits were sent by mail or email. It also allowed paperwork to be viewed in real time (which allows errors to be caught and corrected quickly and also saves mailing time and costs). No need to see paperwork, no travel time because the functions are in real time and has thousands of training resources. One-day training sessions are conducted in winter months for counties, cities, and consultants. Iowa DOT indicated that Appia is user-friendly for the most part and that work is underway by Infotech to add more features and incorporate additional functionalities to make it even more user friendly.

At the current time, most construction-related information is shared using the previous two systems in the form of PDF files (including scanned hard copies), without the ability to automatically retrieve the data contained in these files to perform an audit to demonstrate compliance. Iowa DOT mentioned that it is currently developing a web-based portal for project documentation creation that will be used in combination with Appia and Doc Express. Upon completion, the web-based portal, which will incorporate the DOT's standard item tracking forms used by the LPAs, would allow the forms to be completed and printed for Doc Express, but the data will be extractable for analysis so that Iowa DOT can identify trends and easily pull the FHWA requested data. Michigan DOT also mentioned that it is in contract with Michigan Local Technical Assistance Program (LTAP) at Michigan Technological University (Michigan Tech) to develop a software platform called "Road Construct" for managing construction data for LPAs in Michigan. Dynamic data will be submitted via this software, which would allow the DOT to access and process the data.

Based on the above discussion, two options appear to be available for the Ohio DOT Office of Local Programs to consider for improving its current processes for managing federal-aid local-let projects. The first option is to adopt a cloud-based system like ProjectWise or Appia and utilize various workflows to perform different tasks. The advantage of this option is that these systems are currently used by Ohio DOT for other purposes, and the DOT is already paying for the license fee for their use. Therefore, it would likely

be relatively inexpensive for Ohio DOT to adopt this option. Based on the experience of Virginia DOT and Iowa DOT, the estimated time to develop and implement the different workflows is approximately three to five years. Utilizing a cloud-based system will also address some of the challenges faced by external users in accessing the system, as is the case for Ohio DOT platforms that are protected by a firewall and have limited access to external users. Ohio DOT currently uses AASHTOWare to manage construction data for ODOT-let projects. The Office of Local Programs may also want to inquire regarding the possibility of modifying AASHTOWare to accommodate the needs of the local programs. The second option is to develop an entirely new system that will include all the functionalities desired by the Ohio DOT Office of Local Programs. This option will be significantly more expensive and will take longer to develop and implement. The estimated time for the development and implementation of such a system is approximately five to ten years. The LPA Peer Exchange meeting attendees also encouraged the Ohio DOT Office of Local Programs to consider the following factors when selecting one of the previous two options: required support from Ohio DOT Division of Information Technology (i.e., required IT support), ability to accommodate future upgrades, amount of information and data to be stored, required training for Ohio DOT and LPA staff on the new system, and need for new staff by Ohio DOT or locals to accommodate the transition to the new system.

Regardless of which of the above two options the Ohio DOT Office of Local Programs chooses to pursue, coordination with and buy-in from locals will be critical for the successful implementation of any new system for managing federal-aid local-let projects. As discussed during the LPA Peer Exchange meeting, in order for the new system to be well received by Ohio LPAs, it needs to be user friendly to locals, compatible with systems currently used by locals, and relatively inexpensive for locals and their consultants. Ohio DOT is also encouraged to highlight the potential benefits to locals from adopting the new system such as reducing the time and effort needed to conduct audits, reducing or possibly eliminating human errors, providing a repository for file storage to allow future access, and reducing the turnaround times for contract modifications and for contractors to receive payments.

APPENDIX A

Meeting Agenda

Ohio Department of Transportation
Local Programs Peer Exchange 2023 – July 25-26, 2023
Agenda

Peer Exchange Theme: Collaboration between state DOTs that allow local public agencies to administer Federal-aid projects. The goal is to exchange policies, best practices, and concepts in regard to improving overall program compliance tracking and data collection.

Each participating state should plan to provide a 20-minute presentation on Topic #1. Topic #2 is intended to be a more of a brainstorming event with a substantial amount of open conversation focusing on each state.

- Topic #1: Current Situation – Provide information on the following:
  - How is program data for local projects collected within your organization?
    - Type and size of annual Local Program
    - Do you have one system or multiple systems for collecting data?
    - If multiple systems, do the systems connect?
    - Is the system(s) available to both the state DOT and local public agencies?
    - How long have you been using this system(s)?
    - What data is collected and stored in the system(s)?
    - Who is responsible for the input of data?
    - Who is responsible for evaluating the data?
    - Who uses the program data?
    - What is the approximate cost for the system(s)?
    - How is it funded?
    - What level of approval or interaction has FHWA had in your process?
    - Are you successfully using it to evaluate program improvements for the future and program compliance?
  - What are the benefits of your existing system(s)?
    - Have you determined time savings?
    - Have you determined cost savings?
    - Is the system(s) easy to use?
    - What level of user training is required?
    - Do you have easy-to-use analytics to develop program dashboards?
  - Are there any shortfalls or problems with your existing system(s)?
  - Do you have any lessons learned to share when you selected your current system(s)?
    - If you had an option to change systems, would you change or keep the system(s) you have now?
    - Do you know of a system(s) that you would recommend to others?
- Topic #2: System Recommendations
  - Identify data that is captured under current systems
  - Identify additional data that should be captured
  - Identify how data should be evaluated

Day 1 – *July 25, 2023*

8:00 am	*Breakfast and networking*
9:00 am	Welcome, Introductions and Peer Exchange Purpose – Michele Risko
9:30 am	Presentation from Ohio – Andrea Stevenson
10:00 am	Presentation from Virginia – Russ Dudley
10:30 am	*Break*
10:45 am	Presentation from Oregon – Tiffany Hamilton and Hanne Eastman
11:15 am	Presentation from Iowa – Dillon Feldmann
11:45 am	Presentation from Michigan – Bruce Kadzban
12:15 pm	*Lunch on site (Bleu & Fig in ODOT's cafeteria)*
1:15 pm	Topic #2 Discussion: System Recommendations
3:00 pm	*Break*
3:15 pm	Continue with Topic #2 discussion
5:00 pm	Adjourn
	Dinner outing for those who would like to participate

Day 2 – *July 26, 2023*

8:00 am	Grab and Go Breakfast in cafeteria and networking
8:30 am	Key Takeaways Discussion and Group Photo
10:00 am	Report out to ODOT Leadership
11:00 am	Break
11:15 am	Wrap-up and Adjourn by noon – remainder of day is for travel time from Ohio

APPENDIX B

LPA Peer Exchange Meeting Participants

Introduction

A list of the participants who attended the Peer Exchange Meeting on Federal-aid Program for Locals on July 25–26, 2023, is provided below. A group photo of the participants is included in Figure B.1.

Federal Highway Administration, Ohio Division

- Mary Burroughs, Program Manager, Director of Engineering Operations
- Charmagné Crook, LPA Manager, Project Delivery Team Leader for Ohio DOT Districts 3 and 4

Presenters from State DOTs

- Andrea Stevenson, Local Programs Administrator, Ohio Dept. of Transportation
- Russ Dudley, Local Assistance Division Director, Virginia Dept. of Transportation
- Tiffany Hamilton, Local Agency Certification Program Manager, Oregon Dept. of Transportation/ Hanne Eastwood, Certification Compliance Coordinator at the Oregon Dept. of Transportation
- Dillon Feldmann, Local Systems Field Engineer for Eastern Region, Iowa Dept. of Transportation
- Bruce Kadzban, Supervisor for the Local Agency Program Rural and Enhancement Unit, Michigan Dept. of Transportation

Other Representatives from Ohio DOT Central Office

- Victoria Beale, Local Technical Assistance Program Manager at Ohio ODOT
- Jamie Fink, Transportation Engineer with the Office of Alternative Project Delivery
- Kathleen (“Katie”) LaPlace, Administrator in the Office of Civil Rights Compliance
- Nichole Lawhorn, Program Manager in Office of Local Programs
- Tyler Ottersbach, Intern at Ohio ODOT
- Jeffery Peyton, Local Projects Manager in Local Programs Office
- Cody Riley, Intern in the Planning Division
- Michele Risko, Office of Local Programs
- Jeffrey Shaner, Office of Local Programs
- David Walker, Accountability Manager in the Office of Business & Economic Opportunity
- Chase Wells, LPA Construction Contract & Partnering Manager

Representatives from Ohio DOT District Offices

- Cassandra (“Cassie”) Bast, Transportation Engineer 2 at ODOT District 11
- Natalie Conley, Ohio DOT District LPA Manager for District 12
- Brian Davidson, Ohio District LPA Manager for District 6
- Matt Sommerfeld, Ohio District LPA Manager for District 2

Representatives from Ohio Local Agencies

- Bryan Dhume, County Engineer, Madison County (Ohio)
- Jud M. Hines, Project Manager, City of Columbus (Ohio)
- Jacob E. Slechter, Construction Project Manager, the City of Columbus (Ohio)

Representatives from The University of Akron, Agency Leading the Research-on-Call Task

- Anil Patnaik, Professor of Civil Engineering, The University of Akron
- Ala Abbas, Professor of Civil Engineering, The University of Akron
- Sheila Pearson, Research Associate/Technical Writer, The University of Akron

Figure B.1: Group Photo of Peer Exchange Meeting Participants. Back (*left–right*): Mark Sommerfield, Jeff Shaner, Anil Patnaik, Russ Dudley, Jeffrey Peyton, Jacob Slechter, Jud Hines, Brian Davidson, Bryan Dhume. Center (*left–right*): Hanne Eastwood, Michele Risko, Nichole Lawhorn, Andrea Stevenson, Sheila Pearson, Bruce Kadzban, Ala Abbas. Kneeling (*left*): Dillon Feldmann. Front Row (*left–right*): Jamie Fink, Charmagné Crook, Tiffany Hamilton, Cassandra Bast, and Kathleen Laplace.

APPENDIX C

Ohio DOT Presentation

OHIO DEPARTMENT OF TRANSPORTATION

LOCAL-LET PEER EXCHANGE

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WELCOME TO OHIO – TRIVIA ROUND-UP

You just need to know.

What the heck is a buckeye?

LOOK IN YOUR SWAG BAG FOR A SPECIAL TREAT

The buckeye tree (aesculus glabra) is native to North America. In late summer and early fall, the trees bear fruit that contain a large nut. The nut gives the tree its name because it is dark brown with a light spot, resembling the shape and color of a deer's eye.

WELCOME TO OHIO – TRIVIA ROUND-UP

When does the Ohio State Fair Start?

THE FAIR STARTS TOMORROW

The Ohio State Fair is one of the largest state fairs in the United States, held in Columbus, Ohio during late July through early August. As estimated in a 2011 economic impact study conducted by Saperstein & Associates; the State Fair contributes approximately 68.5 million dollars to the state's economy.

- **Cookie Dough Explosion - Funky Flamingo** — A freshly-baked chocolate chip cookie, topped with salted caramel gelato, scoops of cookie dough and covered in hot fudge, caramel, whipped cream and Oreos.
- **Crawfish Bowls - Big G's Food Service** — Take boiled crawfish to another level with mixed with corn and vegetables.
- **Deviled Eggs - Ohio Poultry Association** — Try all of the new flavors: red beet pickle, buffalo pickled, buffalo chicken dip, Mexican street corn, (non-alcoholic) Bloody Mary, Thanksgiving, green eggs and turkey ham, and bacon, tomato, ranch.
- **Dipped Cookie Dough - Funky Flamingo** — Try this twist on edible cookie dough by having it dipped in chocolate and sprinkles with your favorite traditional toppings.
- **Flaming Hot Cheeto Burger - Dickerson & Kenna** — Don't miss this spicy hot burger at the fair, taking flamin' hot Cheetos to the next level.
- **Fresh Squeezed Blue Raspberry Lemon Shakes - Prowant Speciality Company** — Enjoy this crisp and refreshing lemon and blue raspberry drink.
- **Gelato Tacos - Funky Flamingo** — Enjoy taco Tuesday every day of the fair with these delicious dessert tacos

5 |

WILL THE REAL ODOT, PLEASE STAND UP, I REPEAT…

ODOT - Oklahoma

ODOT – Oregon

ODOT – Ohio

6 | ODOT Local-let Peer Exchange

OHIO'S STAKEHOLDERS - LOCAL SYSTEM

- 928 cities and villages
- 1,308 townships
- 28,676 bridges
- 70,500 miles of roads
- 3000 miles of bike paths
- 176 public use airports
- 12th highest transit ridership in U.S.

POINTS OF INTEREST

- Supporting local communities is No. 1
- Locals own 84% of Ohio's center lane miles
- Locals own 67% of bridges, but only 28% (41.66 m sq. ft.) of deck area
- Provide development, support & oversight of training for locals, Local-let construction & Capital Program Management, LTAP

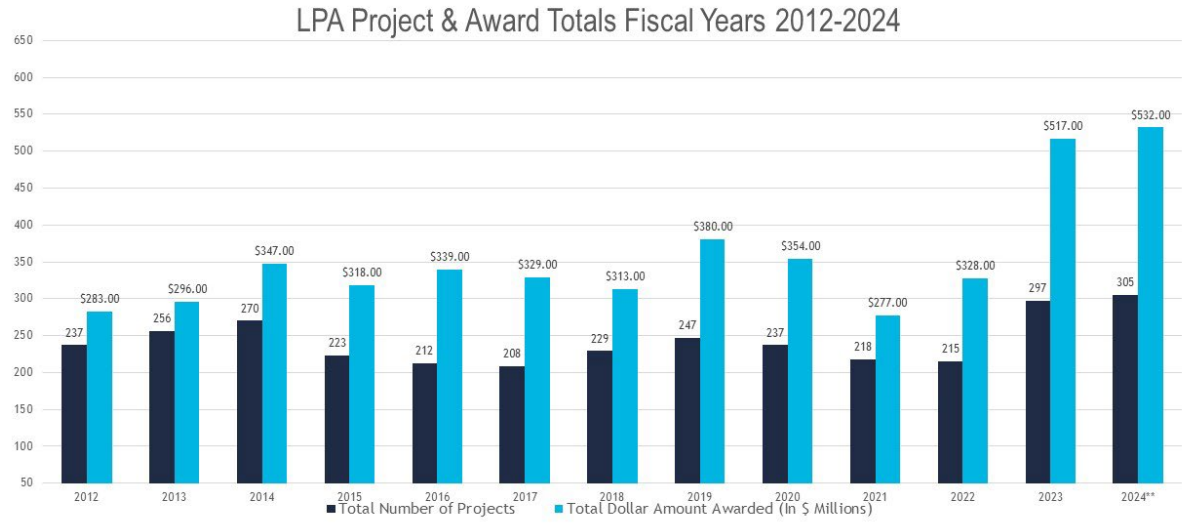
ODOT INTERNAL STRUCTURE

- 12 District Offices
- LPA Manager and Construction Monitors in each
- Decentralized work concept
- Oversight – ODOT CO

OHIO'S LOCAL-LET PROGRAM

- Locals administer Federal-aid projects, with ODOT oversight
- ODOT's Local-let program is among the top 6-7 largest in the country
- SFY23 – 292 projects statewide
- $518 million construction value
- 172 unique qualified locals, includes counties, cities, villages and townships
- Growth due to IIJA funds, post-pandemic catch-up, and new Construction Manager at Risk Program(CMAR)

PROGRAM GROWTH



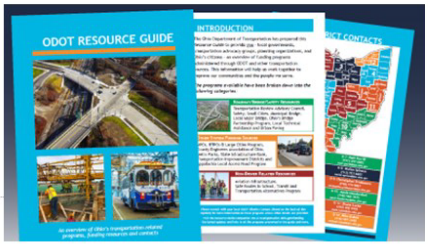
OUTREACH & PARTNERSHIP

- Partnering Reviews
- Advisory Group
- Inter-departmental
- Stakeholder Collaboration
  - CEAO, Ohio Contractors Assoc., Ohio Municipal League,
  - Ohio Township Association, ODNR, OPWC, MPO, RTPO

CAPITAL INFRASTRUCTURE FUNDING OPPORTUNITIES

Award capital funding for transportation improvements:

- $319.4 + million annually in discretionary funds, both federal and state
- 18 + different program opportunities
- Go to ODOT's website and search for "Funding"



TODAY'S TECHNOLOGY TOOLS

- Ellis – comprehensive planning, funding, and project development tracking
  - Project Milestones
  - STIP/TIP Tracking
  - Funding Designations
  - Overall Program Tracking and Accountability

ENVIRONET

- NEPA Tracking system for all projects
  - ODOT under NEPA Assignment
  - Accounts for progress of studies and documentation
  - Accessible to FHWA, Consultants, and staff
  - Approval of NEPA Documents/Chain of Command

ELECTRONIC BIDDING

- Optional for LPAs, extended pilot program
- No charge for LPAs, contractors $50 annually
- Infotech provides Bid Express as software – no contracts
- 123 LPAs participating in bidding

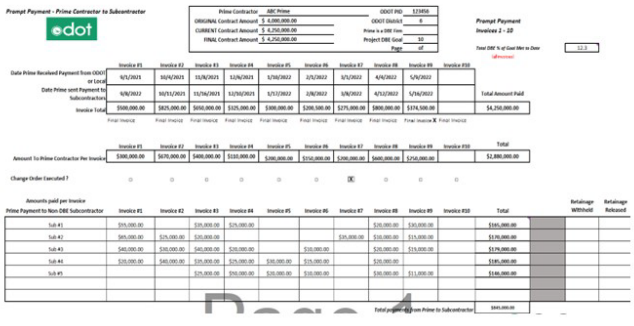
CUSTOM PROJECT DATABASE

Ohio Contractors Association

- Allows contractors to see upcoming projects
- All highway infrastructure permitted to join
- Improves teaming and sub-contractor alliances
- Better look at regional projects at work type level

CIVIL RIGHTS AND CONSTRUCTION DOCUMENTATION

- SharePoint – documentation for construction documentation,
- GoFormz – DBE & Prompt Payment documentation



PROMPT PAYMENT - PRIME

Prompt Payment - Prime Contractor to Subcontractor

Prime Contractor	ABC Prime	ODOT PID	123456
ORIGINAL Contract Amount	$ 4,000,000.00	ODOT District	6
CURRENT Contract Amount	$ 4,250,000.00	Prime is a DBE Firm	
FINAL Contract Amount	$ 4,250,000.00	Project DBE Goal	10
		Page	of

Prompt Payment Invoices 1 - 10

Total DBE % of Goal Met to Date (all invoices) 12.3

	Invoice #1	Invoice #2	Invoice #3	Invoice #4	Invoice #5	Invoice #6	Invoice #7	Invoice #8	Invoice #9	Invoice #10	
Date Prime Received Payment from ODOT or Local	9/1/2021	10/4/2021	11/8/2021	12/6/2021	1/10/2022	2/1/2022	3/1/2022	4/4/2022	5/9/2022		
Date Prime sent Payment to Subcontractors	9/8/2022	10/11/2021	11/16/2021	12/10/2021	1/17/2022	2/8/2022	3/8/2022	4/12/2022	5/16/2022		Total Amount Paid
Invoice Total	$500,000.00	$825,000.00	$650,000.00	$325,000.00	$300,000.00	$200,500.00	$275,000.00	$800,000.00	$374,500.00		$4,250,000.00
	Final Invoice	Final Invoice	Final Invoice	Final Invoice	Final Invoice	Final Invoice	Final Invoice	Final Invoice	Final Invoice X	Final Invoice	

	Invoice #1	Invoice #2	Invoice #3	Invoice #4	Invoice #5	Invoice #6	Invoice #7	Invoice #8	Invoice #9	Invoice #10	Total
Amount To Prime Contractor Per Invoice	$300,000.00	$670,000.00	$400,000.00	$110,000.00	$200,000.00	$150,000.00	$200,000.00	$600,000.00	$250,000.00		$2,880,000.00
Change Order Executed ?	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	

Amounts paid per Invoice Prime Payment to Non-DBE Subcontractor	Invoice #1	Invoice #2	Invoice #3	Invoice #4	Invoice #5	Invoice #6	Invoice #7	Invoice #8	Invoice #9	Invoice #10	Total		Retainage Withheld	Retainage Released
Sub #1	$55,000.00		$35,000.00	$25,000.00				$20,000.00	$30,000.00		$165,000.00			
Sub #2	$65,000.00	$25,000.00	$20,000.00				$35,000.00	$10,000.00	$15,000.00		$170,000.00			
Sub #3	$40,000.00	$30,000.00	$40,000.00	$20,000.00		$10,000.00		$20,000.00	$19,000.00		$179,000.00			
Sub #4	$20,000.00	$40,000.00	$35,000.00	$25,000.00	$30,000.00	$15,000.00		$20,000.00			$185,000.00			
Sub #5			$25,000.00	$50,000.00	$20,000.00	$10,000.00		$30,000.00	$11,000.00		$146,000.00			
											Total payments from Prime to Subcontractor	$845,000.00		

NEXT STEPS

- Reduce 1990s paper processes
- Improve project & program analytics
- Faster retrieval of data for audits, compliance and oversight
- Cost effective for LPAs
- Ease of use

CONTACT INFORMATION

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Columbus, Ohio 43223
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andrea.stevenson@dot.ohio.gov

QUESTIONS

APPENDIX D

Virginia DOT Presentation

VDOT

VIRGINIA DEPARTMENT OF TRANSPORTATION LOCAL ASSISTANCE DIVISION

Locally Administered Projects – Organizing Program Data
Ohio Local Programs Peer Exchange 2023

Russ Dudley, Division Administrator

July 25, 2023

Data Collection

First – important to have broad view of program:

- VDOT Operates and Maintains the bulk of local roads in the state – only 85 cities/towns and two Counties operate and maintain their own road systems (VDOT took over County Systems 1932);
- Most of the funding available is distributed through application processes; local public agencies must typically sponsor the projects (and apply for them) but VDOT generally will administer the projects;
- Significant amount of funding provided by localities (funding often used to leverage project funding applications);
- Localities may perform entire project with VDOT oversight;
- The Local Projects Program is not treated as a separate program for localities.

Data Collection

Various Systems Collect All Six Year Improvement Program (SYIP) Data Suite (VDOT & Local)

"External" Systems:

- Comprehensive Environmental Database and Reporting System (link)
- Right of Way and Utilities Mgmt System
- ProjectWise Files (link)
- Project Wise Document Mgmt System for Local Projects (integrated with ProjectWise Files)
- Various Performance Reporting Systems (report/query data)

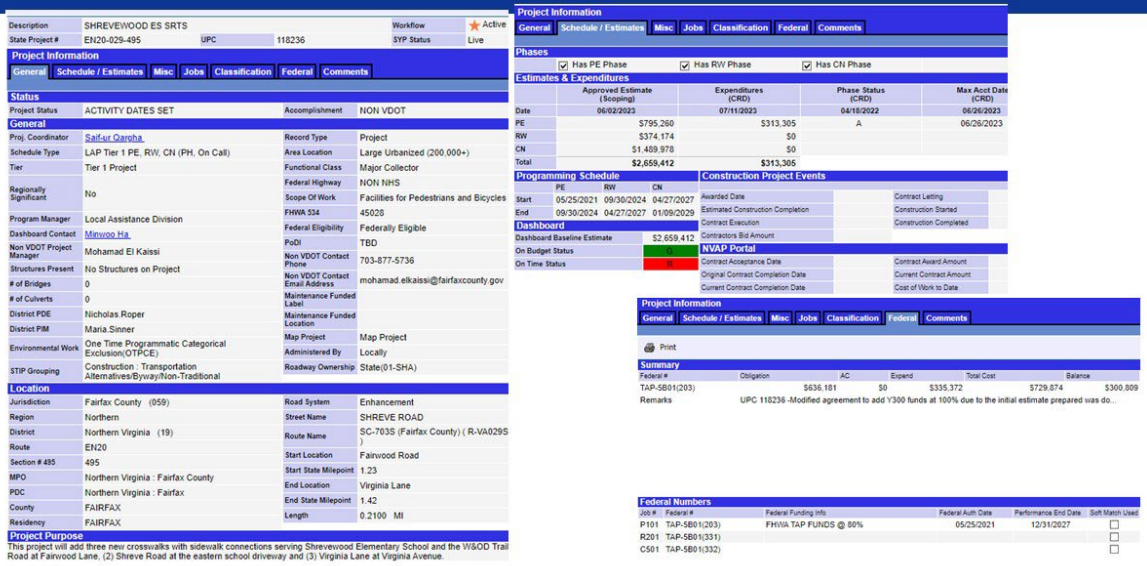
Primary Systems' Purposes

- **SYP: Capital Outlay Planning – Official Record of Allocation**
- **Project Pool: Program Management**
- **Dashboard: Performance Monitoring**
- ***CEDARS: Environmental Data Tracking (connects to Project Pool)***
- ***RUMS: Right of Way documentation (independent system)***
- ***ProjectWise: Project Documentation including Plan Sheets (connects to Project Pool)***
- ***ProjectWise Deliverables & Document Management System: Specifically developed as a web-based tool for the submittal, review, approvals, tracking, and information exchange for primary workflows associated with Locally Administered Projects (files contained within ProjectWise)***

Significant amount of shared data and most (but not all) duplicative data

Six Year Improvement Plan

Project Pool



Description	SHREVEWOOD ES SRTS			Workflow	Active
State Project #	EN20-029-495	UPC	118236	SYP Status	Live

Project Information

General | Schedule / Estimates | Misc | Jobs | Classification | Federal | Comments

Status

Project Status	ACTIVITY DATES SET	Accomplishment	NON VDOT

General

Proj. Coordinator	Saif-ur Qargha	Record Type	Project
Schedule Type	LAP Tier 1 PE, RW, CN (PH. On Call)	Area Location	Large Urbanized (200,000+)
Tier	Tier 1 Project	Functional Class	Major Collector
Regionally Significant	No	Federal Highway	NON NHS
		Scope Of Work	Facilities for Pedestrians and Bicycles
Program Manager	Local Assistance Division	FHWA 534	45028
Dashboard Contact	Minwoo Ha	Federal Eligibility	Federally Eligible
Non VDOT Project Manager	Mohamad El Kaissi	PoDI	TBD
Structures Present	No Structures on Project	Non VDOT Contact Phone	703-877-5736
# of Bridges	0	Non VDOT Contact Email Address	mohamad.elkaissi@fairfaxcounty.gov
# of Culverts	0	Maintenance Funded Label	
District PDE	Nicholas.Roper	Maintenance Funded Location	
District PIM	Maria.Sinner	Map Project	Map Project
Environmental Work	One Time Programmatic Categorical Exclusion(OTPCE)	Administered By	Locally
STIP Grouping	Construction : Transportation Alternatives/Byway/Non-Traditional	Roadway Ownership	State(01-SHA)

Location

Jurisdiction	Fairfax County (059)	Road System	Enhancement
Region	Northern	Street Name	SHREVE ROAD
District	Northern Virginia (19)	Route Name	SC-703S (Fairfax County) (R-VA029S)
Route	EN20	Start Location	Fairwood Road
Section # 495	495	Start State Milepoint	1.23
MPO	Northern Virginia : Fairfax County	End Location	Virginia Lane
PDC	Northern Virginia : Fairfax	End State Milepoint	1.42
County	FAIRFAX	Length	0.2100 MI
Residency	FAIRFAX		

Project Purpose

This project will add three new crosswalks with sidewalk connections serving Shrevewood Elementary School and the W&OD Trail Road at Fairwood Lane, (2) Shreve Road at the eastern school driveway and (3) Virginia Lane at Virginia Avenue.

Project Information

General | Schedule / Estimates | Misc | Jobs | Classification | Federal | Comments

Phases

☑ Has PE Phase ☑ Has RW Phase ☑ Has CN Phase

Estimates & Expenditures

	Approved Estimate (Scoping)	Expenditures (CRD)	Phase Status (CRD)	Max Acct Date (CRD)
Date	06/02/2023	07/11/2023	04/18/2022	06/26/2023
PE	$795,260	$313,305	A	06/26/2023
RW	$374,174	$0		
CN	$1,489,978	$0		
Total	$2,659,412	$313,305		

Programming Schedule

	PE	RW	CN
Start	05/25/2021	09/30/2024	04/27/2027
End	09/30/2024	04/27/2027	01/09/2029

Construction Project Events

Awarded Date		Contract Letting	
Estimated Construction Completion		Construction Started	
Contract Execution		Construction Completed	
Contractors Bid Amount			

Dashboard

Dashboard Baseline Estimate	$2,659,412
On Budget Status	
On Time Status	

NVAP Portal

Contract Acceptance Date		Contract Award Amount	
Original Contract Completion Date		Current Contract Amount	
Current Contract Completion Date		Cost of Work to Date	

Project Information

General | Schedule / Estimates | Misc | Jobs | Classification | Federal | Comments

Print

Summary

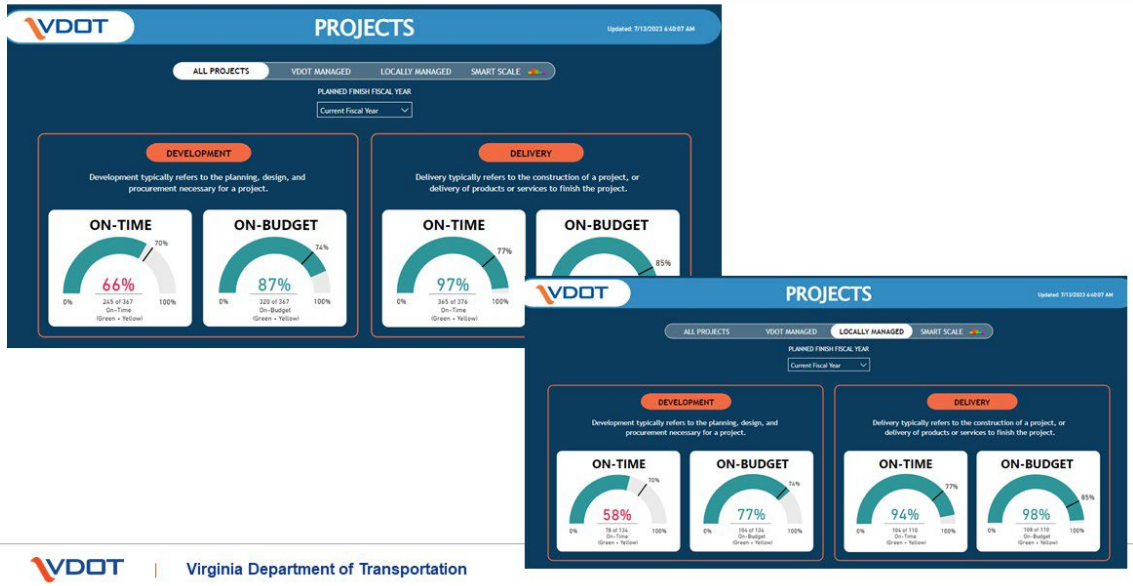
Federal #	Obligation	AC	Expend	Total Cost	Balance
TAP-5B01(203)	$636,181	$0	$335,372	$729,874	$300,809

Remarks: UPC 118236 -Modified agreement to add Y300 funds at 100% due to the initial estimate prepared was do...

Federal Numbers

Job #	Federal #	Federal Funding Info	Federal Auth Date	Performance End Date	Soft Match Used
P101	TAP-5B01(203)	FHWA TAP FUNDS @ 80%	05/25/2021	12/31/2027	☐
R201	TAP-5B01(331)				☐
C501	TAP-5B01(332)				☐

Dashboard



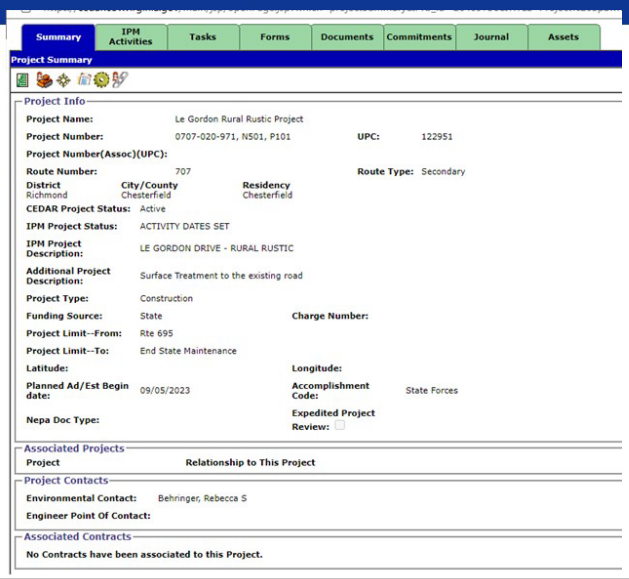
Comprehensive Environmental Data and Reporting

Comprehensive Environmental Data and Reporting (CEDAR)

Environmental Division's Flagship Application

- ✓ Centralized "place" for statewide environmental staff to enter and retrieve data
- ✓ Tool to find information on environmental progress, involvement on a project, environmental facility compliance, and monitoring of environmental assets
- ✓ Integrates use of GIS data
- ✓ Captures project history
- ✓ Standard and ad-hoc reporting
- ✓ One tool to track all statewide environmental tasks and commitments
- ✓ Standardized reporting and documentation of environmental decisions

Comprehensive Environmental Data and Reporting



Right of Way and Utilities Management System (RUMS)

RUMS:

- Is a computerized on-line Right of Way and Utilities Management Information System
- Provides management with an at-a-glance status of highway projects
- Allows management to focus on key highway project dates and shift resources to ensure the completion of right of way and utility activities prior to those dates
- Helps Right of Way and Utilities agents generate, customize, store and retrieve appraisal forms, letters of correspondence and other documentation

VDOT Virginia Department of Transportation

Right of Way and Utilities Management System

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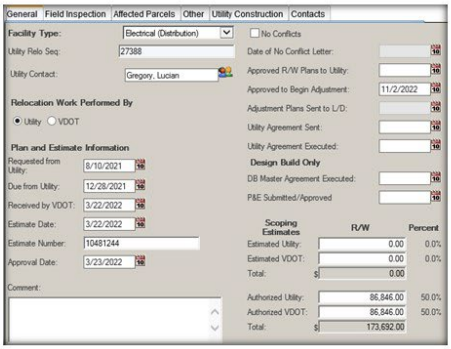
VDOT Virginia Department of Transportation

Right of Way and Utilities Management System

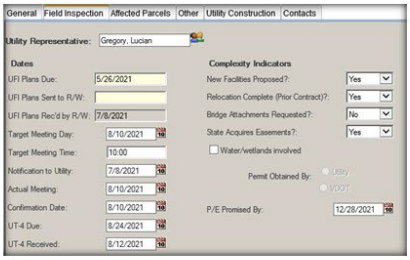
Right of Way and Utilities Management System (RUMS)

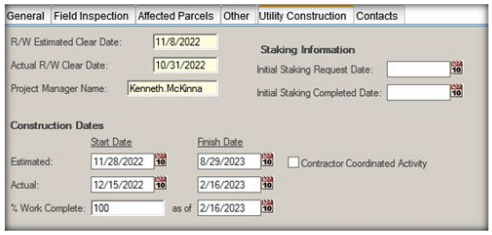
Utilities

- Utilities are tracked from UFI stage to the completion of utility construction.



- Data tracking includes estimate information, utility facility types/owners, affected parcels, important dates, etc....





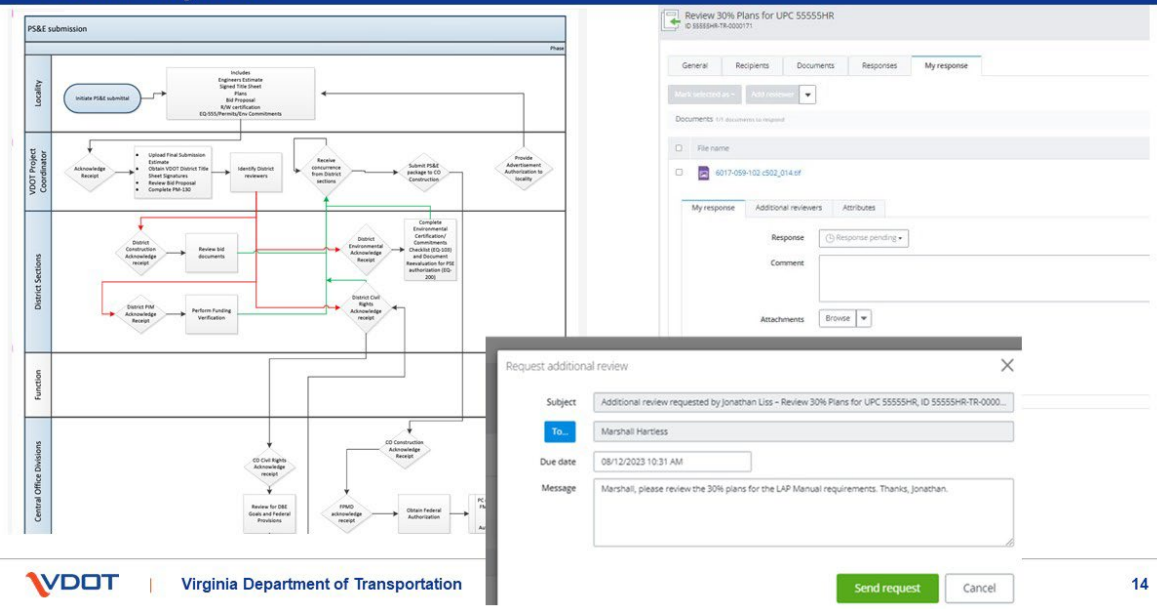
Local Projects-Specific Document Management

New System with Full Implementation November 2023

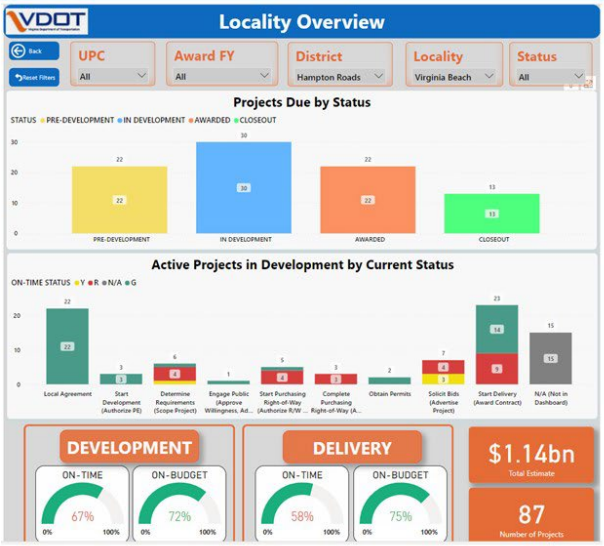
Project Wise Deliverable Management: Tool to enhance the ability for the exchange of project-specific information. It is an automated web-based workflow and document management system supporting exchange of information, and improving the submittal, review, and approval process of the most critical LAP workflows.

- Replaces email submittals for 30 Workflows (Submittals)
- Integrates with Project Wise folders
- Track time-completion for each workflow across state
- Provides a Dashboard which can be used for process improvement analysis

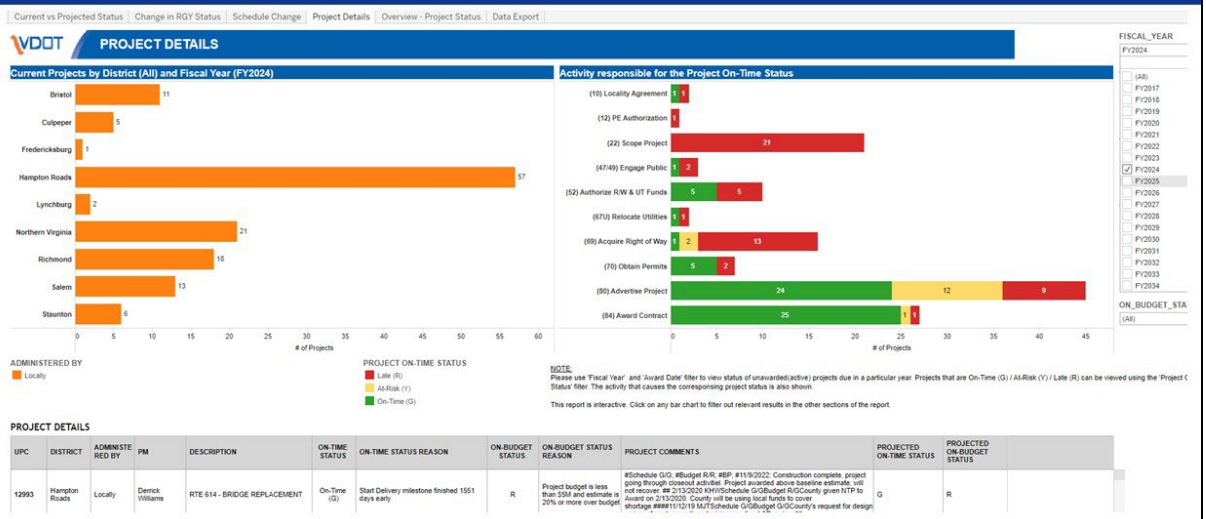
ProjectWise Document & Deliverables Management System – Local Projects



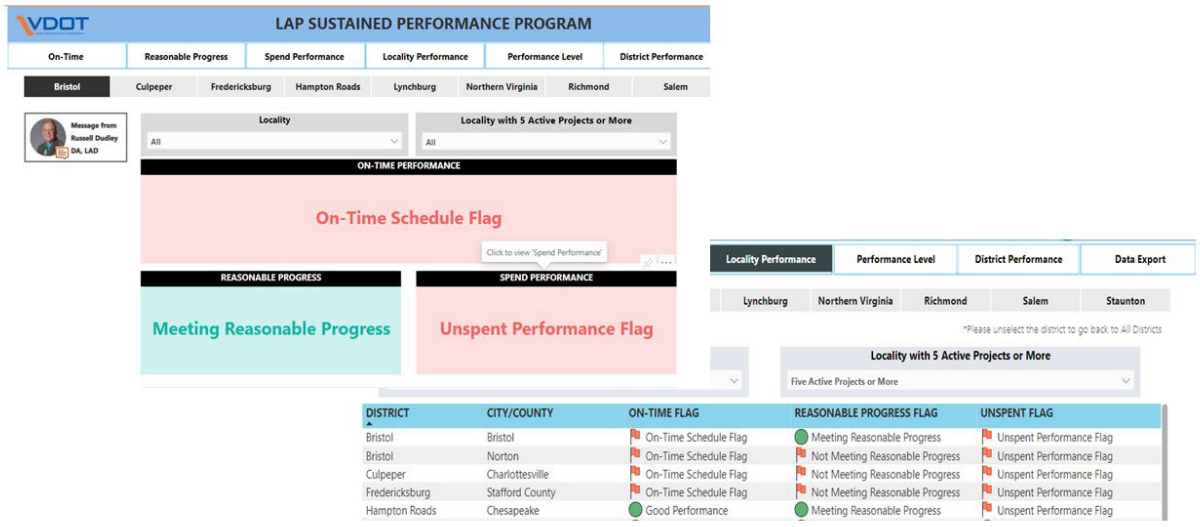
Reporting – Locality Information



Performance Tracking – Internal Reports



Performance Tracking - Sustained Performance Program



VDOT
Virginia Department of Transportation

APPENDIX E

Oregon DOT Presentation

Oregon Department of Transportation

Program Compliance Tracking and Data Collection Practices and Systems

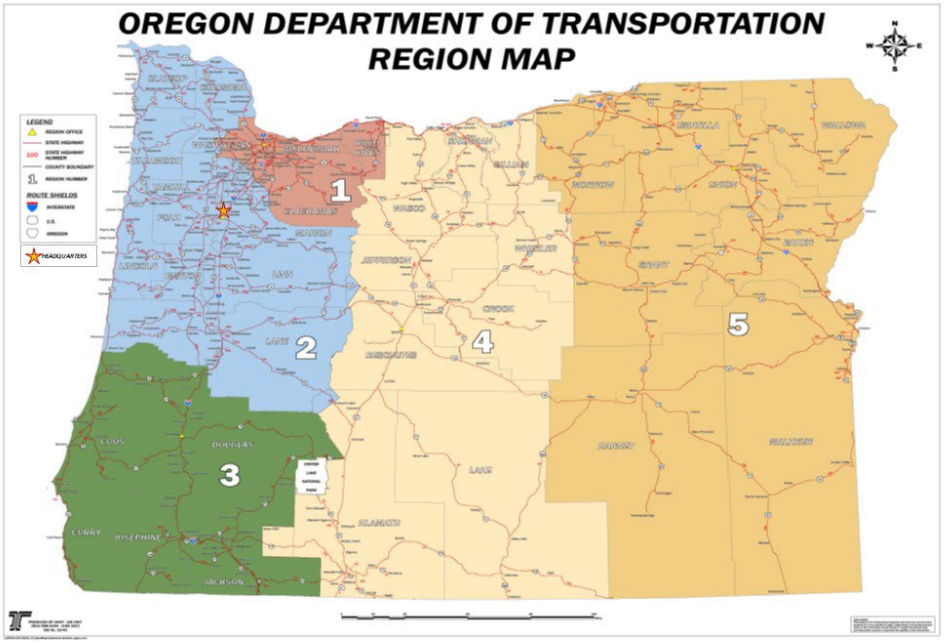
Local Programs Peer Exchange, Ohio, July 25-26, 2023

Tiffany Hamilton, Local Agency Certification Program Manager
Hanne Eastwood, Certification Compliance Coordinator

Oregon Local Agency Certification Program Overview

Purpose, participants, scope, and key processes

Administrative Structure



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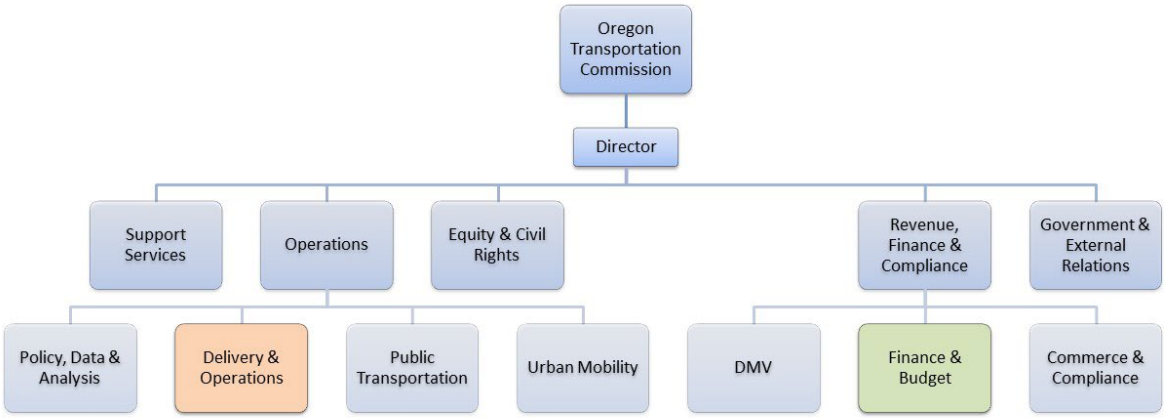
ORGANIZATIONAL STRUCTURE



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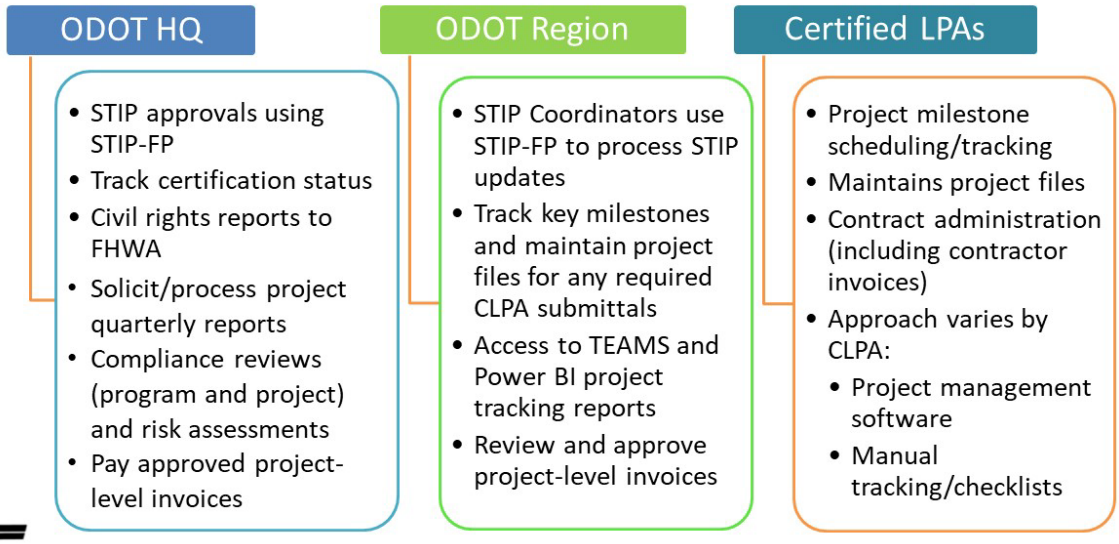
DELIVERY OF FEDERALLY FUNDED LOCAL PROJECTS

LPA = Local Public Agency

5

Oregon Project Tracking by Agency and Role



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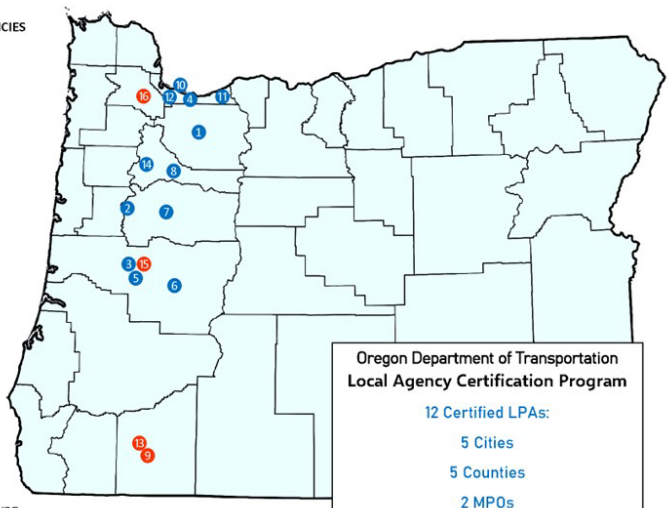
PROGRAM SIZE AND PARTICIPATION

2021-2024 STIP Projects
-117 projects
-9 COBO
- $465M
~30% of OR FF to LPAs

STIP-FP data as of 6/22/23

PARTICIPATING LOCAL AGENCIES

1. Clackamas County (P)
2. Corvallis (P)
3. Eugene (P)
4. Gresham (P)
5. Lane COG (C)
6. Lane County (P)
7. Linn County (PB)
8. Marion County (P)
9. Medford
10. Metro MPO (C)
11. Multnomah County (P)
12. Portland (PB)
13. Rogue Valley COG
14. Salem (P)
15. Springfield
16. Washington County



Oregon Department of Transportation
Local Agency Certification Program

12 Certified LPAs:

5 Cities

5 Counties

2 MPOs

4 Pending Certification

CERTIFICATION TYPE:

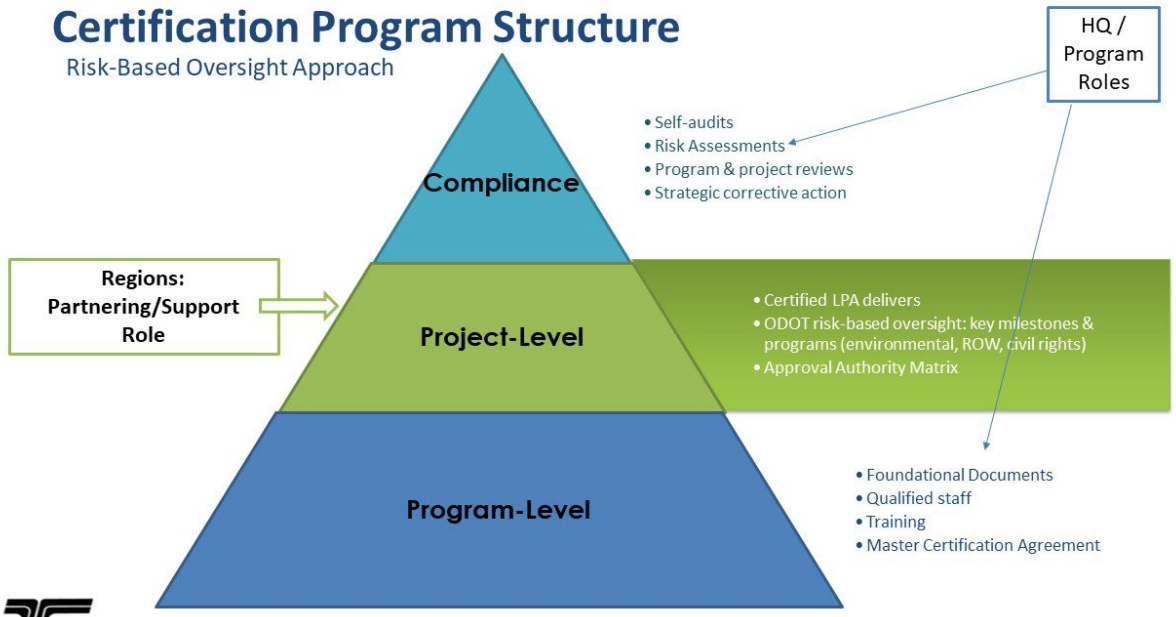
(P) Project Delivery

(PB) Project Delivery plus Bridge Design

(C) Consultant Selection for Planning Services only

Certification Program Structure

Risk-Based Oversight Approach



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Peter Courtney Minto Island Bridge
City of Salem, Certification Project

9

Data Sources, Tracking and Analysis

Overview of Data Sources

System	Type of Data	Length of Use	Input	Connected?	Availability
Certification DB	**Access DB**	**~10 years**	**Manual**	**Yes, but not automated**	**ODOT only**
STIP-FP	Web-based DB	~9 years	Various	Yes	ODOT only*
TEAMS	Database	~30 years	Various	Yes	ODOT only
Spreadsheets	**MS Excel**	**20+ years**	**Manual**	**No**	**Manually shared**
	Smartsheet (web-based)	**Under consideration***	**Combination**	**Yes**	**ODOT and LPA**
Forms	**PDF/MS Word**	**20+ years**	**Manual**	**No**	**Manually shared**
ProjectWise/ DocExpress	PD software	~8 years	Various	Yes	ODOT/contractors
AASHTOWare Project	Web-based DB	In development	Combination	Yes	As needed for contractors & LPAs

Silverton Rd: Little Pudding River Bridge Replacement

Marion County, Certification Project

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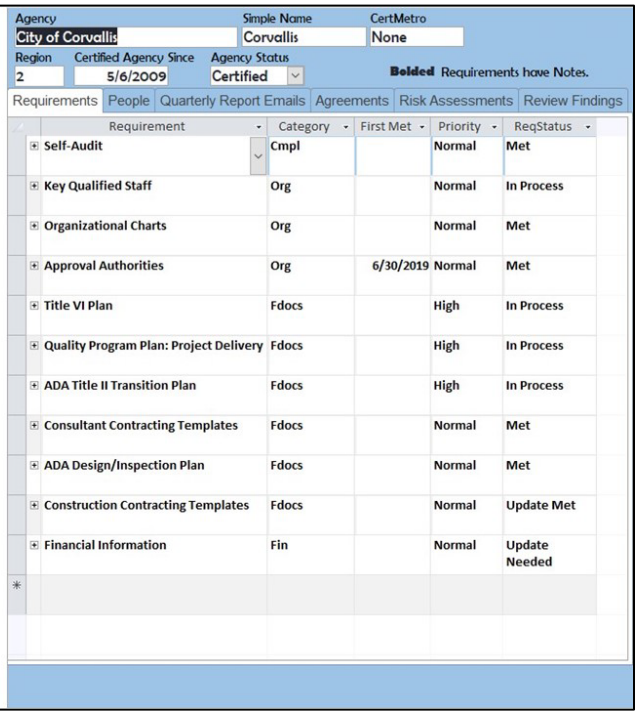
Certification Database

- MS Access database
- Program data:
  - Track status of foundational documents
  - Contact information
- Project data:
  - Basic information (name, key number, description) pulled from STIP-FP
  - Includes financial information by phase and contract information



Requirement	Category	First Met	Priority	ReqStatus
Self-Audit	Cmpl		Normal	Met
Key Qualified Staff	Org		Normal	In Process
Organizational Charts	Org		Normal	Met
Approval Authorities	Org	6/30/2019	Normal	Met
Title VI Plan	Fdocs		High	In Process
Quality Program Plan: Project Delivery	Fdocs		High	In Process
ADA Title II Transition Plan	Fdocs		High	In Process
Consultant Contracting Templates	Fdocs		Normal	Met
ADA Design/Inspection Plan	Fdocs		Normal	Met
Construction Contracting Templates	Fdocs		Normal	Update Met
Financial Information	Fin		Normal	Update Needed

Certification Database

Pros

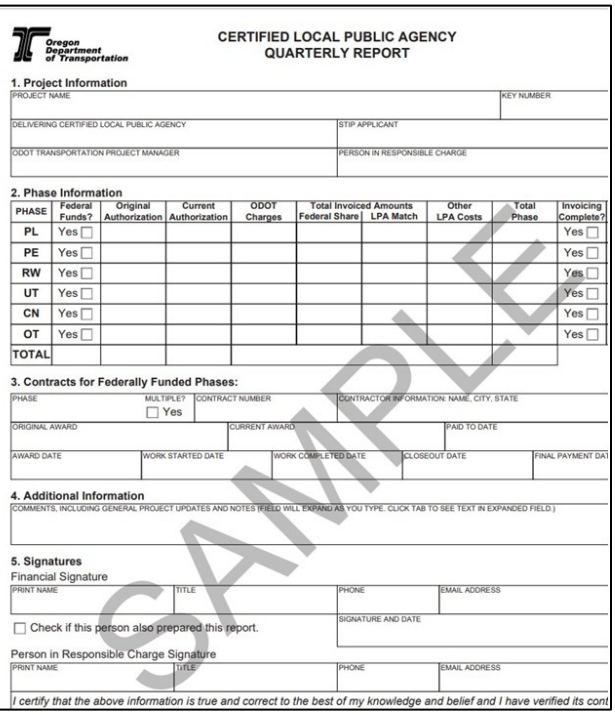
- Relational capabilities within the database
- Length of use
- Some access to external data sources
- Ability to track key requirements and activities

Cons

- Labor intensive
- No access for external users

Forms

- Primary method of *collecting* information from Certified LPAs at both the program & project level
- Program forms: Application, Key Qualified Staff, Annual Self-Audit
- Project forms: Quarterly Reports, civil rights data, multiple project delivery related forms



Oregon Department of Transportation

CERTIFIED LOCAL PUBLIC AGENCY QUARTERLY REPORT

1. Project Information

PROJECT NAME	KEY NUMBER
DELIVERING CERTIFIED LOCAL PUBLIC AGENCY	STIP APPLICANT
ODOT TRANSPORTATION PROJECT MANAGER	PERSON IN RESPONSIBLE CHARGE

2. Phase Information

PHASE	Federal Funds?	Original Authorization	Current Authorization	ODOT Charges	Total Invoiced Amounts Federal Share	LPA Match	Other LPA Costs	Total Phase	Invoicing Complete?
PL	Yes ☐								Yes ☐
PE	Yes ☐								Yes ☐
RW	Yes ☐								Yes ☐
UT	Yes ☐								Yes ☐
CN	Yes ☐								Yes ☐
OT	Yes ☐								Yes ☐
TOTAL									

3. Contracts for Federally Funded Phases:

PHASE	MULTIPLE? ☐ Yes	CONTRACT NUMBER	CONTRACTOR INFORMATION: NAME, CITY, STATE
ORIGINAL AWARD	CURRENT AWARD		PAID TO DATE
AWARD DATE	WORK STARTED DATE	WORK COMPLETED DATE	CLOSEOUT DATE / FINAL PAYMENT DAT

4. Additional Information

COMMENTS, INCLUDING GENERAL PROJECT UPDATES AND NOTES (FIELD WILL EXPAND AS YOU TYPE. CLICK TAB TO SEE TEXT IN EXPANDED FIELD.)

5. Signatures

Financial Signature

PRINT NAME	TITLE	PHONE	EMAIL ADDRESS

☐ Check if this person also prepared this report. SIGNATURE AND DATE

Person in Responsible Charge Signature

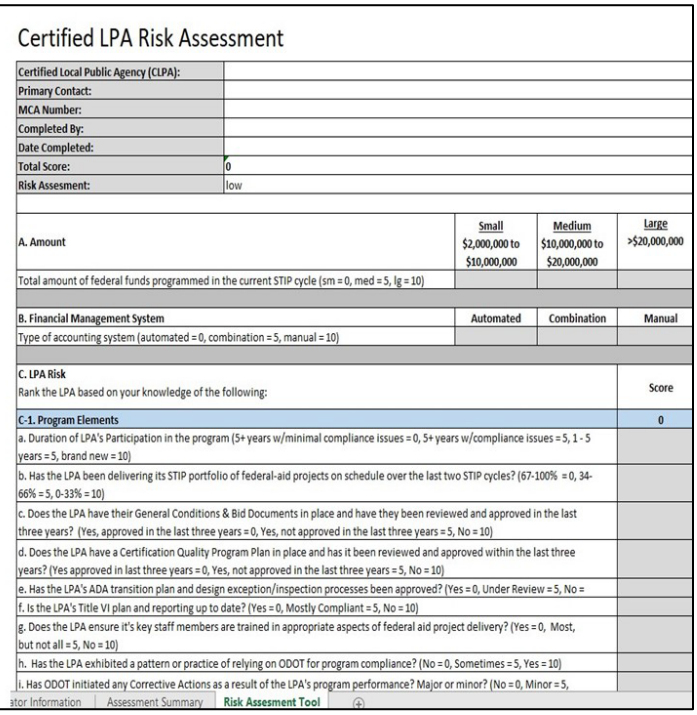
PRINT NAME	TITLE	PHONE	EMAIL ADDRESS

I certify that the above information is true and correct to the best of my knowledge and belief and I have verified its cont

SAMPLE

Spreadsheets

- Excel spreadsheets
  - Risk Assessments
- Smartsheet
  - A potential option for replacing some existing PDF forms
  - Accessible to external staff
  - Resource intensive to develop



Certified LPA Risk Assessment

Certified Local Public Agency (CLPA):	
Primary Contact:	
MCA Number:	
Completed By:	
Date Completed:	
Total Score:	0
Risk Assesment:	low

A. Amount	Small $2,000,000 to $10,000,000	Medium $10,000,000 to $20,000,000	Large >$20,000,000
Total amount of federal funds programmed in the current STIP cycle (sm = 0, med = 5, lg = 10)			

B. Financial Management System	Automated	Combination	Manual
Type of accounting system (automated = 0, combination = 5, manual = 10)			

C. LPA Risk Rank the LPA based on your knowledge of the following:	Score
C-1. Program Elements	0
a. Duration of LPA's Participation in the program (5+ years w/minimal compliance issues = 0, 5+ years w/compliance issues = 5, 1 - 5 years = 5, brand new = 10)	
b. Has the LPA been delivering its STIP portfolio of federal-aid projects on schedule over the last two STIP cycles? (67-100% = 0, 34-66% = 5, 0-33% = 10)	
c. Does the LPA have their General Conditions & Bid Documents in place and have they been reviewed and approved in the last three years? (Yes, approved in the last three years = 0, Yes, not approved in the last three years = 5, No = 10)	
d. Does the LPA have a Certification Quality Program Plan in place and has it been reviewed and approved within the last three years? (Yes approved in last three years = 0, Yes, not approved in the last three years = 5, No = 10)	
e. Has the LPA's ADA transition plan and design exception/inspection processes been approved? (Yes = 0, Under Review = 5, No =	
f. Is the LPA's Title VI plan and reporting up to date? (Yes = 0, Mostly Compliant = 5, No = 10)	
g. Does the LPA ensure it's key staff members are trained in appropriate aspects of federal aid project delivery? (Yes = 0, Most, but not all = 5, No = 10)	
h. Has the LPA exhibited a pattern or practice of relying on ODOT for program compliance? (No = 0, Sometimes = 5, Yes = 10)	
i. Has ODOT initiated any Corrective Actions as a result of the LPA's program performance? Major or minor? (No = 0, Minor = 5,	

ator Information | Assessment Summary | Risk Assesment Tool | ⊕

Shortfalls and Lessons Learned

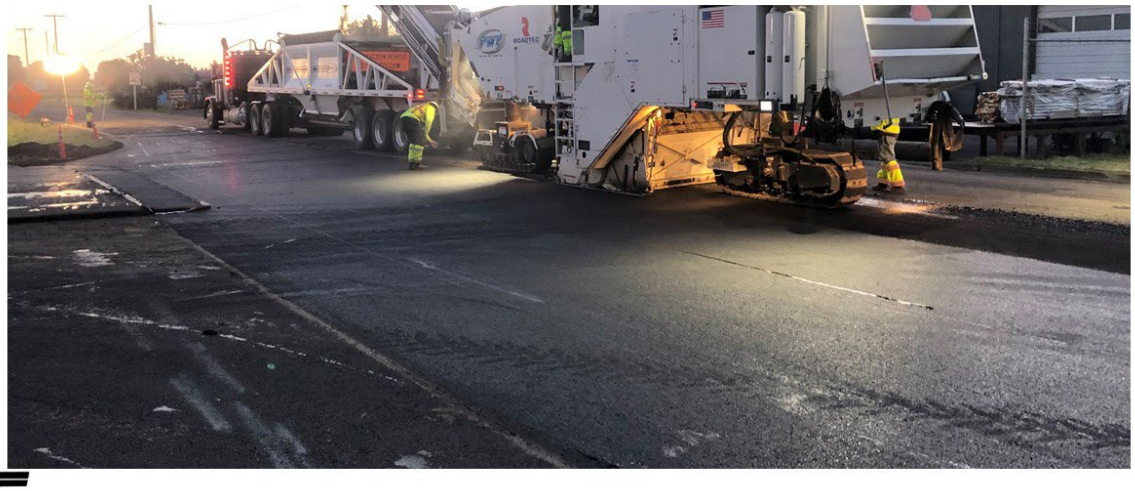
- Current approach lacks cohesion, is labor intensive.
- It's inaccessible to certified local agency staff on an on-demand basis.
- Tracking project status and budget details so that ODOT and the Certified LPA is "on the same page" are areas of concern and need for improvement.
- Dedicating time and resources to develop a better approach is a challenge.

Where we're headed or would like to go.....

- Exploring options including Smartsheet, Power BI, ProjectWise, Virtual-PM
  - Development of externally accessible dashboards for CLPA projects and program-level tracking
  - Overhaul Quarterly Reporting process to improve efficiency and allow analysis for better project oversight
  - Solution must allow CPLAs to continue to manage their own projects
- Interested in hearing what other options are being used or considered by other states
- For agencies using AASHTOWareProject, including the Civil Rights module, how is this being applied to CLPA-let projects?

Prairie Rd/E Enid Rd Pres/Sidewalk Rehab

Lane County, Certification Project



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Oregon DOT Local Programs Contacts

Statewide Investments Management Section

Jeff Flowers, Section Manager, Jeffrey.A.Flowers@odot.oregon.gov, 503-986-4453

Statewide Programs Unit (Grant Programs)

Cecelia Gilbert, Connect Oregon Program Manager / Interim Unit Manager, Cecelia.Gilbert@odot.oregon.gov, 503-986-3528,

Local Agency Certification Program, ODOTCertification@odot.oregon.gov

Tiffany Hamilton, Program Manager, Tiffany.Hamilton@odot.oregon.gov, 503-986-3649

Hanne Eastwood, Compliance Coordinator, 503-428-9748

Melissa Flores, Certification Coordinator, 503-480-5018

Scoping & Non-certified Local Agency Projects

Justin Bernt, Justin.J.Bernt@odot.oregon.gov, 503-986-3825

Local Government, Committees & Contacts Page (Region & Technical Resources)

https://www.oregon.gov/odot/LocalGov/Pages/Contacts.aspx

APPENDIX F

Iowa DOT Presentation

OHIO DOT LOCAL PROGRAMS PEER EXCHANGE 2023

Dillon Feldmann, P.E.
Eastern Region Field Engineer
Local Systems Bureau
Iowa Department of Transportation

1

IOWA DOT LOCAL SYSTEMS BUREAU

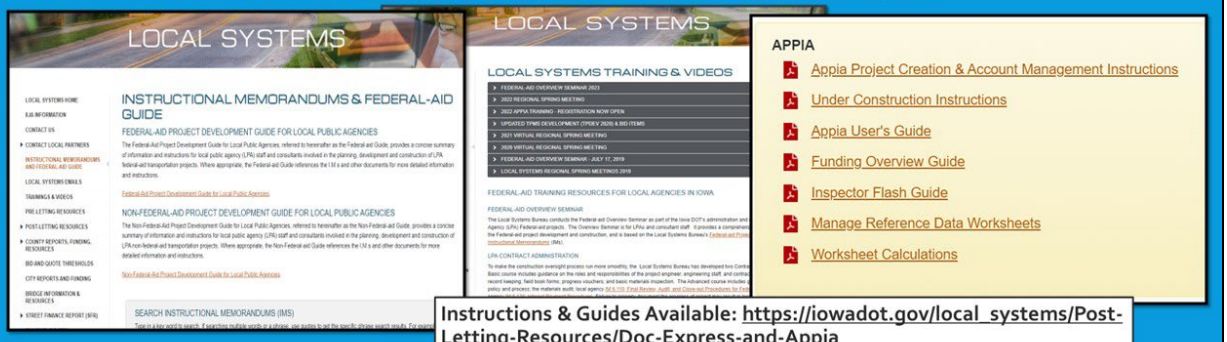
Service Mentality – We're here to help you…

- Who We Serve and Collaborate With:
  - Cities: 941
  - Counties: 99
  - Consultants: numerous
- Be a Spokesperson for Iowa's Cities and Counties (LPAs) – their "Voice"
- Opportunity to build positive relationships with cities, counties, & other partners
- Local Systems can play a beneficial role in the County, City, and Consulting industry

2

IOWA DOT LOCAL SYSTEMS BUREAU

- Robust System of Guides, Instructional Memorandums, Tips and Tricks, etc.
- Multiple rounds of training in multiple locations multiple times a year

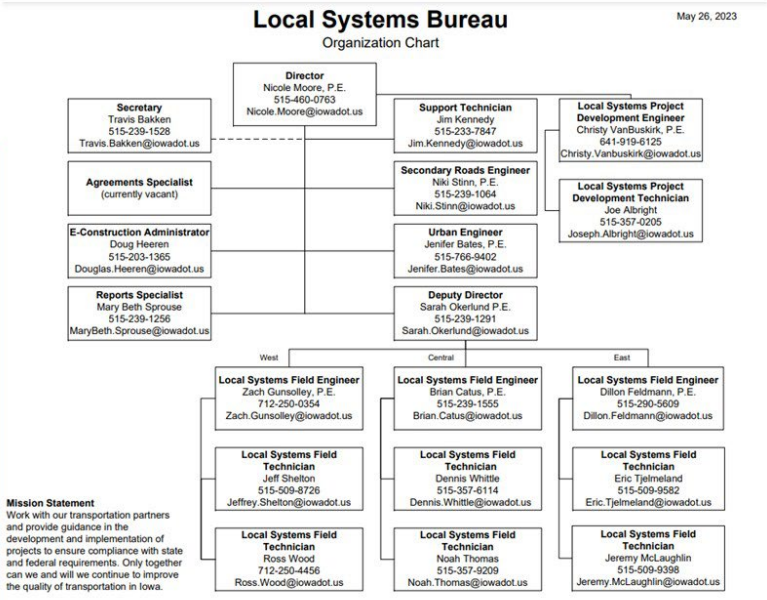


Instructions & Guides Available: https://iowadot.gov/local_systems/Post-Letting-Resources/Doc-Express-and-Appia

3

IOWA DOT LOCAL SYSTEMS BUREAU

- Bureau with 20 staff
- Advisor – provide guidance and assistance to LPAs for successful implementation of their Federal-aid projects
- Monitor – responsible to FHWA for administering and overseeing Federal-aid programs. Numerous reviews and approvals of project activities.



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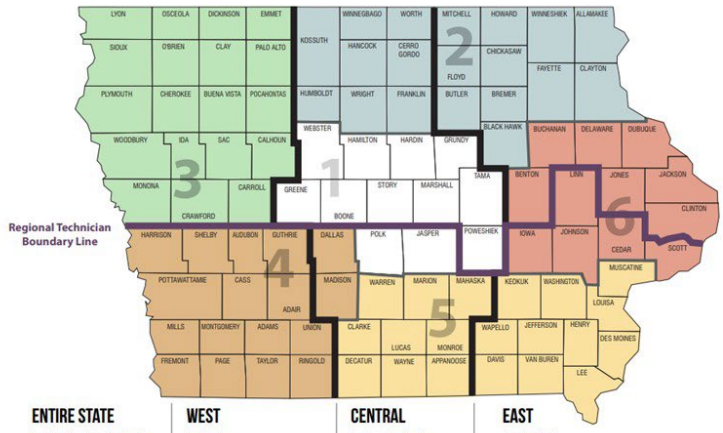

REGIONAL FIELD TEAM

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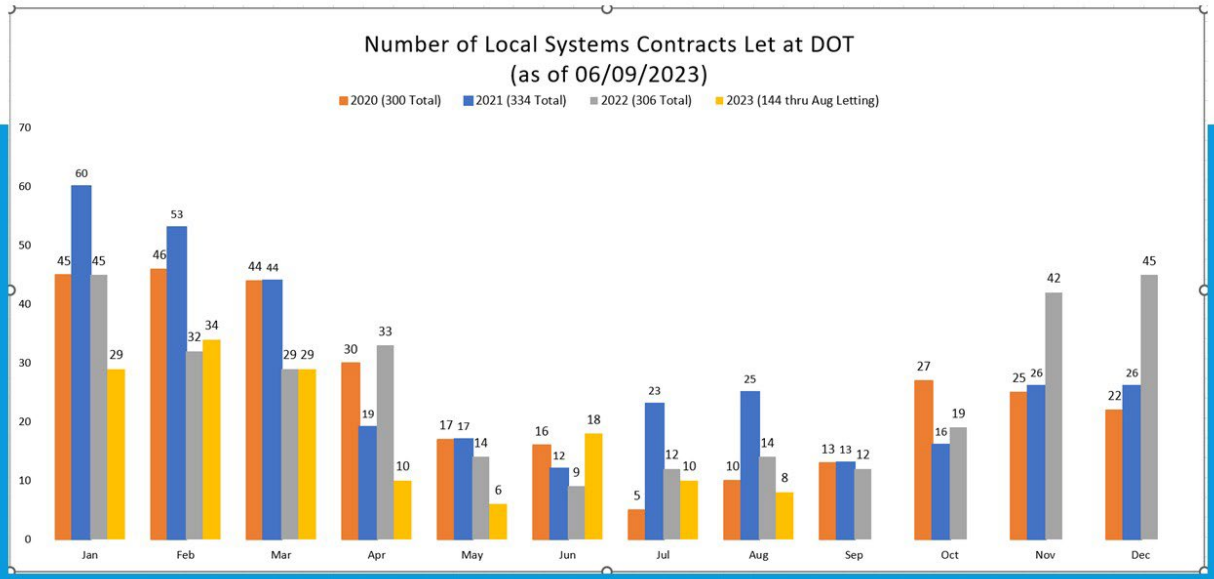

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Local Systems – Active Construction Projects (Projects let and not yet closed)
~600 projects, totaling over $1.1 Billion

	West 189 Total	Central 211 Total	East 205 Total	Statewide 605 Total	% Total
Federal-aid Projects	58	31	69	158	26.1%
Swap Projects	88	111	80	279	46.1%
Other State Projects	17	13	28	58	9.6%
FM Projects	26	56	28	110	18.2%
ALL Projects	189	211	205	605	100.0%

	West	Central	East	Total
Total Project Award Value:	$ 274,510,254	$ 364,056,858	$ 476,555,200	$ 1,115,122,312
FM Award Value:	$ 40,165,856	$ 55,138,190	$ 30,760,246	$ 126,064,292
Total (minus FM) Award Value:	$ 234,344,398	$ 308,918,668	$ 445,794,954	$ 989,058,020

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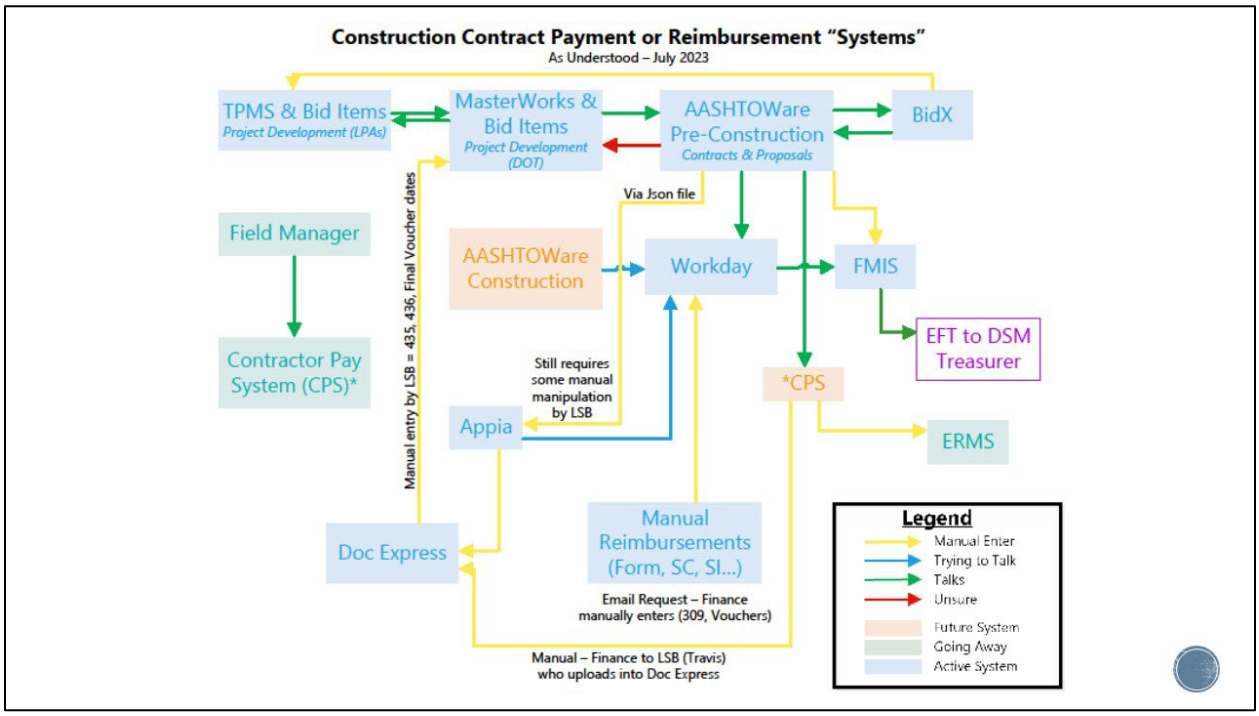
IOWA DOT FEDERAL-AID PROJECT BASICS

- All* Federal-aid projects in Iowa must be advertised, let, and awarded through the Contracts and Specifications Bureau.
- Multiple programs used by Locals
  - TPMS – Pre-letting
  - DocExpress & Appia – Post-letting
- Multiple programs used by Iowa DOT personnel
  - Master Works
  - AASHTOWare Pre-Construction
  - Workday
  - Etc.

8



PROJECT TRACKING IN TPMS

- What is the Transportation Program Management System (TPMS)?
  - On-line system provided by the Iowa County Engineers Association (ICEA) Service Bureau
  - Includes:
    - County Budgets and 5-year Programs
    - Federal-aid TIP / STIP Data
    - Project Development Data
  - Available to DOT, LPA, regional planning, and consultant personnel

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PROJECT TRACKING IN TPMS

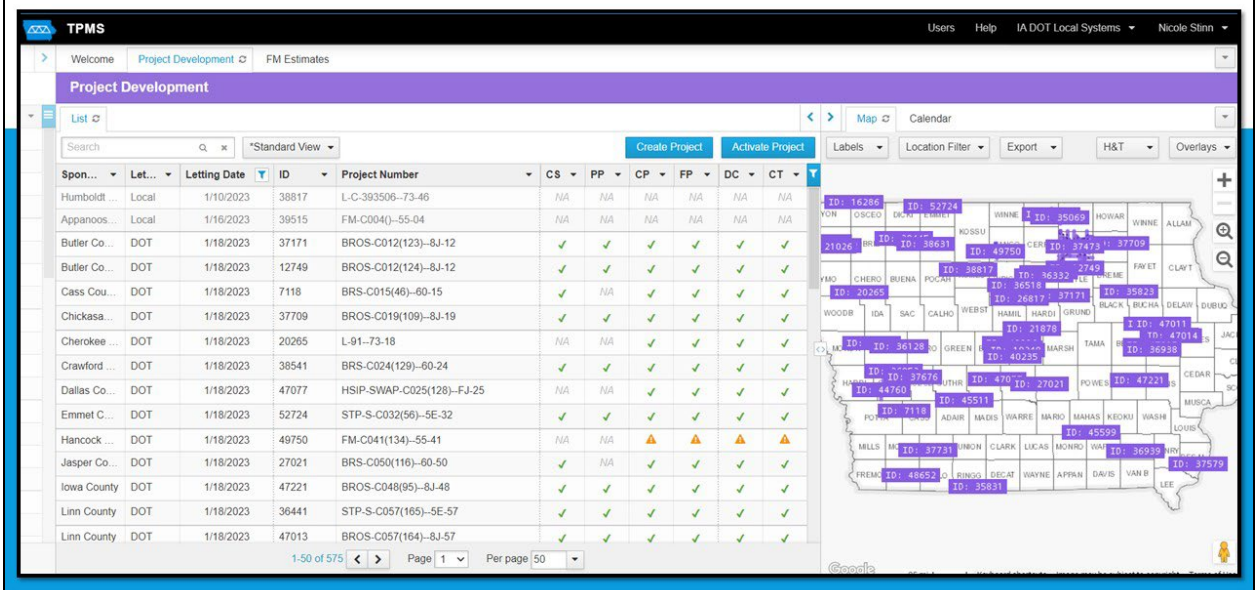
Project Initiation

- Projects included in CFYP (counties) or TIP / STIP (cities) may be activated for development
- LPA / consultant may enter initial project information, enter letting date, and activate the project
- Iowa DOT verifies initial project information, assigns a project number, and reviews or resets project clearances as needed

Project Development

- Iowa DOT marks project submittals and clearances as they are received
- Data is synchronized in real-time with Iowa DOT's Masterworks System

11



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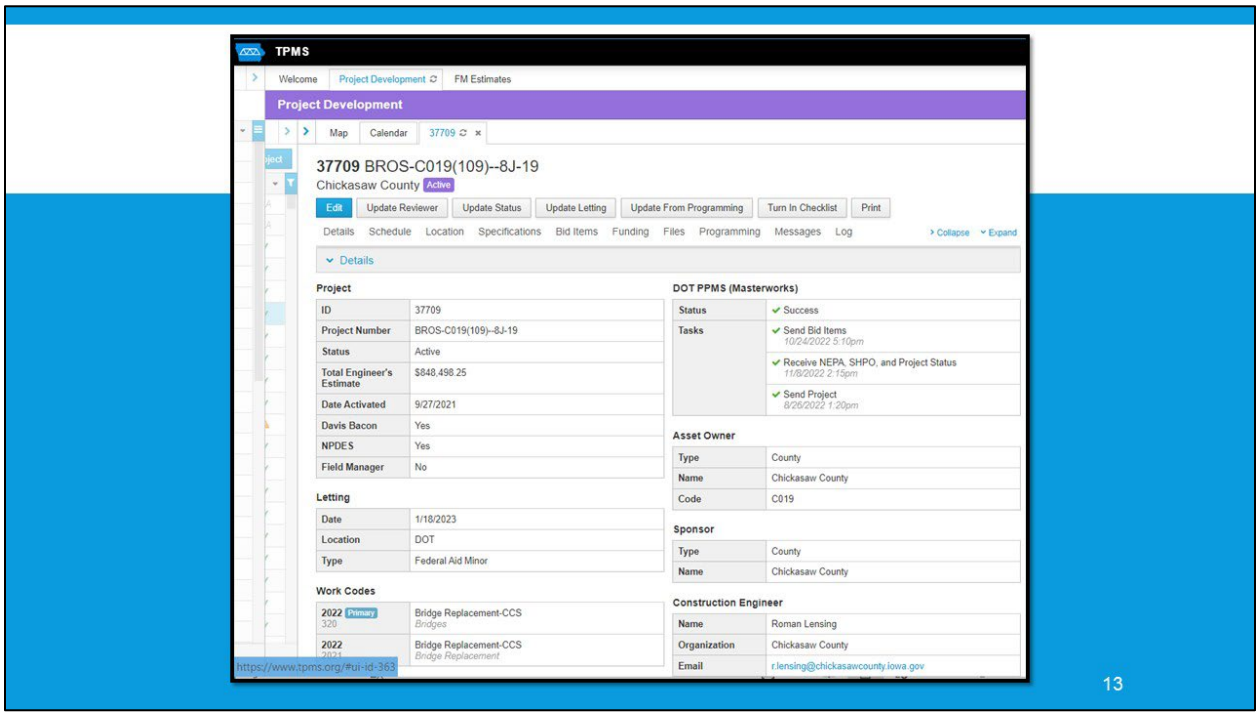
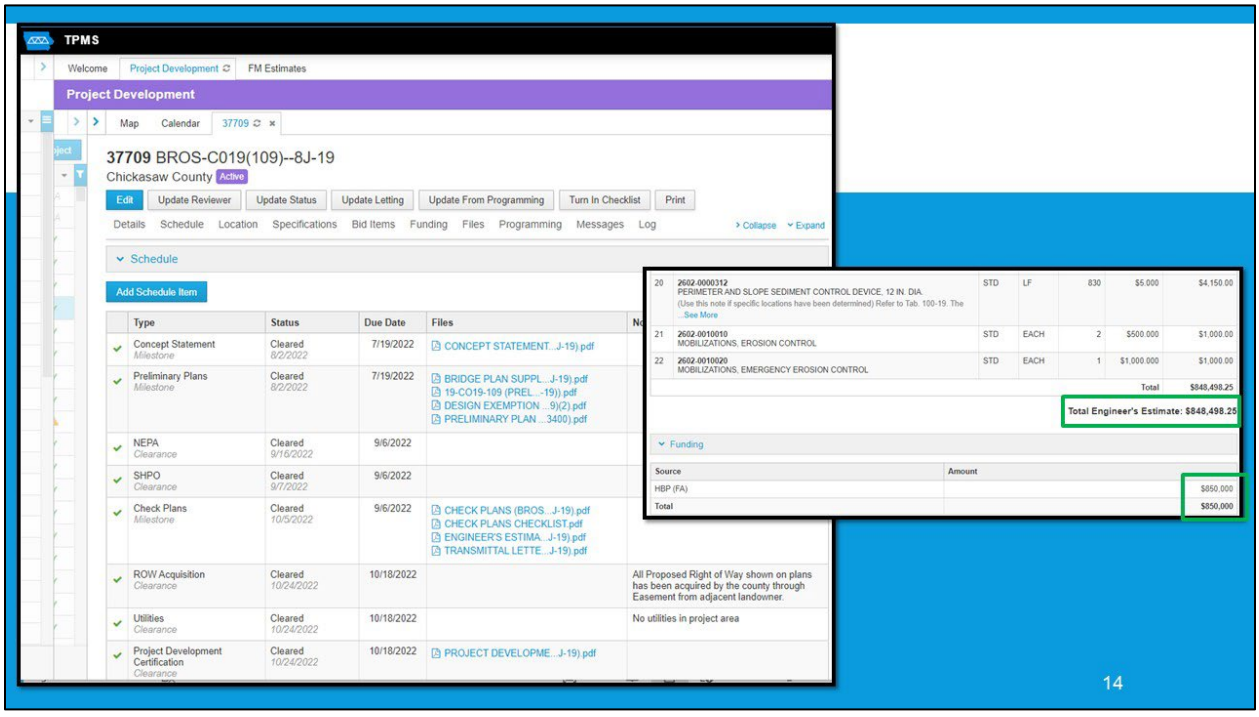

TPMS
Welcome
Project Development
FM Estimates
Project Development
Map
Calendar
37709
37709 BROS-C019(109)--8J-19
Chickasaw County
Active
Edit
Update Reviewer
Update Status
Update Letting
Update From Programming
Turn In Checklist
Print
Details
Schedule
Location
Specifications
Bid Items
Funding
Files
Programming
Messages
Log
Collapse
Expand
Details
Project
ID 37709
Project Number BROS-C019(109)--8J-19
Status Active
Total Engineer's Estimate $848,498.25
Date Activated 9/27/2021
Davis Bacon Yes
NPDES Yes
Field Manager No
Letting
Date 1/18/2023
Location DOT
Type Federal Aid Minor
Work Codes
2022 Primary 320 Bridge Replacement-CCS Bridges
2022 4021 Bridge Replacement-CCS Bridge Replacement
DOT PPMS (Masterworks)
Status Success
Tasks Send Bid Items 10/24/2022 5:10pm
Receive NEPA, SHPO, and Project Status 11/8/2022 2:15pm
Send Project 8/26/2022 1:20pm
Asset Owner
Type County
Name Chickasaw County
Code C019
Sponsor
Type County
Name Chickasaw County
Construction Engineer
Name Roman Lensing
Organization Chickasaw County
Email r.lensing@chickasawcounty.iowa.gov
https://www.tpms.org/#ui-id-363

13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Expand
Schedule
Add Schedule Item
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Status
Due Date
Files
Concept Statement Milestone Cleared 8/2/2022 7/19/2022 CONCEPT STATEMENT...J-19).pdf
Preliminary Plans Milestone Cleared 8/2/2022 7/19/2022 BRIDGE PLAN SUPPL...J-19).pdf
19-C019-109 (PREL ...-19)).pdf
DESIGN EXEMPTION ...9)(2).pdf
PRELIMINARY PLAN ...3400).pdf
NEPA Clearance Cleared 9/16/2022 9/6/2022
SHPO Clearance Cleared 9/7/2022 9/6/2022
Check Plans Milestone Cleared 10/5/2022 9/6/2022 CHECK PLANS (BROS...J-19).pdf
CHECK PLANS CHECKLIST.pdf
ENGINEER'S ESTIMA...J-19).pdf
TRANSMITTAL LETTE...J-19).pdf
ROW Acquisition Clearance Cleared 10/24/2022 10/18/2022 All Proposed Right of Way shown on plans has been acquired by the county through Easement from adjacent landowner.
Utilities Clearance Cleared 10/24/2022 10/18/2022 No utilities in project area
Project Development Certification Clearance Cleared 10/24/2022 10/18/2022 PROJECT DEVELOPME...J-19).pdf
20 2602-0000312 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. (Use this note if specific locations have been determined) Refer to Tab. 100-19. The ...See More STD LF 830 $5.000 $4,150.00
21 2602-0010010 MOBILIZATIONS, EROSION CONTROL STD EACH 2 $500.000 $1,000.00
22 2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL STD EACH 1 $1,000.000 $1,000.00
Total $848,498.25
Total Engineer's Estimate: $848,498.25
Funding
Source
Amount
HBP (FA) $850,000
Total $850,000

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PROJECT TRACKING IN TPMS

Automated Monitoring

- TPMS alerts users if:
  - Letting date is inconsistent with CFYP/STIP programming
  - Funding differs from STIP
  - Engineer's estimate differs from funding
  - Bridge is not on QBL
  - Too many bridges or too many HBP $ are programmed

Electronic File Management

- Built-in messaging tool can be used to make project submittals, check on status, mark clearances, and track correspondence
- Electronic files can be uploaded, downloaded, and stored for future reference (Concept Statement, project plans, agreements, permits, etc.)

Managing Letting Dates

- Check TPMS Development for realistic letting dates!!!
- TPMS will automatically push letting back if milestone deadline is missed
  - Do NOT simply allow the system to push the project
- Local Systems will move non-progressing projects

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Doc Express®

DOC EXPRESS

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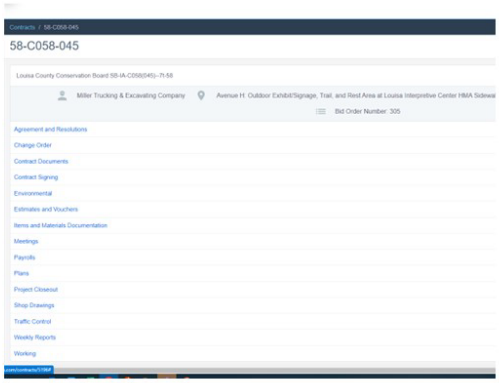
DOC EXPRESS



What is Doc Express?

- Web-based software developed by Infotech
- Official project file for construction documentation
- Files are shared between the Contractor, LPA, and Iowa DOT
  - Instantly viewable
  - No more lost documents in the mail!
- Electronic Contract signing tool
  - All contracts let through the Iowa DOT since July 2018
- Electronic Change Order signing tool
- Final review and auditing tool
  - Audits can be performed remotely rather than in-person

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DOC EXPRESS

Doc Express is like a file cabinet

- There are drawers
- There are file folders (referred to as Types)

Documents are uploaded in the appropriate file folder (Type) within the appropriate file Drawer

Some of the drawers in Doc Express also allow for documents to be signed electronically

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DOC EXPRESS

Began testing in 2015, full implementation by Cities and Counties in 2018

Free to all users through Iowa DOT license ($240,000/year)

- Funded with Road Use Tax Fund

Contracts are manually set up by Local Systems Staff

- 15 minutes per contract on average
- Templates and other options available which have cut set up from initial period

Doc Express is required on all DOT let projects

- Different file system for Primary projects, same concept

All data is stored indefinitely on Doc Express and can be easily downloaded by all users

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APPIA

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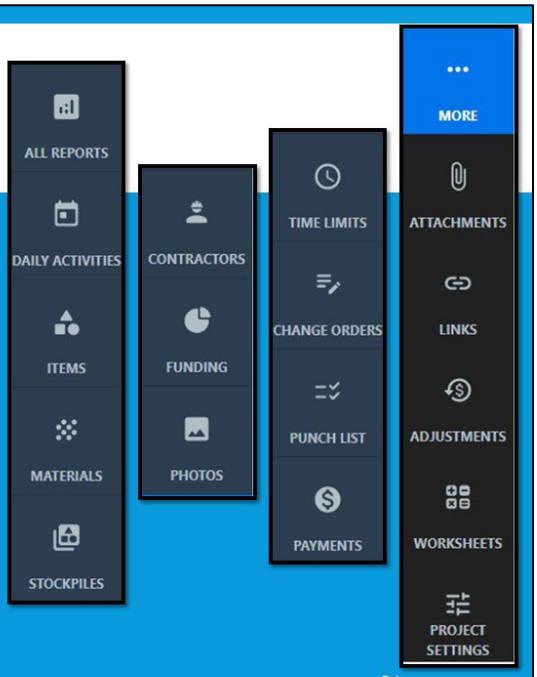
WHAT IS APPIA?

- Electronic field documentation software
  - Daily diary (report) entries
  - Bid item quantity placement records
  - Time charge tracking and reporting
  - Pay vouchers
  - Change orders
  - Stockpiles
  - Punch lists
- Required for use by counties since April 2022 letting
  - Required city use in future (date undetermined)



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APPIA

- Began testing in 2019, full implementation by Counties in 2023, Cities to follow
- Free to all LPAs through Iowa DOT license ($150,000/year)
  - Funded with Road Use Tax Fund
  - Consultants must buy own license ($6,000/year)
- Projects are semi-manually set up by Local Systems Staff
  - Infotech wrote code to manually extract data from AASHTOWare product to create a project file for Appia
  - Local Systems must verify and manipulate some data for it to work properly
  - 15-45 minutes per contract on average
  - Ability to make automatic, but currently have directed Infotech to work on other items that will be more beneficial for time savings
- Will eventually connect to Iowa DOT's financial system to issue automatic payments
- All data is stored indefinitely on Appia and can be easily downloaded by all users

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DOC EXPRESS & APPIA BENEFITS

- Tremendous time savings due to ease of documentation access
- Multiple documents online for training, manuals, videos, etc.
- Drastically reduced staff hours in travel time and searching for documents
- Able to identify issues with LPAs as they occur and address them so that they are correct moving forward
- User friendly and easy to use

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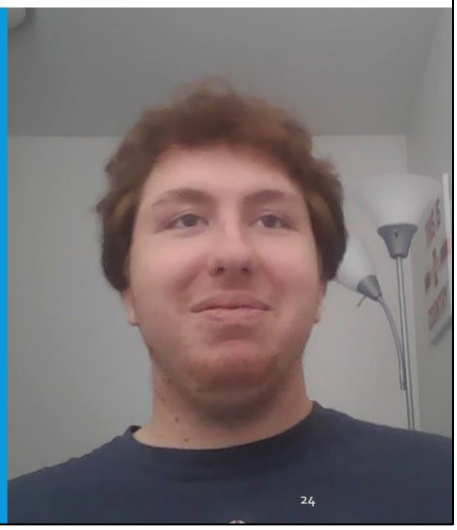
DOC EXPRESS & APPIA SHORTFALLS

- All the data is static – information is only stored, cannot be removed and analyzed
  - Currently having information removed and compiled by our intern
- Manual entry can be time consuming
  - Could be fixed with enough resources and time, but would rather have Infotech work on other items
- Some issues with very specific items and payments for them (disincentives, stockpiled materials, etc.)
- Does not "talk" with other products



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FUTURE PROGRAMS & LESSONS LEARNED

- Currently working with Infotech to optimize both Doc Express and Appia
- Working internally to create a new web-based portal for project documentation creation
  - Will be a supplementary program to be used in conjunction with all other programs
  - Currently, LPAs use our standard forms in .pdf or hardcopy
  - Portal will allow the standard forms to be completed and printed for DocExpress, but the data will be extractable for analysis so we can easily identify requested data
- Overall satisfied with current programs.
  - Understand that any out of the box program will require customization and work for it to meet individualized needs.

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APPENDIX G

Michigan DOT Presentation

Local Agency Program

Bruce Kadzban PE, Section Manager
Local Agency Program

MDOT
Michigan Department of Transportation

www.Michigan.gov/mdotlap

Why Do We Do What We Do?

Federal Highway Administration (FHWA) is responsible for administering the National Highway Trust Funds

FHWA Michigan delegated some administration responsibilities to MDOT via Stewardship agreement

Repercussions – nonperformance results in losing Federal funds

Over 630 Customers

Act 51 Agency (defined in PA 51, 1951)

- City, Village, County Road Commission or Road Department
- Other Federal & State Agencies and Departments

NOT a

- Township
- Other County Department, DDA, or other quasi-government agency
- Local special interest group

LAP's Goal

Simple –

Help each local agency to preserve its federal and state transportation funds

LAP's Partners

FHWA - Michigan
Various Federal & State Agencies
County Road Association (CRA)
Michigan Municipal League
American Council of Engineering Consultants (ACED/M)

Local Agency Program (LAP) UNIT

- 110,000 Miles of Federal Aid eligible roads (1,200 NHS)
  - Not trunkline (state routes, US or I routes)
  - minor collectors, rural, private, etc
- FY 2022 - delivered over 500 projects
  - Over $645 million
  - Average Project Cost is > $1.2M
- All advertised and bid throught the MDOT letting

Funding Types & Sources

STBG
Federal & State Bridge
Federal & State Safety
Transportation Alternatives Program, Safe Routes to Schools
Misc – LTAP, Emergency Response, FLAP, Earmarks, NOFO's
RAISE, INFRA, RCP,

All Projects Need .....

- Defined location, limits, scope of work
- Construction plans, specifications, cost estimate
  - Prepared by licensed professional engineer registered in Michigan
  - These costs are generally NOT included in the Federal reimbursement program
- Legal control of all property
- NEPA and Section 106 approval (Permits (MDNR, MDEQ, Corps of Engineers, etc)
- State Historic Preservation Office (SHPO) approval

MDOT LAP's Local Letting Experience

DEAL BREAKERS / SHOW STOPPERS

- Project not in approved (S)TIP
- Tribal consultation is incomplete
- Permits not issued
- Utility coordination incomplete

MDOT LAP's Local Letting Experience

- CHANGED
  - Project scope & limits
- Incomplete
  - Test records
  - Project verification

MDOT LAP's Local Letting Experience

DEAL BREAKERS / SHOW STOPPERS

- All property not under local agency control
- Section 106 & NEPA concurrence not issued
- Railroad issues not resolved
- Local agency match funding not in place

Many Strings Attached

LAP CONTACTS

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Bruce Kadzban, LAP Section Manager
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Keith Cooper–Bridge Unit
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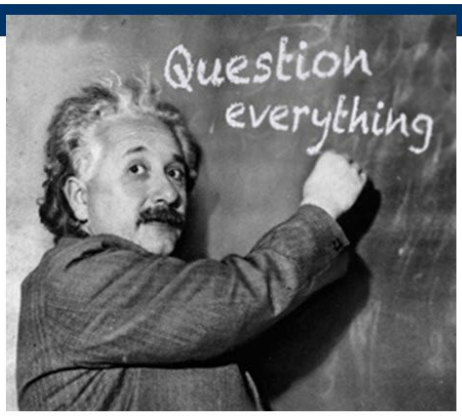
Ryan Doyle– Road Unit
doyler3@michigan.gov, **517-335-2744**

Landon Johnson– Special Program Unit
johnsonl26@michigan.gov, **517-335-6779**

Questions? Comments?



- THANK YOU!!