

ARKANSAS DEPARTMENT OF TRANSPORTATION (ARDOT)

PROJECT REVIEW AND EFFICIENCY STUDY

September 1, 2023



ALLISON BRAGG
SECRETARY

RICKY QUATTLEBAUM
OIA DIRECTOR

Allison Bragg
Department Secretary



Ricky Quattlebaum
Director

Department of Inspector General
Office of Internal Audit

September 1, 2023

Senator Blake Johnson, Chair
Representative Ron McNair, Chair
Highway Commission Review and Advisory Subcommittee
of the Arkansas Legislative Council
One Capitol Mall, Fifth Floor
Little Rock, AR 72201

Dear Senator Johnson and Representative McNair,

The Department of Inspector General's Office of Internal Audit (OIA) completed the assurance and consulting engagement of ARDOT as agreed to in the engagement letter approved on June 16, 2022. The Executive Summary and final report follow this letter.

Implementing the Guidehouse recommendations is a long-term process and ARDOT has made substantial progress in implementing these recommendations. OIA would like to thank ARDOT's staff for their cooperation and assistance during this engagement. ARDOT's staff was prompt in providing information and answering questions. OIA would also like to thank ARDOT's Internal Audit team for their participation and collaboration in the consulting component of the engagement.

Sincerely,

A handwritten signature in blue ink that reads "Ricky Quattlebaum".

Ricky Quattlebaum, CPA, CIA, CRMA,
CGAP, CGFM
Director, Office of Internal Audit

Executive Summary

PURPOSE

The purpose of this engagement is to fulfill OIA’s obligation under Act 671 of 2021 which requires an annual review and efficiency study of ARDOT to be conducted by OIA, with results due to the ALC no later than October 1 of each year beginning in 2023. Due to subjectivity of the annual review and efficiency study requirement, an engagement letter outlining a proposed dual approach including both assurance and consulting activities was presented and approved by the HCRAS on June 16, 2022, and the ALC on June 17, 2022.

ARDOT PROJECT REVIEW AND EFFICIENCY STUDY

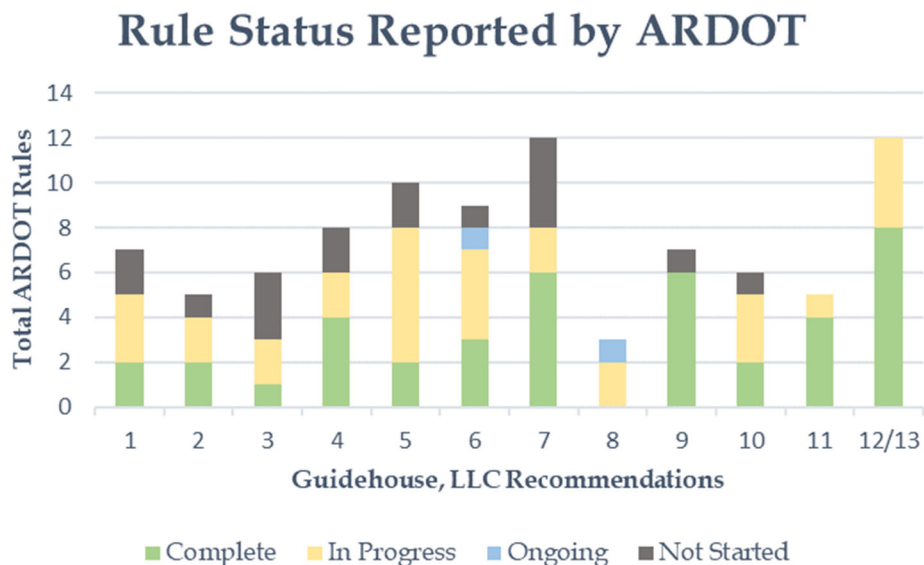
ASSURANCE

OIA reviewed documentation and performed testing as appropriate to issue an opinion related to the adequacy of ARDOT’s implementation of each of the 90 rules for the 13 Guidehouse recommendations. Implementing the Guidehouse recommendations is a long-term process, and ARDOT has made great progress as of April 30, 2023.

ARDOT’s implementation status contained within this report is based upon the May 2023 monthly update report. The status of each rule as of April 30, 2023, was confirmed by the ARDOT Assistant Chief - Administration. OIA concurs with ARDOT's reported implementation status for 85 of the 90 rules reviewed. While OIA concurs with the status of these rules, further testing may be conducted in future reporting cycles to ensure the anticipated result was achieved. Additional testing for five rules will be conducted by OIA during the next reporting cycle before issuing an opinion on those rules.

OIA ASSURANCE ACTIVITY SUMMARY

The following chart represents the total number of rules, including the status of those rules, ARDOT established in response to the 13 recommendations issued by Guidehouse, LLC.



CONSULTING

The consulting component of the engagement was performed in collaboration with the ARDOT Internal Audit Division and involved meeting with ARDOT staff, preparing a narrative and flowcharts for major processes, and reviewing the internal control design utilizing the most recently submitted version of the CSA for the Divisions reviewed. The Divisions reviewed for the current year engagement were the Governmental Relations Division, the SIR Division-Asset Management Section, the Retirement Division, and the Maintenance Division, which includes four sections. The overall results from the consulting component of the engagement revealed that ARDOT has well designed internal controls for the divisions reviewed. Of the recommendations made to management concerning the CSA, 28% were to add new risks, new controls, or corrective action plans; 53% were to include controls that were described as already in place by management; and 19% were for clarifying language or reorganization.

The consulting portion of this engagement was carried out in collaboration with ARDOT's Internal Audit Division. ARDOT hired OIA's Deputy Director in July 2022 to fill the ARDOT Chief Auditor position. The former OIA Deputy Director was a long-term employee of OIA and possesses a wealth of knowledge on internal controls. The former OIA Deputy Director also has comprehensive knowledge of the CSA process and CSA tool, as they played a vital role in the development of the tool. Additionally, ARDOT's Internal Audit Division has dedicated three staff members to administer the ARDOT CSA process on a continuous basis, as well as teaming with OIA in the current engagement.

It is OIA's concern that future engagements relating to the review of ARDOT's CSA may be a duplication of effort because of ARDOT's Internal Audit Division's continuous implementation of the CSA. Therefore, it is recommended that the HCRAS consider eliminating the consulting portion of future OIA engagements.

TABLE OF CONTENTS

BACKGROUND	1
SCOPE AND ASSURANCE	2
FOCUS AREA 1 - ORGANIZATIONAL STRUCTURE	3
FOCUS AREA 2 - PORTFOLIO PLANNING	14
FOCUS AREA 3 - PROCUREMENT	25
FOCUS AREA 4 - EXPENDITURES	42
FOCUS AREA 5 - INFORMATION TECHNOLOGY	56
FOCUS AREA 6 - PEOPLE CAPABILITIES	72
CONCLUSION	86
CONSULTING	87
CONCLUSION	94
MANAGEMENT RESPONSE	APPENDIX A

ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials	IIA Standards	The Institute of Internal Auditor's Standards for the Professional Practice of Internal Audit
ACE	Achieving Career Excellence	IT	Information Technology
ACSO	ARDOT Customer Services Oversight	ITPM	Information Technology Project Management
AHP	Arkansas Highway Police	ITS	Intelligent Transportation Systems
ALC	Arkansas Legislative Council	ITSM	Information Technology Service Management
ARDOT	Arkansas Department of Transportation	KM	Knowledge Management
ASHERS	Arkansas State Highway Employees' Retirement System	KPI	Key Performance Indicator
AWP	Annual Work Plan	LDP	Leadership Development Program
CAMARS	Construction and Maintenance Activity Reporting System	LMS	Learning Management System
CAP	Connecting Arkansas Program	LRS	Linear Referencing System
CFR	Code of Federal Regulations	MMHIS	Multi-Modal Highway Information System
COSO	Committee of Sponsoring Organizations	MMS	Maintenance Management System
CPEC	Contractor Performance Evaluation Committee	MTA	Maintenance Training Academy
CSA	Control Self-Assessment	MUTCD	Manual on Uniform Traffic Control Devices
CSM	Cherwell Service Management	NBIS	National Bridge Inspection Standards
DOT	Department of Transportation	NCHRP	National Cooperative Highway Research Program
DROP	Deferred Retirement Option Plan	OIA	Arkansas Department of Inspector General's Office of Internal Audit
DTS	Data Transfer Solutions	PDS	Project Delivery Selection
ELDT	Entry-Level Driver Training	PMO	Project Management Office
ESRI	Environmental Systems Research Institute	RFP	Request for Proposal
FAQ	Frequently Asked Questions	SFY	State Fiscal Year
FCC	Federal Communications Commission	SIR	System Information and Research
FHWA	Federal Highway Administration	SME	Subject Matter Expert
FY	Fiscal Year	STIP	State Transportation Improvement Program
GIS	Geospatial Information Systems	TAMP	Transportation Asset Management Plan
HBM	Heavy Bridge Maintenance	TMC	Traffic Management Center
HCRAS	Highway Commission Review and Advisory Subcommittee	UALR	University of Arkansas at Little Rock
HR	Human Resources	VE	Value Engineering

BACKGROUND



*November 20, 2020:
The Recommendations Report issued by Guidehouse, LLP was adopted by ALC which included thirteen recommendations.*

*April 21, 2022:
ARDOT submitted revised rules at the HCRAS meeting, listing action items ARDOT intends to implement.*

*October 1, 2023:
Pursuant to Act 671 of 2021, OIA is required to conduct and report results of an annual review and efficiency study of ARDOT no later than October 1 of each year.*

OVERVIEW

Pursuant to Act 298 of 2019, Guidehouse, LLP, was hired to conduct a study of “the processes and functioning of the Arkansas Department of Transportation, including without limitation the department’s processes, procedures, procurement procedures, projects, expenditures, and appeals processes.” On June 17, 2020, Guidehouse, LLP, presented a Recommendations Report to the HCRAS of the ALC. On November 20, 2020, the final report that included 13 recommendations was adopted by the ALC. ARDOT submitted revised rules at the HCRAS meeting on April 21, 2022; these rules are a list of action items ARDOT intends to implement to satisfy the thirteen recommendations in six focus areas. ARDOT is required to report the status of implementation to the HCRAS monthly.

In addition, Act 298 of 2019, Section 2, later repealed and replaced by Act 671 of 2021, codified in Ark. Code Ann. § 25-43-1004(e)(5), requires an annual review and efficiency study of ARDOT to be conducted by the OIA, with the results of the study due to the ALC no later than October 1 of each year beginning in 2023.

The specific scope of OIA’s review, which includes both assurance and consulting activities, was approved by the HCRAS on June 16, 2022, and the ALC on June 17, 2022.

SCOPE AND ASSURANCE



*Compliance with Act 671
of 2021*

*Independent assessment of
the status of ARDOT's
implementation of the
Guidehouse, LLP
recommendations as defined
by the ARDOT rules*

SCOPE

The purpose of this engagement was to comply with Act 671 of 2021. This report covers the period that began with an engagement letter reviewed and accepted by the ALC on June 17, 2022, and ended April 30, 2023. However, due to the nature of the activity that occurred prior to the date of the engagement letter and the ongoing nature of implementation of the recommendations, activities and documents were reviewed that occurred outside of the stated period.

Our work was conducted in conformance with the IIA Standards. These standards require that we plan and perform our work to obtain reasonable assurance that the objectives of the engagement are achieved. We believe that our review provides a reasonable basis for the conclusion stated in the report.

ASSURANCE

Assurance services are defined by IIA Standards as an objective examination of evidence for the purpose of providing an independent assessment on governance, risk management, and control processes for the organization. Examples may include financial, performance, compliance, system security, and due diligence engagements. Assurance services involve the internal auditor's objective assessment of evidence to provide opinions or conclusions regarding an entity, operation, function, process, system, or other subject matters. The nature and scope of an assurance engagement are determined by the internal auditor.

The assurance services component of this engagement will be the independent assessment of the status of ARDOT's implementation of the Guidehouse, LLP recommendations as defined by the ARDOT rules. Specific work may include, but is not limited to, interviews with ARDOT personnel, review of information developed and produced by ARDOT related to the recommendations, and consideration of the results to determine if the recommendations have been implemented appropriately. Audit procedures will vary depending upon the nature of the management action items being assessed and level of assurance deemed necessary for the engagement.

ORGANIZATIONAL STRUCTURE

FOCUS AREA 1

GUIDEHOUSE, LLC Recommendation



Finalize KPIs and implement performance management.

The Subcommittee recommends ARDOT adopt leading performance management practices to formulate and track a variety of operational effectiveness KPIs within a larger performance management framework and finalize those KPIs currently in use.

Implementation:

1. Finalize existing KPIs for system condition and preservation and establish a preliminary dashboard;
2. Establish baseline performance targets and connect the performance targets to the ARDOT Strategic Plan; and
3. Create and implement a roadmap for a comprehensive performance management plan.

Considerations:

1. This is a long-term initiative and should be approached in phases;
2. This practice should be used to improve the Department and foster collaboration; and
3. Communication, training, and change management may be required to socialize a new performance-based approach.

**ARDOT
Rule**

1

**In response to
Recommendation 1**

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Establish the ARDOT KPIs Oversight Committee. This Committee will be made up of senior administration officials. This Committee will oversee implementation and long-term management of this recommendation.

- ✓ This action is now complete.

OIA ASSESSMENT

The KPIs Oversight Committee was established in February 2022. The Committee consists of the Assistant Chief - Administration, Assistant Chief Engineer - Planning, Assistant Chief Engineer - Design, and the Assistant Chief Engineer - Operations. The Committee met five times from formation through April 30, 2023. OIA attended one meeting and reviewed all meeting minutes from the Committee. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 1**

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

As stated in the Final Report, this is a long-term initiative and should be approached in phases. Therefore, the remaining actions for this recommendation will be accomplished in phases which align with the goals in the Strategic Plan, which are:

- ✓ Provide Safe and Efficient Transportation Solutions;
- ✓ Accomplish Our Mission with a Focus on Stewardship;
- ✓ Champion Transportation Solutions that Promote Quality of Life and Economic Development;
- ✓ Continually Improve Transportation Services and Solutions Through Employee Engagement; and
- ✓ Maximize External and Internal Customer Satisfaction.

OIA ASSESSMENT

Rule two is a framework that will be considered as recommendation one is accomplished and does not have specific action items. ARDOT communicated that this rule provides guidance and a reminder to remain grounded within the goals stated in the Strategic Plan. The KPIs alignment with the Strategic Plan will be evaluated in rule three. OIA concurs this rule is complete.

**ARDOT
Rule**

3

**In response to
Recommendation 1**

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Hold internal meetings with key ARDOT staff members to finalize development of operational effectiveness KPIs and recommend performance targets for each one that will support and evaluate ARDOT's accomplishment of its Strategic Plan.

- ✓ The KPIs Oversight Committee is developing a survey regarding available Department data including format, update frequency and ownership that will be distributed to Department leadership.
- ✓ A literature review is also underway regarding best practices in the development and implementation of KPIs.
- ✓ The Committee is reviewing best practices as identified by the FHWA and other state DOTs.
- ✓ Currently, this item is 40 percent complete.
- ✓ A subcommittee has been created to assist with the implementation of this recommendation.

OIA ASSESSMENT

A subcommittee was established in November 2022 to assist with implementing recommendation one. The subcommittee consists of the Staff Engineer from the SIR Division, the Staff GIS and Mapping Administrator, a Staff Engineer from the Program Management Division, a Section Head from the IT Division, and the State HBM Engineer. The subcommittee met six times from formation through April 30, 2023. OIA attended five meetings and reviewed all meeting minutes from the subcommittee.

The subcommittee is in the process of developing a data survey with a goal of it being meaningful and easy to navigate. The subcommittee is reviewing the data reporting tools available through the IT Division. They are also reaching out to one of the support firms used by the IT Division to see if the firm has any data surveys already developed that would be useful in fulfilling this rule.

The subcommittee met with a Senior Planning Engineer from the Transportation Planning and Policy Division who was involved with a 2017 team that developed an initial draft of KPIs. Discussion included utilizing the Strategic Plan as a blueprint to identify the initial KPIs and a review of the transportation performance measures that are required by the FHWA.

OIA concurs this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 1

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Solicit stakeholder comments regarding operational KPIs and performance targets.

- ✓ The subcommittee completed a review of peer DOTs KPI dashboards.
- ✓ The subcommittee has identified a draft dataset for the KPI dashboard.
- ✓ The draft initial KPIs and performance targets have been reviewed by the committee chair.

OIA ASSESSMENT

ARDOT defines stakeholders in this context as users of the system and include ARDOT staff, governmental partners, metropolitan planning organizations and the general public.

The subcommittee reviewed the KPI dashboards of Florida DOT, Missouri DOT, Washington State DOT, Minnesota DOT, and Virginia DOT. The subcommittee documented their observation of each.

The chart below, provided by ARDOT, shows the subcommittee’s recommendation for the initial KPIs and performance targets. The recommendation has been reviewed by the KPIs Oversight Committee chair with no changes.

Strategic Objective	KPIs	Dashboard Location	Metrics	Targets
1,3,5	Bridge Conditions	Primary	Good, Fair, Poor	(2022) 43.6% Good, 52.9% Fair, 3.5% Poor
1,3,5	Interstate Pavement Conditions	Primary	Good, Fair, Poor, Under Construction	(2022) 65.2% Good, 33.5% Fair, 1.3% Poor
1,3,5	NHS Pavement Conditions	Primary	Good, Fair, Poor, Under Construction	(2022) 53% Good, 37.3% Fair, 9.7% Poor
2,3,5	Obligated Funding	Primary	% of obligated vs expended	100%
1,5	Roadway Fatalities	Primary	Total Number	(2022) 631
1,5	Roadway Serious Injuries	Primary	Total Number	(2022) 2996
1,5	Non-motorized Fatalities & Serious Injuries	Secondary	Total Number	(2022) 229

ARDOT Strategic Goals

1. Provide Safe and Efficient Transportation Solutions
2. Accomplish Our Mission with a Focus on Stewardship
3. Champion Transportation Solutions that Promote Quality of Life and Economic Development
4. Continually Improve Transportation Services and Solutions Through Employee Engagement
5. Maximize External and Internal Customer Satisfaction

OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

5

**In response to
Recommendation 1**

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Make final adjustments to the operational effectiveness KPIs and performance targets based on the comments received.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**

6

**In response to
Recommendation 1**

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Develop a dashboard to monitor and evaluate how ARDOT is meeting the performance measure for each KPI.

- ✓ The subcommittee met with an existing vendor regarding software that ARDOT currently uses to determine whether or not that software could be used to develop an effective dashboard for this effort. The subcommittee will investigate further. This investigation will include discussions with peer DOTs regarding their experience.
- ✓ The subcommittee has recommended the use of Microsoft Power BI as the reporting tool for the KPI dashboard. Since the Department currently uses this software for other applications, we are evaluating the need for upgrades in order to accomplish this recommendation.
- ✓ Development of the KPI webpage has begun.

OIA ASSESSMENT

After discussions with the IT Division and a meeting with Microsoft that included a demonstration of the tool, the subcommittee recommended utilizing Microsoft Power BI as the reporting tool for the KPI dashboard. ARDOT currently uses Microsoft Power BI. The purchase of additional licenses needed was approved by the Technology Steering Committee and is now pending approval by the Arkansas Highway Commission.

The subcommittee is working with the Public Information Office on the KPI webpage development. OIA has reviewed the draft KPI webpage; however, the draft KPI webpage is still under development and has not been finalized to the point of external presentation.

OIA concurs this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 1

ARDOT Primary Oversight: Assistant Chief Engineer – Planning

Develop annual review to identify successes and address areas of needed improvement.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**GUIDEHOUSE, LLC
Recommendation**

2

Strengthen knowledge management in anticipation of increased retirement.

The Subcommittee recommends adopting leading practices regarding KM and preservation in anticipation of increased personnel retirement to allow ARDOT to mitigate knowledge loss due to turnover, identify operational efficiencies, and improve succession planning and training.

Implementation:

1. Identify near-term “At Risk” business practices;
2. Initiate near-term succession planning activities;
3. Lay groundwork for more formal KM system; and
4. Implement systems to sustain the desired change.

Considerations:

1. New IT systems and software may be required to support standard operating procedure creation and centralize content;
2. Updating and creating new standard operating procedures can be a significant undertaking, however using a comprehensive inventory will help ARDOT prioritize; and
3. Leadership support and change management may be needed for lasting change.

**ARDOT
Rule**

1

**In response to
Recommendation 2**

ARDOT Primary Oversight: Assistant Chief – Administration

The ARDOT HR Division has been assigned the responsibility to oversee the implementation and long-term management of ARDOT’s KM Program.

- ✓ This action is now complete.

OIA ASSESSMENT

Based on OIA’s review of the KM Program documentation, the HR Division is overseeing the implementation and long-term management of the KM Program. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 2**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue reviewing all ARDOT positions to identify which ones are at risk of knowledge loss and identify responsibilities and associated processes, workflows, and critical areas of expertise.

- ✓ This action is now complete.
- ✓ Criteria and procedures have been developed which identify positions and key staff members at risk for potential knowledge loss using a Knowledge Risk Matrix.
- ✓ Criteria used to determine knowledge loss risk include the position’s headcount and grade, and the employee’s years of service and years in the position. Using this multi-point methodology, each employee is rated as high, moderate, low, or no risk.
- ✓ More than 500 employees and approximately 280 job titles have been identified as being at moderate or high risk for knowledge loss. Of those, only about 30 employees were identified as the highest risk of critical knowledge loss.
- ✓ Every three months, the knowledge loss risk report is regenerated to ensure the data is updated with ARDOT’s current workforce.

OIA ASSESSMENT

The HR Division has identified the positions which are at risk of knowledge loss by use of a Knowledge Loss Risk Matrix. An illustration of the Knowledge Loss Risk Matrix and scoring description provided by ARDOT are shown below.

Knowledge Loss Risk Matrix

To be determined on an individual employee basis

	Position	Person	Position	Person	Total
	Low Headcount	Yrs of Service	Grade	Yrs in Position	
High	1 or 2	25 yrs or more	14 to 99	10 yrs or more	12
	3	3	3	3	
Moderate	3 to 4	15 to 24 yrs	9 to 13	5 to 9 yrs	8 to 11
	2	2	2	2	
Low	5 to 7	5 to 14 yrs	6 to 8	2 to 4 yrs	4 to 7
	1	1	1	1	
None	8 or more	under 5 yrs	5 or lower	less than 2 yrs	3 or less
	0	0	0	0	

Value Scale	
High	3
Moderate	2
Low	1
None	0

Every three months, a list of all active employees is run from the HRIS, and the following criteria are applied:

- *Headcount per title*
- *Years of service*
- *Grade*
- *Years in position*

Each of the four criterion is broken down into four levels per employee:

- *High – 3*
- *Moderate – 2*
- *Low – 1*
- *None – 0*

The scores from these four criteria are summed up and the total score is placed into the following value scale to determine the amount of risk in terms of critical knowledge loss an employee represents if they left the organization.

- *High – 12*
- *Moderate – 8 to 11*
- *Low – 4 to 7*
- *None – 3 or less*

OIA recalculated a sample of employees scored through the Knowledge Loss Risk Matrix and noted no exceptions. Based on OIA's review, ARDOT has completed this rule.

**ARDOT
Rule**

3

**In response to
Recommendation 2**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue with knowledge interviews and further develop methods for knowledge capture of high-risk work responsibilities, processes, and workflows.

- ✓ This action is 55 percent complete.
- ✓ Knowledge interviews are routinely conducted with individuals who have been identified as moderate or high risk of knowledge loss, using a three-page questionnaire to determine the primary and secondary duties, equipment used on-the-job, challenges and how they are overcome, knowledge and skills needed, supervisory duties, unfinished projects and upcoming deadlines, important resources and coworkers, cross-training that has taken place, and advice for others in the position. Priority is given to those individuals who are leaving ARDOT or changing jobs. The information is shared with their managers to ensure a smooth transition when the individual leaves ARDOT or changes jobs.
- ✓ Since 2018, we have also been participating in the AASHTO KM Subcommittee, where state DOTs share best practices, resources and lessons learned as each develops its own KM program. The information gained from our involvement is used to further develop the program.
- ✓ Efforts are currently underway to explore options for creating a comprehensive and centralized inventory of standard operating procedures and other information regarding job responsibilities, processes and workflows.
- ✓ A series of monthly lunch-and-learn sessions with subject matter experts has been developed, as an additional method of sharing knowledge across the agency.

OIA ASSESSMENT

As of April 30, 2023, KM interviews have not taken place outside of the exit interview process for outgoing employees. OIA tested a sample of the questionnaires for inclusion of the criteria noted in Rule 3 which includes: primary and secondary duties, equipment used on-the-job, challenges and how they are overcome, knowledge and skills needed, supervisory duties, unfinished projects and upcoming deadlines, important resources and coworkers, cross-training that has taken place, and advice for others in the position. General practice indicated that the attributes were addressed, however isolated incidents of all criteria not being addressed were noted during testing. Some of the questionnaires reviewed were slightly different in the questions that were asked. ARDOT indicated that a standardized form is used. Of the questionnaires reviewed, 18 of 20 were completed through

an in-person interview process. The standard form is used as a jumping off point and the interview develops based on how the conversation progresses, which explains the variation in questions. ARDOT indicated that they have not attempted to interview all 500 employees that were identified as a moderate to high risk of knowledge loss yet due to competing priorities. However, their long-term goal is to transition to interviewing all employees who represent a critical knowledge loss risk, not limited only to those who are leaving employment. Earlier this year, 23 employees were identified as being the highest risk for knowledge loss. Interviews are being scheduled with these employees, as well as any others who have been identified as leaving. The current time frame for interviewing those at the highest risk is December 31, 2023, depending on employee availability. OIA concurs this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 2

ARDOT Primary Oversight: Assistant Chief – Administration

Identify staff in each Division or District who will be responsible for management of the knowledge captured and transfer of the knowledge to appropriate parties.

- ✓ This action is 10 percent complete.
- ✓ For SFY 2024-2025, we submitted a plan to add two Workforce Development Specialists to our staff. Our budget proposal was approved by the full legislature and enacted, so these new staff members will be hired in the future. One of them will help facilitate and coordinate the KM Program.

OIA ASSESSMENT

ARDOT plans to hire a Workforce Development Specialist who will facilitate and coordinate the KM Program. OIA concurs this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 2

ARDOT Primary Oversight: Assistant Chief – Administration

Develop annual review of ARDOT’s KM Program to ensure alignment with current processes and workflows.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

PORTFOLIO PLANNING

FOCUS AREA 2

GUIDEHOUSE, LLC Recommendation



Publish status of construction projects and maintenance activities.

The Subcommittee recommends revising ARDOT's existing communication of construction project and maintenance activities to make communication less disjointed and difficult to navigate. Improving the communication and reporting structure can enhance public visibility into, and accountability for, project performance; enhance project delivery; and yield better data to inform planning and budget appropriations.

Implementation:

1. Inventory current reporting infrastructure;
2. Identify and implement short-term reporting enhancements; and
3. Lay the groundwork for long-term reporting improvements.

Considerations:

1. ARDOT does not need to build out an entire platform to rapidly enhance reporting of readily available project status data: leverage existing platforms and tools, such as IDrive Arkansas and district office websites; and
2. An enterprise level approach will be required to provide true real-time access to project status.

**ARDOT
Rule**

1

**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief – Administration

Evaluate existing reporting platforms currently in use and document project information provided through them.

✓ This action is now complete.

OIA ASSESSMENT

A team of 11 collaborators from various divisions evaluated ARDOT's existing platforms. The team compiled a list of 12 relevant platforms and documented the project information provided through them. The list was reviewed and updated by the CAMARS Evaluation Team. Based on OIA's review of the documentation, the evaluation was reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief – Administration

Identify additional project information that could be provided through currently used reporting platforms for construction projects that are under development or have been let to contract and for maintenance projects.

✓ This action is now complete for construction projects. The information for maintenance projects will be developed as the MMS is developed and implemented.

OIA ASSESSMENT

ARDOT indicates that identification of additional project information that could be provided through currently used reporting platforms for construction is complete. ARDOT supplied a document that represents all the data that is stored in the SiteManager database and discusses various tables that are available in the software. While OIA reviewed the document, further testing will be performed in the next review cycle prior to issuing an opinion.

ARDOT signed a contract with DTS for VUEWorks MMS. The system will be implemented in a phased approach over the next 12 months to assist with maintenance activity/function planning. The identification of additional project information that could be provided through currently used reporting platforms for maintenance is in progress. OIA concurs the actions associated with maintenance projects are in progress of being completed.

**ARDOT
Rule**

3

**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief – Administration

Hold internal meetings with key ARDOT staff members to select project information that will be provided and how this information should be presented.

- ✓ A committee was formed which contains a member of the Department’s Administration as well as key staff members. This committee will continue to serve in order to accomplish this recommendation.
- ✓ The Arkansas Highway Commission adopted Minute Order 2022-047 which authorized the Director to issue a RFP to retain the services of a qualified consultant to accomplish this action.
- ✓ Five proposals were submitted.
- ✓ A committee was created to evaluate the proposals in order to select the most qualified consultant to provide this service.
- ✓ The Arkansas Highway Commission passed a motion at their December 7, 2022, meeting to accept the staff recommendation to enter into negotiations with the selected firm, Garver LLC, to provide these services.
- ✓ Negotiations are now complete for the contract with Garver LLC to provide these services.
- ✓ We are compiling the required documents that will be used to obtain public comments regarding the proposed contract. We will also submit these documents to this subcommittee for your review before it is executed.

OIA ASSESSMENT

The CAMARS Committee was created to address recommendation 3. The CAMARS Committee is made up of representatives from Alternative Project Delivery, the Construction Division, the Transportation Planning and Policy Division, the Public Information Office, the IT Division, the Equipment and Procurement Division, the Materials Division, and Administration. This Committee met three times in 2022.

An RFP was issued in July 2022 to retain the services of a qualified consultant to build, implement, and maintain CAMARS. The CAMARS Evaluation Team was established to evaluate the five proposals received. The Team was comprised of the Alternative Project Delivery Administrator, the Staff GIS and Mapping Administrator, a Construction Staff Engineer, a Maintenance Staff Engineer, and an IT Section Head. OIA attended all three meetings held by the team in 2022. The Arkansas Highway Commission passed a motion at their December 7, 2022, meeting to accept the staff recommendation to enter into negotiations with the selected firm.

OIA reviewed the RFP and the proposed contract that was submitted to HCRAS for review and find these documents reasonable.

ARDOT's final decisions regarding the information that will be provided regarding the reporting of the status of construction projects and maintenance activities have not been made. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**



**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief - Administration

Solicit stakeholder comment regarding project information that will be provided and how this information should be presented.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**



**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief - Administration

Finalize project information that will be provided and how this information should be presented.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**



**In response to
Recommendation 3**

ARDOT Primary Oversight: Assistant Chief - Administration

Since the accomplishment of this recommendation involves information and data that will be provided by implementation of Recommendations 1, 7, and 10, the implementation for this recommendation will be phased to align with when the information and data is available.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

GUIDEHOUSE, LLC
Recommendation

4

**Implement a platform
 that tracks all
 stakeholder inquiries to
 resolution.**

The Subcommittee recommends ARDOT implement a process to track all stakeholder inquiries from receipt to resolution. ARDOT primarily manages customer service by providing the public direct access to staff with no uniform process for documentation of the inquiry or response. Leading customer services practices suggest that ARDOT can improve its customer service, while simultaneously reducing the cost to the Department and finding new Department-wide operational efficiencies.

Implementation:

1. Understand customer, stakeholder, and public needs;
2. Define a new customer experience vision;
3. Lay the groundwork for a new service approach, including adoption of a customer relationship management tool; and
4. Create and execute on implementation plan; and measure and communicate customer service performance.

Considerations:

1. Clear vision, leadership buy-in;
2. Upfront investment for future return on investment;
3. Project Manager passionate about customer service;
4. Right technology application identified early in the process; and
5. In a phased approach, transition “services” not divisions.

**ARDOT
Rule**

1

**In response to
Recommendation 4**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish the ACSO Committee. This Committee will include at least one senior administration official and oversee implementation and long-term management of this recommendation.

✓ This action is now complete.

OIA ASSESSMENT

The ACSO Committee was established on August 18, 2021. The Committee consists of the Assistant Chief - Administration, the Division Head of IT, the Public Information Officer, the Assistant Public Information Officer, and the Public Information Administrative Assistant. Based on OIA's review of the meeting minutes, the Committee met six times between its formation and April 30, 2023. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 4**

ARDOT Primary Oversight: Assistant Chief – Administration

Hold internal meetings with key ARDOT staff members and evaluate existing resources to identify the quantity, scope, and type of customer inquiries.

- ✓ Internal meetings with all Division Heads and District Engineers have now been held.
- ✓ Comments received from the Division Heads and District Engineers are now under evaluation to identify the quantity, scope, and type of customer inquiries.
- ✓ Additional internal meetings were held with representatives from all Divisions and Districts.
- ✓ In total, 294 Department staff members attended one of these meetings.
- ✓ Comments from these meetings are being compiled to identify the quantity, scope, and type of customer inquiries.
- ✓ This action is now complete. Adjustments, if needed, will be made as we continue to refine the system.

OIA ASSESSMENT

Internal meetings were held with division heads and district engineers in October 2022 and with employees that were identified as power users in November 2022. Attendees were given an action item to provide common inquiries, trends, and topics to help build inquiry fields and FAQs in GovQA. Employees were given access to shared spreadsheets to provide this information. The common inquiries, trends, and topics provided by employees were utilized to design the dropdown menu the public will see in GovQA. The FAQs provided by employees were used to develop the FAQ section of GovQA. OIA attended the October 6, 2022, meeting with division heads and district engineers. OIA reviewed meeting minutes, question-and-answer documents from the meetings, topics spreadsheet, and FAQ spreadsheet. Based on OIA's review of the documentation, this rule is complete.

ARDOT Rule

3

In response to Recommendation 4

ARDOT Primary Oversight: Assistant Chief - Administration

Conduct a targeted survey of ARDOT inquiries to assess customer's needs and create an analysis of their needs.

- ✓ As we began to develop a survey, we realized that many of our staff were not aware of the GovQA's system capabilities. Therefore, the decision was made to hold meetings with the Department staff to assess our customer's needs and create an analysis of their needs.
- ✓ This action is now complete.

OIA ASSESSMENT

In lieu of conducting a targeted survey to assess customer needs, ARDOT held introduction meetings with division heads, district engineers, and identified power users. Meeting attendees were asked to provide common inquiries, trends, and topics to help build inquiry fields and FAQs. The attendees were also asked to give feedback and ask questions. The information gathered was utilized to develop GovQA. OIA reviewed meeting minutes, question-and-answer documents from the meetings, topics spreadsheet, and FAQ spreadsheet. Based on OIA's review of the documentation, OIA concurs this rule is complete.

**ARDOT
Rule**

4

**In response to
Recommendation 4**

ARDOT Primary Oversight: Assistant Chief – Administration

Use the results of the internal meetings and the analysis of ARDOT customer’s needs to establish goals for customer experience.

- ✓ Comments from the meetings with Department staff, which included 294 employees, are being compiled to identify the quantity, scope, and type of customer inquiries.
- ✓ On January 30, 2022, the GovQA system was made available to our staff for their use in a test environment.
- ✓ On February 6, 2023, the GovQA was moved into production. Our staff will use the system for actual contacts made from the public and we will evaluate how well the system meets the customer’s needs. Adjustments, if needed, will be made based on the comments received during this time.
- ✓ Currently, we are 90 percent complete with this action.

OIA ASSESSMENT

The employee feedback received through comments, questions, and the spreadsheet capturing common inquiries, trends, topics, and FAQs were utilized to develop GovQA to meet ARDOT needs.

ARDOT established a Customer Service Mission Statement which states, “ARDOT strives to serve the citizens of Arkansas with transparency, accountability, and care; the public will feel valued, empowered, and their voice will be heard. To accomplish this goal, ARDOT will utilize a customer service portal to track inquiries and provide an excellent customer service experience.”

GovQA will be known to the public as AskARDOT. ARDOT’s customer service experience goal is as follows:

- Welcome to AskARDOT – a one-stop portal for all your questions, comments, and requests regarding Arkansas highways.
- Serving you – the citizens of Arkansas – is a top priority for the Arkansas Department of Transportation.
- AskARDOT is a way for you to ask questions, get information, and track the status of your inquiry.
- Our goal is to make your customer experience easy, thorough, and as timely as possible.
- AskARDOT will ensure your questions, comments, and requests are heard and answered.

OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

5

**In response to
Recommendation 4**

ARDOT Primary Oversight: Assistant Chief – Administration

Solicit stakeholder comments regarding the established goals for customer experience.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**

6

**In response to
Recommendation 4**

ARDOT Primary Oversight: Assistant Chief – Administration

Select a consultant to provide software which can be integrated into our website that will provide ARDOT the ability to input, track, and document the processing and response to customer inquiries.

- ✓ We have completed an evaluation of customer service systems utilized by other agencies such as the City of Portland and the City of Philadelphia, which were identified as a leading practice by Guidehouse, and the Florida DOT.
- ✓ As part of this evaluation, we have attended on-line webinars held by the Florida DOT and by the consultant that developed the system Florida DOT has implemented, which is GovQA.
- ✓ Therefore, the committee has recommended, and the Department has executed, a contract with GovQA to provide services to accomplish this recommendation.
- ✓ The estimated cost for GovQA to provide the software and training is less than \$50,000.

OIA ASSESSMENT

ARDOT has selected software that integrates with their website and provides the ability to input, track, and document the processing and response to customer inquiries. OIA reviewed the documentation related to the selection of GovQA. OIA observed one of the employee training sessions as well as the question-and-answer sessions; OIA's assessment is that the system is user friendly for ARDOT employees. OIA utilized the public portal during the testing period and noted the system was easy to use and keeps the customer informed via automatic email replies as well as

responses from ARDOT employees. GovQA went live internally in February 2023. ARDOT is currently working on branding and release to the public. Based on OIA's review, OIA concurs this rule is complete.

ARDOT Rule



In response to Recommendation 4

ARDOT Primary Oversight: Assistant Chief - Administration

The consultant provided software will also be developed to provide a reporting structure that can be used to provide summarized information regarding customer inquiries to ARDOT administration and the public.

- ✓ Efforts have just been initiated by GovQA to identify their team that will provide training and implement this software for the Department.
- ✓ Development of a reporting structure is now underway. We are currently 20 percent complete with this action.

OIA ASSESSMENT

As of April 30, 2023, ARDOT was in the beginning stages of developing a reporting structure. OIA concurs that this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 4

ARDOT Primary Oversight: Assistant Chief - Administration

Establish metrics and performance measurements to evaluate accomplishment of customer service goals.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

PROCUREMENT

FOCUS AREA 3

GUIDEHOUSE, LLC Recommendation

5

**Implement efficiencies
in procurement and
purchasing.**

The Subcommittee recommends ARDOT optimize and standardize procurement and purchasing procedures. ARDOT may more effectively use resources and maximize costs savings Department-wide – including and beyond construction procurement with documented and standardized procurement procedures.

Implementation:

1. Use data-driven approaches like spend analysis and lifecycle costing to inform procurement and purchasing decisions;
2. Standardize usage of project acceleration techniques, procurement methods, and delivery methods; and
3. Push efficiencies to districts.

Considerations:

1. IT systems to track data;
2. Staff capacity and expertise to conduct data analysis;
3. Assignment of responsibility between districts and divisions; and
4. Change management to shift culture from low bid to best value.

**ARDOT
Rule**

1a

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Select focus areas to evaluate related to this portion of the recommendation. Consideration should be given to change orders, cost estimates, and project delivery methods.

- ✓ This action is complete.
- ✓ We established a focus group to identify areas to have improved efficiency for procurement of construction projects. The group focused on these areas:
 - Developing a guide for the selection of procurement and delivery methods;
 - Standardizing the use of project acceleration techniques; and
 - Conducting change order studies.

OIA ASSESSMENT

An Efficiency Review Procurement Construction Project Committee was formed to implement efficiencies in the procurement of construction projects. The Committee met seven times from June 23, 2022, to March 22, 2023, OIA attended three of these meetings. The meetings were attended by the Assistant Chief Engineer - Operations, the Assistant Chief Engineer - Planning, and the Alternative Project Delivery Administrator. Other members of ARDOT staff contributed as needed to include the Assistant Chief Engineer - Design, the Assistant Chief - Administration, and a Staff Construction Engineer. The Committee agreed to focus on the following areas:

- Develop a guide for the selection of procurement and delivery methods to be led by the Alternative Project Delivery Administrator.
- Standardize the usage of project acceleration techniques to be led by the Assistant Chief Engineer - Planning.
- Conduct change order studies to be led by the Assistant Chief Engineer - Operations.

Based on OIA’s meeting attendance and review of meeting minutes, the areas selected are reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**

2a

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Identify needed data to be able to evaluate the current processes and procedures used in the focus areas.

✓ This action is complete.

OIA ASSESSMENT

OIA attended Efficiency Review Procurement Construction Project Committee meetings and reviewed meeting minutes to determine the data needed to accomplish the three identified areas. The identified data is as follows:

- The Alternative Project Delivery staff is working on the guide for the selection of procurement and delivery methods and will utilize on-call consultants. A survey regarding the utilization of a PDS tool will be used.
- A survey regarding the use of acceleration construction techniques will be used as well as data obtained from literature reviews.
- Change order studies are being data mined from SiteManager.

Based on OIA's meeting attendance and review of documentation, the data identified is reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**

3a

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

If any needed data is not currently tracked, identify and implement methods of capturing it.

OIA ASSESSMENT

OIA concurs this rule has not been started.

**ARDOT
Rule**

4a

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Perform evaluation of current processes and procedures used with respect to the focus areas and document the practices that yield the best benefits.

- ✓ Procurement and Delivery Method Guide
 - Development of the guide is underway.
 - A survey regarding PDS tools was developed and sent to DOTs, local agencies and transit authorities. Based on survey responses, ARDOT will select three to five agencies and request more information about their PDS tools.
 - Three agencies were selected to be interviewed. They are the Minnesota DOT, Washington DOT, and North Carolina DOT.
 - Interviews have been held with the Minnesota DOT and Washington DOT.
 - Currently, we are 50 percent complete with this action.

- ✓ Standardizing the Use of Project Acceleration Techniques
 - A survey regarding the use of project acceleration techniques in surrounding and peer DOTs has been conducted. The survey results indicate that ARDOT has embraced and is utilizing project acceleration techniques at a higher rate than the other states surveyed. ARDOT will continue to explore other tools or methods as they are identified.
 - A literature review is underway. NCHRP publications are being reviewed for best practices.
 - The results of the survey and the NCHRP responses and findings have been summarized and are currently under review for insight into the use of standardized project acceleration techniques.
 - Currently, we are 75 percent complete with this action.

- ✓ Change Order Studies
 - Construction related data from ARDOT's AASHTOWare system is being mined for information that could lead to project design or administrative changes in the future.
 - Currently, we are 30 percent complete with this action.

OIA ASSESSMENT

ARDOT is currently in the process of performing evaluations of processes and procedures used with respect to the three areas of focus.

- The development of the guide is underway. A survey was sent to 39 state DOTs regarding the utilization of a PDS tool with 23 state DOTs responding. From the responding DOTs, Minnesota DOT, Washington DOT, and North Carolina DOT were selected to conduct virtual interviews and demonstrations of their PDS tools. The interviews with Minnesota DOT and Washington DOT were held in April 2023.
- A survey regarding the utilization of acceleration construction techniques was sent to 13 state DOTs with 8 state DOTs responding. A literature review of NCHRP publications was conducted to identify best practices. The data from the survey and literature review are under review.
- Change order studies are being mined from SiteManager. The following is being considered in the analysis:
 - Who is involved (resident engineer offices, districts, prime contractors)?
 - What categories are being researched (change order reason types, change order level, job work types, contract size amounts)?
 - What is the timeline? 2015-2021 has been selected.
 - What locations are having the most change orders and/or most costly change orders? The committee agreed that the focus should be on cost rather than the number of change orders.
 - The committee agreed to eliminate “specialized” change order reasons from the data set (incentive/disincentive payment processing).
 - The committee decided that the focus should be on 3-5 work types, such as major widening or pavement preservation.
 - The analysis will not include city aid or state aid jobs.

OIA concurs this rule is in process of being completed.

ARDOT Rule



In response to Recommendation 5

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

If needed, implement new or improved processes and procedures that yield the best benefits.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

PROCUREMENT OF EQUIPMENT AND MATERIALS

ARDOT Rule

1b

In response to Recommendation 5

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Select focus areas to evaluate related to this portion of the recommendation. Consideration should be given to supply and demand trends, term contracts, commodity price changes, ownership cost, procurement procedures, and purchasing methods.

- ✓ While we have identified some focus areas, this action is currently 80 percent complete.
- ✓ We have added new supply and term contracts for our HBM Section to take advantage of supply and demand trends in a volatile market.
- ✓ We have increased our use of the RFP process for vendor selection and procurement. Specifically, in the professional services arena. This allows us to incorporate the total cost of ownership into the evaluation criteria.
- ✓ Through the Oracle Fusion Procurement Cloud Service audit process, we are now able to track purchasing by procurement codes and by vendor.

OIA ASSESSMENT

The focus areas identified related to the procurement of equipment and materials are as follows:

- Supply and term contracts for HBM.
- RFP's that incorporate total cost of ownership into the evaluation criteria.
- Supply contracts with commodity price changes for materials that are petroleum based.
- Updated procurement procedures and purchasing methods.

While focus areas have been identified, ARDOT indicated that this rule is still in progress. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**

2b

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Identify needed data to be able to evaluate the current processes and procedures used in the focus areas.

- ✓ The implementation of the Oracle Fusion Procurement Cloud Service will identify and provide additional data that is needed to accomplish this action.
- ✓ We have implemented an Oracle Fusion Procurement Cloud Service audit process that allows for daily reviews of purchasing requisitions. This process is being used to assist in accomplishing this action, which is now a standard procedure for us.

OIA ASSESSMENT

Oracle Fusion Procurement Cloud Service has been implemented and provides purchase evaluation by procurement code and vendor, including in-state and out-of-state vendors. This software is expected to help identify additional data that is needed to accomplish this rule. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**

3b

**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

If any needed data is not currently tracked, identify and implement methods of capturing it. This will include the implementation of a software to move ARDOT to electronic bidding for equipment and materials.

- ✓ We have initiated implementation of on-line bidding software for our equipment and materials. As part of this implementation, we have attended on-line webinars for training held by InfoTech, Inc., which is the same consultant that provides on-line bidding services for our construction projects. We have completed the training and have now moved to testing the software.
- ✓ We are now using on-line bidding for 100 percent of our bids and contracts. We will continue to incorporate lessons learned to ensure success once we are fully on-line bidding.
- ✓ We are tracking and documenting our HBM bids and contracts.

- ✓ Through our online bidding process, we are now able to reach more bidders and we can track who has viewed our bid advertisements, which is now a standard procedure for us.
- ✓ We are tracking and documenting our equipment contracts for percent over or under cost estimates, which is now a standard procedure for us.

OIA ASSESSMENT

Online bidding software, Bid Express, has been implemented. This software is expected to provide data that was not previously tracked such as who viewed bid advertisements. OIA concurs this rule is in process of being completed.

ARDOT Rule



In response to Recommendation 5

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

Perform evaluation of current processes and procedures used with respect to the focus areas and document the practices that yield the best benefits.

- ✓ This action is now underway.
- ✓ We are tracking and documenting our most volatile commodity price changes to identify practices that yield the best benefits, which is now a standard procedure for us.
- ✓ We are tracking and documenting our mowing contracts for percent of increase or decrease from the previous contract period, which will become a standard procedure for us.

OIA ASSESSMENT

ARDOT is currently in the process of performing evaluations of current processes and procedures used with respect to the focus areas and documenting the practices that yield the best results. They started tracking and documenting their most volatile commodity price changes as well as mowing contracts. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**



**In response to
Recommendation 5**

ARDOT Primary Oversight: Deputy Director & Chief Engineer/ Assistant Chief – Administration

If needed, implement new or improved processes and procedures that yield the best benefits.

- ✓ We are updating our *Purchasing and Disposal Process and Procedures* manual which will formalize and enhance statewide oversight by our Equipment and Procurement Division. Currently, we are 80 percent complete with this update.

OIA ASSESSMENT

ARDOT is currently in the process of updating the *Purchasing and Disposal Process and Procedures* manual. OIA concurs this rule is in process of being completed.

**GUIDEHOUSE, LLC
Recommendation****Implement construction
contractor performance
measurement.**

The Subcommittee recommends a construction contractor performance score. ARDOT rigorously monitors contractor quality through inspections but lacks a tool to screen for contractor quality during procurement. By implementing performance-based scoring, ARDOT may improve work quality, safety, and timeliness; reward high-performing contractors; and encourage low-performing contractors to improve.

Implementation:

1. Identify quality indicators (i.e., repeated disincentives, claims, change orders, delays);
2. Develop scoring system to quantify performance; and
3. Track and monitor performance, using indicators and costs. In monitoring contractor performance, the recommendation of the Subcommittee is that the Department coordinate with county judges, mayors, and other municipal leaders to receive feedback regarding contractors performing work for the Department in the municipal leader's jurisdiction.

Considerations:

1. Consider impact for both small and large contractors;
2. Emphasize quantitative approach to minimize any appearance of subjectivity in scoring;
3. Consider an appeals process for contractors to counter scores; and
4. Ensure contractors have a clear path to raise their scores.

**ARDOT
Rule**

1

**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Establish the CPEC to include ARDOT staff and two representatives from the highway contracting industry. Members should have work experience needed to oversee the development, implementation, and long-term management of this recommendation.

- ✓ The Arkansas Asphalt Paving Association has selected Brad Marotti, from Delta Asphalt, to serve on the Committee.
- ✓ The Arkansas Association of General Contractors has selected Paul Drury, from Capital Midsouth, to serve on the Committee.
- ✓ This action is now complete.

OIA ASSESSMENT

ARDOT established the CPEC made up of ARDOT staff that have the work experience needed to oversee the implementation and long-term management of this recommendation. ARDOT CPEC members included two Resident Engineers, a Construction Engineer, a District Engineer, a District Construction Engineer, an Assistant Division Head, a representative from the Arkansas Association of General Contractors, and a representative from the Arkansas Asphalt Paving Association. The Committee met eight times between June 15, 2022, and March 3, 2023. OIA obtained meeting minutes from ARDOT for all CPEC meetings and observed five CPEC meetings.

The CPEC was created to improve work quality, safety, and timeliness; reward high-performing contractors; and encourage low-performing contractors to improve, by implementing performance-based prequalification. Specifically, the Committee will work to identify and select quality indicators, develop a scoring system to quantify performance, track and monitor performance using indicators and costs, and integrate this system into prequalification. Items to be considered include the impact for both small and large contractors, use of a quantitative approach to minimize any appearance of subjectivity in scoring, inclusion of an appeals process for contractors to counter scores, and to ensure that contractors have a clear path to raise their scores. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Identify metrics that define quality and desired performance of the prime contractor for construction projects.

- ✓ The CPEC has completed its review of best practices from other state DOTs. As part of this, the Committee participated in a FHWA Virtual Peer exchange on May 12, 2022. The following

state DOTs also participated in this peer exchange: New Mexico, Arizona, California, and Virginia.

✓ This action is now complete.

OIA ASSESSMENT

ARDOT identified metric categories that defined quality and desired performance of the prime contractor for construction projects. The FHWA commissioned study on performance-based contractor prequalification was provided to ARDOT by Guidehouse in the Efficiency Review Report. This was the primary document used in guiding CPEC on how other state DOTs evaluated and ultimately rated a contractor's performance. The FHWA study listed 24 states that perform contractor evaluations. CPEC focused on these states and reviewed their practices from the information provided. From the states listed in the FHWA study, CPEC researched the states' DOT websites for their evaluation forms. From the nine forms obtained and provided to OIA (Illinois, Iowa, Maine, Massachusetts, Michigan, Oklahoma, Utah, Virginia, and Washington), CPEC reviewed each one and decided to utilize Washington DOT's form as a baseline for ARDOT.

A copy of state DOT summary evaluation categories from the FHWA study can be seen below.

Table 5. Summary of State transportation department contractor performance evaluation categories.

State	Quality— Workmanship and Materials	Safety	Schedule	Home Office Support	Compliance	Environmental	Organization	Equipment	Payment of Accounts	Project Management	Prosecution of Work	Relations/ Cooperation	Traffic Control
Connecticut	x		x		x					x	x		
Florida	x							x			x	x	
Illinois	x				x	x	x				x	x	x
Indiana	x						x	x			x	x	
Iowa		x					x	x			x		
Kansas	x	x	x		x				x			x	
Kentucky	x	x	x	x	x			x				x	x
Maine	x	x			x					x		x	
Maryland	x	x	x		x	x						x	x
Massachusetts	x	x	x	x	x			x	x	x		x	
Michigan							x	x		x	x		
Missouri	x										x		x
Nebraska	x				x					x		x	
New Jersey	x	x	x		x		x			x			x
Ohio							x	x		x	x		
Oklahoma	x		x		x	x	x				x	x	x
Oregon	x	x	x		x	x			x	x			x
Pennsylvania					x			x			x		
South Carolina	x	x	x							x	x		
Utah	x	x	x		x	x				x		x	x
Vermont	x	x			x	x	x			x	x		x
Virginia	x	x				x				x			
Washington	x		x					x		x			
West Virginia	x		x				x	x		x		x	

After reviewing numerous metric categories used by other state DOTs, CPEC decided to reduce the ARDOT evaluation to one page. Similar metric categories were put in smaller groupings for evaluation and CPEC established the following 5 broad metric categories to evaluate.

- Safety
- Quality
- Prosecution of Work
- Cooperation
- Project Management/Project Supervision

Based on OIA’s review of the FHWA report, the metric categories selected are reasonable for the performance evaluation of the prime contractor for construction projects. OIA concurs this rule is complete.

ARDOT Rule



In response to Recommendation 6

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Establish how each metric will be used to evaluate the prime contractor.

✓ Currently, we are 65 percent complete with this action.

OIA ASSESSMENT

ARDOT selected metric categories widely used by other state DOTs based on the FHWA report. The five metric categories selected were safety, quality, prosecution of work, cooperation, and project management/project supervision. CPEC meeting minutes indicate the Committee continues to review evaluation criteria and develop a scoring system. This is an ongoing process as the details of different criteria are still being discussed. The form that captures the metrics has been modified over time to reflect the discussions of how to use each metric. ARDOT continues to work on the establishment of how each metric will be used to evaluate the prime contractor. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**

4

**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Develop a form which will be used by the ARDOT Resident Engineer and appropriate stakeholders to document their evaluation of the prime contractor.

- ✓ The Committee reviewed specific Contractor evaluation forms from other state DOTs and has agreed to utilize Washington State DOT's guidelines and form as a baseline for ARDOT's form. The Committee will continue evaluation of this form and guidelines to customize for ARDOT use.
- ✓ Currently, we are 65 percent complete with this action.

OIA ASSESSMENT

A draft of the Prime Contractor Performance Report form which will be used by the ARDOT Resident Engineers and appropriate stakeholders to document their evaluation of the prime contractor has been prepared by CPEC members. A draft instruction manual has also been created by CPEC members. Both drafts have been modified numerous times but have not been finalized. This is an ongoing process as the details of different criteria and the effects on the manual and form are discussed.

In late 2022, CPEC agreed that the following standards from the Washington DOT manual will be used with minor changes to better suit ARDOT's needs. The standards are Superior, Above Standard, Standard, Below Standard, and Inadequate.

ARDOT continues to work on developing a form which will be used by the ARDOT Resident Engineers and appropriate stakeholders to document their evaluation of the prime contractor. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**

5

**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Establish the process of compiling the completed evaluations into the project's final evaluation of the prime contractor.

- ✓ Currently, we are 25 percent complete with this action.

OIA ASSESSMENT

The process of compiling the completed evaluations into the project's final evaluation of the prime contractor is in progress. In early 2023, CPEC discussed how to take the numbers and convert them to a contractor score. CPEC has considered a weighted average score to determine the contractor's overall aggregate score at the end of the year. However, discussions related to this topic are ongoing. OIA concurs this rule is in process of being completed.

ARDOT Rule



In response to
Recommendation 6

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Establish a review and appeal process of the project's final evaluation of the prime contractor that is accomplished and completed prior to the results of the evaluation being published.

✓ This action is now complete.

OIA ASSESSMENT

ARDOT created a flowchart for the review and appeal process of a project's final evaluation of the prime contractor that is accomplished and completed prior to the results of the evaluation. Even though the process for final evaluation hasn't been completed, the appeals process has been documented in the flowchart and agreed upon by CPEC members. OIA attended the CPEC meeting and reviewed the flowchart. Based on this review, the appeals process is reasonable. OIA concurs this rule is complete.

ARDOT Rule



In response to
Recommendation 6

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Develop guidance for the type or size of projects where this evaluation will not be used.

✓ Currently, we are 20 percent complete with this action.

OIA ASSESSMENT

ARDOT is continuing to work on developing guidance for the type or size of projects where the evaluation will not be used. In February 2023, CPEC agreed to initially avoid Alternative Delivery and Construction Manager/General Contractor projects. The meetings and work for this rule are ongoing. OIA concurs this rule is in process of being completed.

**ARDOT
Rule**



**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Solicit stakeholder comments regarding the identified process for this recommendation.

- ✓ This effort is continually ongoing through comments and feedback from Industry, by including one committee member representing Arkansas Asphalt Paving Association, and one committee member representing The Arkansas Association of General Contractors.

OIA ASSESSMENT

The effort, of soliciting stakeholder comments, is continually ongoing through comments and feedback from industry, by including one committee member representing the Arkansas Asphalt Paving Association, and one committee member representing The Arkansas Association of General Contractors. Based on OIA's review of CPEC meeting minutes and observation at CPEC meetings, there has been industry representation and input at each meeting.

It should be noted, in the July 2022 CPEC meeting, the following industry concerns were discussed:

- Subjectivity of evaluation (i.e., clashing personalities)
- Contractor can appeal their score.
- Base score of 1 for contractors who have not been evaluated, will not affect bid.
- May affect contractor prequalification.
- Industry recommends having a clear message regarding evaluations to contractors.

Additionally, at the September 2022 CPEC meeting, discussion points for matters of significance to contractors regarding the evaluation criteria, prepared by the industry representatives, that had been previously disseminated, was discussed and revisions to the criteria were made. OIA concurs the actions associated with this rule are ongoing.

**ARDOT
Rule**



**In response to
Recommendation 6**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Finalize the process for this recommendation.

OIA ASSESSMENT

This process is still in the development phase. This rule has not been started because completion of preceding rules is required before implementation.

EXPENDITURES

FOCUS AREA 4

GUIDEHOUSE, LLC Recommendation



Implement project and portfolio management frameworks.

Subcommittee recommends adopting a project and portfolio management framework. ARDOT's pre-construction, construction and maintenance Project Portfolio Management systems vary in maturity. Enhancing these systems with leading Project Portfolio Management practices and a PMO may allow ARDOT to more effectively budget, plan, execute, and communicate on its portfolio of construction projects and maintenance activities.

Implementation:

1. Catalog existing Project Portfolio Management capabilities and identify baseline and target;
2. Identify gaps in Project Portfolio Management (e.g., pre-construction resource planning);
3. Establish a PMO and Governance, and build on existing strengths and capabilities; and
4. Phase deployment, develop tools, and train staff members.

Considerations:

1. Will require Department-wide effort to unify disparate initiatives and assets and build out Project Portfolio Management framework; a qualified vendor can expedite this process;
2. Implementation of Project Portfolio Management/PMO will be perceived as overhead, but will yield long-term benefits; and
3. Change management and new IT applications may be required.

CONSTRUCTION PROJECTS

ARDOT Rule

1a

In response to Recommendation 7

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Evaluate the need for a Construction PMO.

- ✓ The Program Management Division currently serves as the PMO for pre-construction projects while Construction Division currently serves as the PMO for construction projects. The noted Divisions will continue in their assigned roles as this recommendation is implemented.
- ✓ This action is complete.

OIA ASSESSMENT

The Assistant Chief - Administration and the Assistant Chief - Planning discussed the need for a Construction PMO. The summary of their discussion with resulting decision was provided to OIA for review. The decision was made not to establish a Construction PMO. The Program Management Division will continue to serve as the PMO for pre-construction projects. The Construction Division will continue to serve as the PMO for construction projects. Both Divisions have served in this capacity for many years and have the knowledge and processes in place to continue to be successful. Based on OIA's review of the documentation, the evaluation and resulting decision is reasonable. OIA concurs this rule is complete.

ARDOT Rule

2a

In response to Recommendation 7

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Review existing planning and project management protocols currently in use by ARDOT to determine the software used and their capabilities for construction projects.

- ✓ A new software system has been implemented to assist with the planning of projects. This system allows for suggested projects to be entered into a database which streamlines the project submission process. This software will be enhanced as part of this recommendation.
- ✓ Additionally, the software used to track pre-construction project development activities has recently been enhanced to provide additional data, which will also be incorporated into this recommendation.
- ✓ This action is complete.

OIA ASSESSMENT

The STIP Submission System was implemented to assist with planning projects. It is a web-based program that allows users to submit projects for the STIP development process and collaborate across the Department. The System is being enhanced to assist with project development outside of the STIP submission cycle.

Portions of AASHTOWare Project software has been utilized by ARDOT for years. This software manages construction projects from “cradle to grave.” ARDOT is implementing other modules of the software including the module that will replace SiteManager.

Based on OIA’s review of the documentation, ARDOT’s review is reasonable. OIA concurs this rule is complete.

ARDOT Rule



In response to
Recommendation 7

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Prepare a comparison of the planning and project management protocols currently in use by ARDOT for construction projects against systems and processes used by other state DOTs to identify potential benefits from the implementation of the identified systems.

✓ This action is complete.

OIA ASSESSMENT

A comparison table that lists the project management software used by 43 state DOTs, 2 Canadian provinces, the District of Columbia, and 2 state Turnpike Authorities was provided. The table includes Arkansas. Of the entities compared, 5 use Construction Administration and/or FieldManager, which are stated to be similar to SiteManager but with reduced functionality. However, they are also either currently using or in the process of implementing at least 1 module of AASHTOWare Project. Removing Arkansas, the remaining 42 entities are currently using SiteManager and/or using or implementing at least 1 module of AASHTOWare Project. This comparison indicates that ARDOT is in line with a majority of the other state DOTs across the country. Based on OIA’s review of the documentation, ARDOT’s comparison is reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**

4a

**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Select identified systems and processes for implementation.

- ✓ Efforts are underway to enhance our current construction project documentation software, AASHTOWare Project. This software has been developed in collaboration with other state DOTs. The new web-based system will provide additional reporting tools for project monitoring. Currently, we are working with our consultant, InfoTech, Inc., to complete customization of the software, identification, and implementation of needed changes to our current procedures while we work toward completing this upgrade.
- ✓ Enhancement of the AASHTOWare Project software identified the need to develop on-line forms to be used by our staff to document construction project activities.
- ✓ Currently, we are 67 percent complete with this action.

OIA ASSESSMENT

ARDOT is in the process of enhancing the AASHTOWare Project software and implementing other modules including the module that will replace SiteManager. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

5a

**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Coordinate implementation of the selected systems and processes with implementation of recommendation three to enhance publication of the status of construction projects.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**

6a

**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Provide needed training to implement the selected systems and processes.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

MAINTENANCE PROJECTS

**ARDOT
Rule**

1b

**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Evaluate the need for a Maintenance PMO.

- ✓ The Maintenance Division currently serves as the PMO for maintenance projects. They will continue in their assigned role as the recommendation as implemented.
- ✓ This action is complete.

OIA ASSESSMENT

The Assistant Chief - Administration and the Assistant Chief - Operations discussed the need for a Maintenance PMO. The summary of their discussion, with resulting decision, was provided to OIA for review. The decision was made not to establish a Maintenance PMO. The Maintenance Division will continue to serve as the Maintenance PMO. The Maintenance Division provides administration, governance, process frameworks for planning and project activities, leadership, expertise, and support for all maintenance related functions and activities across the state. Based on OIA's review of the documentation, the evaluation and resulting decision is reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Finalize the review of existing planning and project management protocols currently in use by ARDOT to determine the software used and their capabilities for maintenance projects.

- ✓ Efforts are underway to develop and implement our MMS. As part of this effort, we participated in a Domestic Scan Peer Exchange with other state DOTs to learn how they utilize software to manage their maintenance efforts based on asset condition. We have met with the following state DOTs: North Carolina, Mississippi, and Louisiana, and visited onsite with Texas to evaluate how each state uses MMS to accomplish maintenance projects. We have also evaluated NCHRP reports to assist in our development of how we will use our MMS to manage our maintenance projects.
- ✓ In November 2021, the Commission selected DTS, LLC to provide this system.
- ✓ Negotiations with DTS, LLC have been completed.
- ✓ The contract was submitted to this Subcommittee on August 25, 2022. The Subcommittee considers this contract to be reviewed.
- ✓ The Department has now executed our contract with DTS, LLC to implement this software.
- ✓ This action is now complete.

OIA ASSESSMENT

ARDOT began evaluating the Department's MMS in 2018. The proposal approved by the Arkansas Highway Commission identified the MMS as a 1980's legacy system that had reached end of life. The system lacked the ability to track maintenance operations in an effective manner including tracking assets, scheduling, and dashboards. The recommendation was to take an incremental approach in obtaining a comprehensive system, estimating full implementation would take five or more years following the MMS implementation guidelines shown in the proceeding chart, provided by ARDOT. The approved Minute Order authorized the Director to solicit and evaluate proposals for development and implementation of an MMS for the Department.

MMS Implementation Level	System Features and Management Capabilities
Tier 1 - Basic MMS	<ul style="list-style-type: none"> • Output based planning = work units • Budgeting based on annual plan for work units or historical data • Tracking of expenditures and work units
Tier 2 - Stovepipe Systems	<ul style="list-style-type: none"> • LOS descriptions • Asset collection and maintenance quality assessments • Analysis to determine pavement and bridge treatments and strategies • Customer feedback
Tier 3 - Cross-Functional Performance Measures	<ul style="list-style-type: none"> • Establishing performance targets • Ability to link resources and budget with desired outcomes and results • Performance-based planning and budgeting • Ability to link customer input with resource and budget needs
Tier 4 - Full Integration	<ul style="list-style-type: none"> • Goal setting across transportation needs • Enterprise-wide trade-off analysis • Fully integrated decision-support system
Tier 5 - Investment Optimization	<ul style="list-style-type: none"> • Ability to optimize maintenance tradeoffs • Investment analysis = system expansion vs. preservation vs. maintenance

In 2021, the Maintenance Division developed new processes and protocols for the development of an AWP. The AWP process should integrate with budgeting. Performance summary reports and expenditure reports should relate directly to the AWP and allow districts and county supervisors to plan, schedule, and complete work. The MMS software procured should provide a work order tracking system and allow planning efforts to integrate with the AWP. District 1 piloted the new process at the start of 2022. The goal is for all districts to utilize this process for SFY 2024.

In 2021, a RFP was issued for a MMS. The evaluation committee invited 5 vendors of the 11 proposals received to make demonstrations to the committee. DTS VUEWorks was selected. The final contract was executed, and the implementation began in the fall of 2022. Once implementation is complete, training materials and courses will be developed for MMS users. The VUEWorks software platform offers additional modules that will be considered upon completion of the current implementation.

In developing the MMS, ARDOT also referenced the NCHRP Scan Team Report “Leading Management Practices In Determining Funding Levels For Maintenance And Preservation.”

Based on OIA’s review of the documentation, ARDOT’s review is reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Prepare a comparison of the planning and project management protocols currently in use by ARDOT and those that will be provided by the MMS for maintenance projects against systems and processes used by other state DOTs to identify potential benefits from the implementation of the identified systems.

✓ This action is now complete.

OIA ASSESSMENT

Research of other state DOT’s MMS processes revealed that they were all in different phases of implementation. The most common elements were workplans, activity guidelines, and asset inventory.

State DOT	Summary of MMS Processes
North Carolina DOT	Uses a proprietary MMS integrated with pavement and bridge systems. They build an AWP based on accomplishment goals. They have reports based on accomplishments.
Missouri DOT	Uses an in-house written program. It is heavily dependent on GIS and their assets. They build workplans for certain assets. For the assets they do plans on, they develop custom forms based on their activity guidelines for each activity that is applicable to the asset.
Arizona DOT	Uses an in-house written program. It was based on a set of Dye Management spreadsheets they were originally using to generate workplans. It's been expanded now to allow them to do asset inspections. They use historical budgets to emphasize what activities to spend money on.
Washington DOT	Has a system built off ESRI's ArcGIS and Roads and Highways. They build AWP's that will show a predicted level of service. They use an activity standard to generate an estimated cost for that activity. They have a priority matrix that includes business goals to determine the performance targets that they try to hit with their AWP's. They have a maintenance quality assurance program that drives their level of service.

State DOT	Summary of MMS Processes
Tennessee DOT	Uses a system developed by Booz-Allen Hamilton. They build level of effort based AWP's and have built a maintenance quality assurance program. At the time of the inquiry, they were in the process of changing processes to integrate the two items.
Utah DOT	Has a system similar to Washington, but they develop monthly plans rather than annually using their Operations Management System workload distribution tool. That system is built off AgileAssets software products. They build work orders using their activity standards as a reference.
Texas DOT	Uses AgileAssets software for their MMS to manage their maintenance activities but use an excel spreadsheet to calculate yearly funding distributions and budget limitations for their Districts. They use ArcGIS Collector to capture asset data. They also use a work order system.
Virginia DOT	Uses VUEWorks as part of the MMS. They use it for resource planning, work orders, and inspections. They use Microsoft Dynamix software for work requests, which generates a work order in VUEWorks, if merited.

Based on OIA's review of the documentation, ARDOT's review is reasonable. OIA concurs this rule is complete.

ARDOT Rule



In response to Recommendation 7

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Select identified systems and processes for implementation.

- ✓ This action is underway and will continue as we implement the MMS.
- ✓ Currently, we are 24 percent complete with this action.

OIA ASSESSMENT

ARDOT is currently in the process of selecting identified systems and processes for implementation. The implementation of MMS also impacts this rule. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**



**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Coordinate implementation of the selected systems and processes with implementation of Recommendation 3 to enhance publication of the status of maintenance projects.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

**ARDOT
Rule**



**In response to
Recommendation 7**

ARDOT Primary Oversight: Deputy Director & Chief Engineer

Provide needed training to implement the selected systems and processes.

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

GUIDEHOUSE, LLC
Recommendation



**Implement best practices
 in construction project
 design.**

The Subcommittee recommends adopting, implementing, and documenting best practices in construction project design. ARDOT lacks formal frameworks to ensure the consistent use of best practices in construction design, limiting their ability to demonstrate cost savings and strengthen institutional knowledge. By adopting and documenting such procedures, ARDOT may reduce project costs and improve achievement of system targets.

Implementation:

1. Develop formal framework around use of performance-based practical design;
2. Conduct VE earlier in design (i.e., at 30 percent complete) and more often; and
3. Evaluate gap between original bid and final payment amounts to inform best practices in design.

Considerations:

1. Not all projects are well suited to or would benefit from such approaches; frameworks should identify when to use them; and
2. ARDOT is already employing many of these practices, so implementing this recommendation will not require creation of new technical practices; rather, formalizing and documenting existing practices.

**ARDOT
Rule**

1

**In response to
Recommendation 8**

ARDOT Primary Oversight: Assistant Chief Engineer – Design

Establish formal procedures for practical design, VE, and a comparison of engineer’s estimates against final cost.

- ✓ Practical Design – The formalization of this process is underway. Currently, we are 85 percent complete.
- ✓ Value Engineering – While VE of projects was being accomplished according to FHWA guidelines, the Design Staff revisited the process and has made the following updates and additions:
 - The VE Guidelines and Procedures Manual was updated and distributed October 2021 encouraging additional projects that have the highest potential for value improvements be considered for the VE process. The additional screening criteria included, but was not limited to, the following:
 - o More than one alternative solution
 - o Relative complexity in design
 - o Accelerated time schedule in planning and design phases
 - o Opportunity for implementation of state-of-the-art practices
 - o Complicated maintenance of traffic requirements
 - A VE Flow Chart was developed to aid Engineers in determining when a project meets the criteria for VE.
 - An additional entry has been added to the Design Decision Document stating the results of the Flow Chart determination.
 - Additional entries will be made in the ARDOT Staff Minutes alerting staff of the VE requirements for each project.
- ✓ Comparison of the Engineer’s Estimate Against Final Cost
 - Design Staff will continue to review the overruns and underruns of contract pay items when the project is completed and finalized. Any revisions to current design practices, deemed necessary by the Roadway Design Engineer, will be submitted in writing to the Assistant Chief Engineer - Design for review.

OIA ASSESSMENT

OIA’s review of the VE Guidelines and Procedures manual dated October 2021, VE Flow Chart, Design Decisions form, and the annual VE Program Evaluation Report indicate that formal procedures are in place for VE. The formal procedures for practical design and comparison of the engineer’s estimates against final cost are in progress of being completed. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

2

**In response to
Recommendation 8**

ARDOT Primary Oversight: Assistant Chief Engineer – Design

Establish the analysis which will identify benefits, cost savings, and return of investment from the use of practical design, VE, and a comparison of engineer’s estimates against final cost.

- ✓ Design Staff have begun to record cost savings from the implementation of practical design elements during the design process. This is accomplished through the use of a Microsoft Access database which will enhance our ability to perform analysis of the data. The staff will expand the recording of cost savings to the VE process if those savings ever present themselves.
- ✓ Cost Savings realized in 2021 was \$116 million.
- ✓ Cost Savings realized in 2022 was \$59 million.
- ✓ Cost Savings realized to date in 2023 is \$15 million.

OIA ASSESSMENT

OIA reviewed the 2021 and 2022 Roadway Design Cost Savings reports. The reports were utilized by OIA to select a judgmental sample of all projects reporting a cost savings of \$1 million or more which resulted in a sample of 24 from the total population of 69. ARDOT does not have a cost savings procedure formally documented. Therefore, no formal documentation was provided to demonstrate how the savings were calculated for the 2021 and 2022 Roadway Design Cost Savings reports. It should be noted that all cost savings shown in the reports were captured during the design process and that none of the projects in the sample are complete.

OIA deemed 9 items in the sample to have sufficient documentation while 15 had insufficient documentation for OIA to calculate the cost savings reported on the Roadway Design Cost Savings reports. OIA will continue working with ARDOT to validate the practical design savings reported. Additionally, ARDOT is in process of establishing the analysis which will identify benefits, cost savings, and return of investment from the use of practical design, VE, and a comparison of engineer’s estimates against final cost. OIA concurs the actions associated with this rule are ongoing.

**ARDOT
Rule**

3

**In response to
Recommendation 8**

ARDOT Primary Oversight: Assistant Chief Engineer – Design

Establish processes which will identify needed changes to design approach for projects most likely to have change orders that exceed estimated completion dates, and are likely to benefit from practical design solutions.

- ✓ We are currently developing a Constructability Review Procedures Manual that will establish uniform policies and procedures for Constructability reviews within ARDOT.

OIA ASSESSMENT

ARDOT is in the process of developing a Constructability Review Procedures Manual that will establish uniform policies and procedures for Constructability reviews within ARDOT. OIA concurs this rule is in progress of being completed.

INFORMATION TECHNOLOGY

FOCUS AREA 5

GUIDEHOUSE, LLC Recommendation



Build an IT Governance Structure to guide the Department's IT investments.

The Subcommittee recommends building an IT governance structure to determine ARDOT's IT investments. ARDOT's IT investments have grown 155 percent since FY 2016 to \$23M in FY 2020 under unclear enterprise level guidance. Leading practices suggest that establishing a formal governance structure will enable the IT Division of ARDOT to support business objectives, help optimize ARDOT operations, manage enterprise risk, and meet internal and external stakeholder needs.

Implementation:

1. Lay the groundwork to establish a robust governance structure;
2. Establish a governance structure that identifies a cross-section of business and IT personnel to create a charter and decision-making framework; and
3. Create and execute on a governance roadmap; measure and communicate progress.

Considerations:

1. This is an ongoing process;
2. Leadership support is needed;
3. Emphasize how IT enables business performance and reduces risk; and
4. Cascading of enterprise level goals through the IT Division to actual underlying processes.

ARDOT Rule

1

In response to Recommendation 9

ARDOT Primary Oversight: Assistant Chief – Administration

Establish an IT Governance Committee made up of ARDOT leadership including the appropriate Assistant Chiefs and Division Head that reports through the Deputy Director and Chief Operating Officer to the Director.

- ✓ This action is now complete. The Committee has held meetings to begin the implementation of this recommendation. We have also met with all District Engineers and Division Heads to discuss and inform them of the goals of this Committee.

OIA ASSESSMENT

The IT Governance Committee was established in July 2021. The Committee is known as the Technology Steering Committee. The Committee is made up of the Assistant Chief - Administration, the Assistant Chief Engineer - Planning, the Assistant Chief Engineer - Design, the Assistant Chief Engineer - Operations, the Chief Information Officer/Division Head of IT, and the Chief Fiscal Officer. A presentation was given to division heads and district engineers in January 2022 to communicate the goals of the Committee and the role each plays in IT Governance. The Committee met seven times between December 2021 and April 2023. OIA attended three meetings. The meeting minutes were obtained and reviewed for all meetings. OIA concurs this rule is complete.

ARDOT Rule

2

In response to Recommendation 9

ARDOT Primary Oversight: Assistant Chief – Administration

Establish a framework and charter for the Committee.

- ✓ Meetings were held in June 2022 to develop a draft framework and charter for the Committee.
- ✓ The Committee adopted the final version of the framework and charter at their meeting in October 2022.

OIA ASSESSMENT

ARDOT participated in a weeklong IT Governance workshop with InfoTech, Inc., a current consultant to ARDOT. From the workshop, InfoTech, Inc. prepared an IT Governance Executive Summary. ARDOT utilized lessons learned from the workshop as well as ideas and suggestions from the IT Governance Executive Summary to establish the framework and charter for the Technology Steering Committee. OIA reviewed the Technology Steering Committee Charter and Framework for Controlled Governance which was adopted on October 6, 2022. Based on OIA's review, the framework and charter are reasonable for the functioning of the Committee. OIA concurs this rule is complete.

**ARDOT
Rule**

3

**In response to
Recommendation 9**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish governance focus areas and priorities.

- ✓ Meetings were held during the week of June 6, 2022, to begin identification of focus areas and priorities for the Committee.
- ✓ The Committee adopted focus areas and priorities at their meeting in October 2022.

OIA ASSESSMENT

ARDOT participated in a weeklong IT Governance workshop with InfoTech, Inc., a current consultant to ARDOT. ARDOT utilized lessons learned from the workshop and established governance focus areas and priorities. Based on OIA’s review, the focus areas and priorities are reasonable.

**ARDOT
Rule**

4

**In response to
Recommendation 9**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish needed subcommittees to address each focus area.

- ✓ The IT Governance Committee determined that subcommittees are not needed at this time. Therefore, this action is complete.

OIA ASSESSMENT

OIA reviewed the Chief Information Officer’s recommendation dated January 19, 2023, that no subcommittees are needed at this time to address the current focus areas. The Technology Steering Committee concurred with this decision and no subcommittees have been established. This decision can be reevaluated as deemed necessary by the Committee. OIA concurs this rule is complete.

**ARDOT
Rule**

5

**In response to
Recommendation 9**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish a framework and charter for each subcommittee.

- ✓ Since no subcommittees are needed at this time, this action is complete.

OIA ASSESSMENT

With the decision of the Technology Steering Committee that no subcommittees are needed at this time, there are no actions to complete in establishing a framework and charter for each subcommittee. OIA concurs this rule is complete.

**ARDOT
Rule**

6

**In response to
Recommendation 9**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish frequency for committee and subcommittee meetings.

- ✓ The Committee established the frequency of their meetings at their meeting in October 2022.

OIA ASSESSMENT

During a meeting held October 6, 2022, the Technology Steering Committee established that Committee meetings will be held quarterly unless more frequent meetings are needed, such as budget preparation time. OIA attended this meeting. OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendation 9**

ARDOT Primary Oversight: Assistant Chief - Administration

Identify KPIs to evaluate performance.

OIA ASSESSMENT #

OIA concurs actions have not started for this rule.

**GUIDEHOUSE, LLC
Recommendation**

10

Implement mid-term IT initiatives that can optimize business operations.

The Subcommittee recommends the adoption of IT initiatives that optimize business operations. ARDOT spends ~\$5.3M on software applications and has 300+ databases. Implementing leading data management and software application rationalization practices can deliver cost savings and unlock data value.

Implementation:

1. Build a software application and database inventory;
2. Assess and score each software application and database;
3. Identify target state for each application and database; and
4. Build phased roadmap for migration processes.

Considerations:

1. Requires upfront investment to yield mid-to long-term savings;
2. Requires leadership buy-in and change management to overcome resistance and assist staff in shifting to a new model;
3. Requires software application such as the planned ITSM tool; and
4. Requires implementation plan for continuity of operations.

**ARDOT
Rule**

1

**In response to
Recommendation 10**

ARDOT Primary Oversight: Assistant Chief – Administration

Determine preliminary ARDOT data governance and application development standards.

✓ This action is now complete.

OIA ASSESSMENT

OIA reviewed the Data Governance Policy, Data Management Policy, Data Access Policy, and Software Development Standards. These policies and standards are a reasonable start in developing preliminary data governance and application development standards. OIA concurs this action is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 10**

ARDOT Primary Oversight: Assistant Chief – Administration

Complete the existing application and database inventory including known policies, procedures, training and database schema categorized by business function.

✓ This action is now complete.

OIA ASSESSMENT

OIA reviewed a spreadsheet listing of ARDOT's application inventory. It should be noted the applications included are only ARDOT developed web-based software and does not include third-party software. The inventory contained 57 applications. OIA also reviewed a spreadsheet listing of ARDOT's database inventory. The inventory contains 934 databases including both production and non-production databases.

OIA judgmentally selected to use a table from the Data Governance Policy that includes applications, data sets, and processes to test the completeness of the application and database inventory. The table included 69 items. Each item was reviewed in both the application and database inventory spreadsheets to ensure inclusion. Of the 69 items reviewed, 50 were included on the database inventory spreadsheet, 12 were included on both the database and application inventory spreadsheets, and 7 were not included on either inventory spreadsheet.

Additionally, OIA judgmentally selected 30 applications that were scored by SMEs to test the completeness of the application inventories. Each application was searched in the application inventory spreadsheet. Of the 30 applications reviewed, 29 were included on the application inventory spreadsheet.

ARDOT provided the following explanations for exceptions:

1095c – This database was previously used by the Department. However, it is now no longer used, since the management of the 1095c forms is handled by the Arkansas Employee Benefits Division (EBD). It is not included in the inventory because it is no longer used by the Department.

AssetManagement test – This was a test database for Asset Management that was never put into production. It is no longer needed and is not used. It is not included in the inventory because it is no longer used by the Department.

Please note, this explanation is for both of the “AssetManagement Test” databases noted in your request.

MMHIS web test – This was a test database for the Multi-Modal Highway Information System (MMHIS) web version. It was used to help develop the MMHIS web database that was put into production. The MMHIS web test database is no longer needed and is not used. It is not included in the inventory because it is no longer used by the Department.

Bridge Assets – This was a test database for the AHTD_DTIMS_BRIDGE database. This database is no longer needed and is not used. It is not included in the inventory because it is no longer used by the Department.

Program Management Maps – This was a database that is no longer used since it has been replaced by another database. This database is no longer needed. It is not included in the inventory because it is no longer used by the Department.

Weather Condition Map Input – This database was previously used by the Department. However, it is now no longer used, since our IDriveArkansas website is used to present road condition information to the public during inclement weather. It is not included in the inventory because it is no longer used by the Department.

PCPM t Test - This was a test database that was used to develop the PCPM system that is in production. The PCPM t Test database is no longer needed and is not used. It is not included in the inventory because it is no longer used by the Department.

The explanations received are reasonable for why the items were excluded from the application and database inventories.

Rule 2 also includes known policies, procedures, training, and database schema categorized by business function. Testing on this portion of the rule has yet been performed. Therefore, OIA will not issue an opinion for this review cycle.

**ARDOT
Rule**

3

**In response to
Recommendation 10**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish application and database scoring system based on business function relevancy, risks, and cost of ownership.

✓ This action is now complete.

OIA ASSESSMENT

OIA reviewed the application scoring system for ARDOT developed applications, which includes business function relevancy, risk, and cost of ownership. The application scoring system is reasonable to be used in decisions and prioritizing applications for modernization. A scoring system has not been established for databases. In the monthly update report dated August 1, 2023, ARDOT modified the status of this rule to state that “This action is now complete for the application component.” OIA concurs with the modified status.

**ARDOT
Rule**

4

**In response to
Recommendation 10**

ARDOT Primary Oversight: Assistant Chief – Administration

Review and validate scoring assessment with internal SMEs.

✓ This action is now complete.

OIA ASSESSMENT

The rule states “Review and validate scoring assessment with internal SMEs.” The rule implies that a scoring assessment would be prepared then reviewed and validated by SMEs. ARDOT indicated that the SMEs provided the scoring for the assessment since they are familiar with the applications and databases. Their scoring was submitted and validated by the IT Division Head. The results of the validation were forwarded to the Assistant Chief - Administration for a final review.

A total of 13 SMEs assessed and scored 30 ARDOT developed applications. All SMEs participated in the scoring exercise except one. A team from Application Services completed the IT scoring. ARDOT indicated that they plan to take the priority for application modernization from the SME scoring and a sub priority based on the IT scoring. This will ensure that the most critical applications are modernized first, according to the organization, and then prioritized by technical scores.

Additionally, the scoring process has not been completed for databases. ARDOT indicated that they will complete the same assessment process for databases once the application migration is complete. In the monthly update report dated August 1, 2023, ARDOT modified the status of this rule to state that “This action is now complete for the application component.” OIA concurs with the modified status.

ARDOT Rule



In response to Recommendation 10

ARDOT Primary Oversight: Assistant Chief - Administration

Create an overall assessment for all applications and databases in the inventory, which will, in part, evaluate the security and configuration of each one.

- ✓ This action is underway.
- ✓ Currently, we are 40 percent complete.

OIA ASSESSMENT

As of April 30, 2023, ARDOT was in the beginning stages of creating an overall assessment for all applications and databases in the inventory. OIA concurs this rule is in progress of being completed.

ARDOT Rule



In response to Recommendation 10

ARDOT Primary Oversight: Assistant Chief - Administration

Establish a phased approach for implementation based on the needed actions as identified in the assessment as follows:

- ✓ Phase 1 - Retain as is or eliminate
- ✓ Phase 2 - Re-engineer
- ✓ Phase 3 - Migrate

OIA ASSESSMENT

This rule has not been started because completion of preceding rules is required before implementation.

GUIDEHOUSE, LLC
Recommendation

11

Develop critical pillars necessary to establish IT as an effective business partner.

The Subcommittee recommends developing the critical pillars within ARDOT to establish the IT Division as an effective business partner. Currently, ARDOT's IT Division is not able to definitively articulate what services it will deliver, when it will deliver them, and its standards for effective delivery. Implementing an ITSM framework may yield enhanced IT service delivery, improved internal customer satisfaction, and reduced IT costs.

Implementation:

1. Establish baseline policies and procedures, and preliminary service catalog;
2. Select appropriate software tools; and
3. Establish a long-term ITSM Plan that includes appropriate communications and training to staff, and mature service catalog.

Considerations:

1. Yield quick wins by establishing a basic service catalog and standards, capturing IT demand, and tracking requests;
2. Include recommended project management infrastructure in the long-term ITSM plan; and
3. Communication and training will be critical to mitigate resistance to change.

**ARDOT
Rule**

1

**In response to
Recommendation 11**

ARDOT Primary Oversight: Assistant Chief – Administration

Evaluate industry standards and protocols for ITPM.

✓ This action is complete.

OIA ASSESSMENT

Industry standards and protocols were evaluated by ARDOT for ITPM. An ITPM evaluation process document was provided by ARDOT. This document indicates the purpose of the ITPM evaluation process was to evaluate industry standards and protocols for ITPM. The process was completed by the ARDOT IT Infrastructure Manager, the ARDOT Administrative Assistant, the ARDOT Chief Information Officer, the ARDOT IT Application Manager, and the ARDOT IT User Services Manager, in order to determine which ITPM tool would be selected for future ARDOT use. The ITPM evaluation process document states compatibility with other systems, compatibility with common software, required industry standard project management features, helpful features, and the use of common project management models were all considered during the evaluation process. Based on OIA’s review of the documentation provided, the evaluation was reasonable. OIA concurs this rule is complete.

**ARDOT
Rule**

2

**In response to
Recommendation 11**

ARDOT Primary Oversight: Assistant Chief – Administration

Select a preliminary set of ITPM tools, templates, and success metrics.

✓ We have selected Smartsheet Enterprise as our project management software which provides us with tools and templates we need to measure our success metrics.

OIA ASSESSMENT

ARDOT selected the Smartsheet tool in March of 2021, as the project management software which will provide the tools and templates needed to measure success metrics. OIA has not reviewed a demonstration of Smartsheet but will do so in the next review cycle. A list of Smartsheet success metrics was provided. The following chart, provided by ARDOT, represents a visual representation of the Smartsheet success metrics.

Success Indicators	Metrics	Targets
IT personnel licensed for software	% of IT employees	60% of IT division employees licensed
IT personnel trained in Smartsheet	% of licensed users in IT	100%
IT fully managing projects in Smartsheet	% of IT projects managed in Smartsheet	100%
Project status and visibility provided to stakeholders and leadership	% of project status visibility	100%
Maintain projects on schedule	% of projects on schedule	75%

Smartsheet information, which was a screenshot of the Smartsheet Dashboard as of June 20, 2023, was provided.

- The first metric was the percentage of IT personnel licensed for the software, with a target of 60 percent and a current reported measure of 67 percent.
 - Documentation was obtained and percentages were recalculated to confirm 31 of the total 46 IT employees were Smartsheet licensed users.
- The second metric was the percentage of licensed users in IT trained in Smartsheet, with a target of 100 percent and a current reported measure of 100 percent.
 - Documentation was obtained and percentages were recalculated to confirm all IT department Smartsheet licensed users have been trained in Smartsheet.
- The third metric was the percentage of IT projects managed in Smartsheet, with a target of 100 percent and a current reported measure of 100 percent.
 - Documentation was obtained and percentages were recalculated to confirm all IT projects are managed in Smartsheet.
- The fourth metric was the percent of project status visibility that was provided to stakeholders and leadership, with a goal of 100 percent.
 - Documentation was obtained to confirm executive leadership was granted access to view Smartsheet and project updates at their leisure.
- The fifth metric was the percent of projects on schedule, with a target of 75 percent, and a current measure of 83 percent.
 - Documentation was obtained and percentages were recalculated to confirm five out of six projects are on schedule.

OIA concurs this rule is complete.

**ARDOT
Rule**

3

**In response to
Recommendation 11**

ARDOT Primary Oversight: Assistant Chief – Administration

Establish and provide training to staff members to implement the ITPM tools, templates, and success metrics.

- ✓ This action is complete.

OIA ASSESSMENT

ARDOT provided training to Smartsheet licensed users. A training schedule for in-person Smartsheet user training conducted on January 27, 2023, was provided. The IT Infrastructure Manager was the instructor with 30 employees in attendance. The training curriculum included key features such as logging in, navigation, general tools (sheets, reports, and dashboards), and Microsoft Teams integration. Additional curriculum included the creation, deletion, and modification of project tasks; dependencies for start-finish, finish-start, and delayed start; and updates and required fields. OIA reviewed the training documentation to confirm that the licensed users were trained. OIA concurs this rule is complete.

**ARDOT
Rule**

4

**In response to
Recommendation 11**

ARDOT Primary Oversight: Assistant Chief – Administration

Complete implementation of the ITSM already selected and installed at ARDOT including:

- ✓ Service desk capabilities;
 - ✓ This action is now complete.
- ✓ Service catalog management;
 - ✓ This action is now complete.
- ✓ Risk management;
 - ✓ This action is underway. Currently, we are 82 percent complete.
- ✓ Asset catalog;
 - ✓ This action is underway. Currently, we are 82 percent complete.
- ✓ Project Management capabilities including tracking and reporting.
 - ✓ This action is now complete.

OIA ASSESSMENT

CSM was selected as the ITSM tool for ARDOT’s IT Division to utilize in managing service requests and the service catalog. A third-party CSM implementation consultant, T4S Partners, Inc., was selected to assist with the ITSM tool. Phase one went live in September 2021 and included incident management, service request management, and a basic KM system.

This phase also provided the capability to extend usage of the ITSM tool beyond IT, with HR, construction, and fiscal all using the system for incident management respective to the unique needs of each of their divisions.

Phase two began in July 2022, and is currently underway. This phase includes a new ticketing system for the ARDOT facilities team, as well as the implementation of change management, problem management, and the initial work on asset management.

Details for phase three have not been finalized but plans include maturing the existing work modules in CSM, along with improved and expanded workflow for asset management and KM.

In order to assess implementation of phase one, OIA performed the following actions:

Requested a list of all licensed and active users of CSM. ARDOT stated that all ARDOT users are licensed to utilize CSM for ticket generation and viewing. ARDOT supplied a list of ARDOT staff who can administer CSM. There were 94 active users on the list.

Requested and received a copy of the ARDOT CSM service catalog, including IT hardware and software. The service catalog has a three-tiered structure (service, category, and subcategory) that determines the type of support required, which forms to display to capture the appropriate details, and which priority matrix to use. The priority matrix determines the impact and urgency to assign a priority to a given event. The following 11 services are included in the service catalog:

- Account management (2 categories, 17 subcategories)
- Applications (162 categories, 6 subcategories)
- Conferencing support (2 categories, 2 subcategories)
- Device support (11 categories, 18 subcategories)
- Email and calendar (4 categories, 11 subcategories)
- Facilities management (8 categories, 3 subcategories)
- File services (2 categories, 7 subcategories)
- Infrastructure and network (7 categories, 15 subcategories)
- Print, scan, and fax (3 categories, 7 subcategories)
- Service center (3 categories, 2 subcategories)
- Telephone and cellular service (5 categories, 12 subcategories)

Requested the service request dashboard utilized by ARDOT. A screenshot of the service request dashboard was supplied which reflected open incidents and requests (8), unassigned incidents and requests (1), and open tickets (145).

A sample of an ARDOT incident report was requested. A screenshot of an incident report was supplied which reflected call source, customer, description, service classification, and priority as well as several other information tabs and fields.

While OIA reviewed the documentation provided, OIA has not reviewed a demonstration of CSM but will do so in the next review cycle. OIA concurs this rule is in progress of being completed.

ARDOT Rule

5

In response to Recommendation 11

ARDOT Primary Oversight: Assistant Chief – Administration

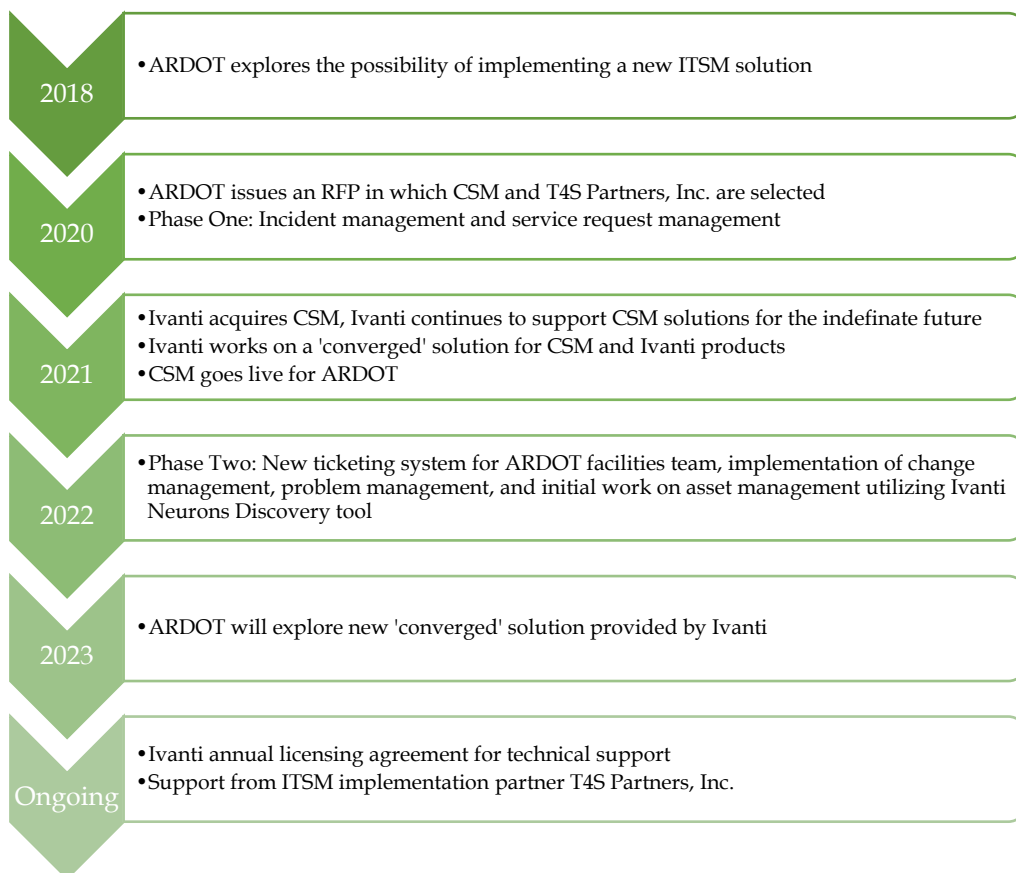
Establish a multi-year long-range plan for management and use of the ITSM.

✓ This action is now complete.

OIA ASSESSMENT

ARDOT established a multi-year, long-range plan for the management and use of the ITSM tool which can be seen in the chart below. Based on OIA’s review of the documentation, the long-range plan is reasonable.

It is important to note that Ivanti acquired CSM in early 2021. Ivanti stated it will continue to support the CSM solution for the indefinite future while working on a ‘converged’ solution which will merge Ivanti’s current ITSM solution and CSM. ARDOT plans to explore the new ‘converged’ solution provided by Ivanti in the Fall of 2023. Ongoing technical support is provided by Ivanti as part of ARDOT’s annual software licensing agreement. General troubleshooting, administrative tasks, direct technical development, and support is provided by T4S Partners, Inc. OIA concurs this rule is complete.



PEOPLE CAPABILITIES

FOCUS AREA 6

GUIDEHOUSE, LLC Recommendation

12

Ensure staff can develop in their careers at the Department.

The Subcommittee recommends developing a career development plan for ARDOT employees. Nearly half of ARDOT staff do not believe they can advance their careers, and turnover is rising. By developing career ladders and lattices, ARDOT may increase retention, reduce turnover related costs, strengthen its talent pipeline, and improve morale.

In addition, the Subcommittee recommends the State Highway Commission establish a merit pay system for employees of the Department that incorporates performance evaluation standards, including an employee's attendance, completion of projects and assignments, and increased competence in the employee's job duties.

Implementation:

1. Verify roles at high risk of turnover and important to succession planning;
2. Conduct compensation study;
3. Develop and publicize career, skill, and salary progression;
4. Promote buy-in among staff for the performance-based pay and evaluation practice; and
5. Implement a merit pay system that incorporates employee performance evaluation standards.

Considerations:

1. Ability to promote may be limited by low turnover in desirable positions - consider career lattices when traditional career ladders are inaccessible; and
2. Career development activities are closely aligned with training and KM.

The Rules for Recommendations 12 and 13 should be combined into one set of actions since they are so closely connected.

GUIDEHOUSE, LLC
Recommendation

13

Improve staff capabilities to align with current/future organizational needs.

The Subcommittee recommends ARDOT improve staff capabilities to align with the current and future needs of ARDOT. Staff and supervisors report that training resources are limited. By strengthening training, ARDOT may improve job satisfaction and retention, increase productivity, and instill confidence in staff who then become more willing and able to take on greater responsibility within ARDOT.

Implementation:

1. Align trainings to job descriptions and career planning activities;
2. Identify and fill training gaps;
3. Assign trainings as part of performance evaluation process;
4. Reestablish manager training;
5. Consider cross-training in high turnover districts and positions; and
6. Consider formalizing on-the-job, practical training.

Considerations:

1. Training will likely need to be updated over time, for example as new equipment is used or new programs are developed;
2. Training need not be restricted to entry-level roles, senior level employees can benefit as well; and
3. Priorities must be identified to focus rollout on training where it will have the most impact.

**ARDOT
Rule**

1

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue to monitor turnover and identify high turnover positions that are important to ARDOT’s continuity of operations for accomplishment of the Strategic Plan.

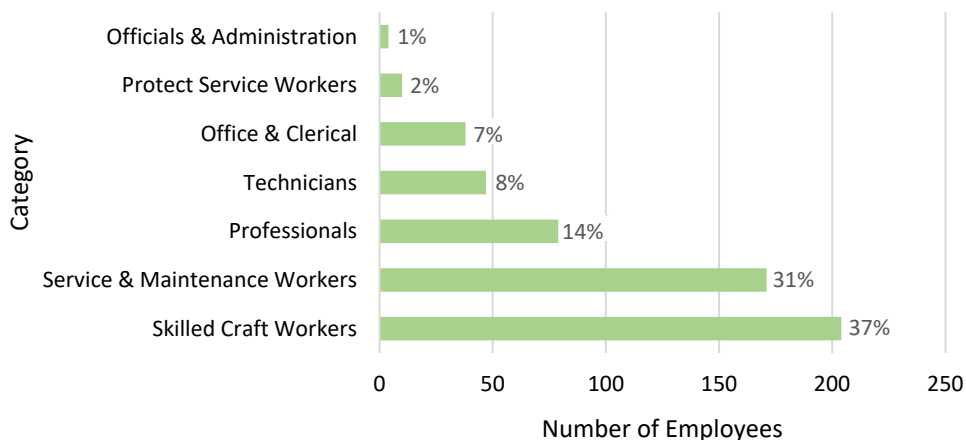
- ✓ This action is complete.
- ✓ The most common reasons for turnover and the groups of employees which appear to be the least engaged are identified biannually as part of the Employee Engagement Survey. The survey results are used to refine our Workforce Strategic Plan which supports the overall ARDOT Strategic Plan and enhances our ability to provide continuity of operations.
- ✓ We calculate turnover rates by job category quarterly to identify trends and high turnover groups. This information is used to identify actions that can be taken to increase retention and enhance our ability to provide continuity of operations.

OIA ASSESSMENT

OIA reviewed the 2021 and 2023 ARDOT Employee Engagement Survey results, which indicated a positive trend for ARDOT employee engagement. OIA also reviewed and analyzed the ARDOT Quarterly Turnover Report for the period of October 1, 2021, through September 30, 2022. It should be noted that although this report is titled quarterly, the data is reflective of an entire year. The report focuses on voluntary separations and provides a summary by category, job title, district, division, and separation reason. Results indicated an overall turnover percentage of 15.13% with 553 voluntary separations for the time period reviewed.

The number and percentage of employees that left ARDOT under voluntary separation is listed by category below.

Voluntary Separation Categories



The top three titles with turnover are Maintenance Aide 1, Bridge Repairer, and Rest Area Attendant, reporting 49.3, 37.1, and 28.3 percent, respectively. The titles with the lowest turnover are Law Enforcement Officer, Construction Inspector, and Advanced Construction Aide, reporting 5.7, 4.3, and 0 percent, respectively.

Based on OIA’s review of the Employee Engagement Survey results and the Quarterly Turnover Reports, ARDOT has the tools available to monitor turnover and identify high turnover positions. OIA concurs this rule is complete.

ARDOT Rule



In response to Recommendations 12 and 13

ARDOT Primary Oversight: Assistant Chief – Administration

Continue implementing the existing Workforce Strategic Plan, and adjust as needed, in order to mitigate the impact of turnover and increase employee engagement.

- ✓ This action is complete.
- ✓ The Workforce Strategic Plan is adjusted every two years upon receipt of the Employee Engagement Survey results and is also adjusted as needed when the ARDOT Strategic Plan is revised.

OIA ASSESSMENT

OIA reviewed the most recent Workforce Strategic Plan for reasonableness but has not performed testing to confirm implementation. Testing will be performed in the next review cycle. The Workforce Strategic Plan is updated every two years upon receipt of the Employee Engagement Survey results in order to mitigate the impact of turnover and increase employee engagement. The Workforce Strategic Plan is also updated as needed when the ARDOT Strategic Plan is revised. A new Employee Engagement Survey cycle was completed in early 2023. In addition, the ARDOT Strategic Plan was recently updated and publicized. Therefore, OIA anticipates that the Workforce Strategic Plan will be modified to align with these updates.

ARDOT Rule



In response to Recommendations 12 and 13

ARDOT Primary Oversight: Assistant Chief – Administration

Continue to establish how pooled positions can be used to properly align our employee’s compensation with their competencies and responsibilities.

- ✓ This action is complete.
- ✓ During the SFY 2022-2023 appropriation cycle, we incorporated the use of pooled positions for the first time. Approximately 64 percent of our appropriated positions were pooled, giving us flexibility to create career ladders and lattices for our employees.

- ✓ For SFY 2024-2025, we submitted a plan to expand existing pools and add additional pools. Our budget proposal was approved by the full legislature and enacted, which means approximately 97 percent of our appropriated positions will be pooled, giving us even greater flexibility to provide opportunities for employees to advance their careers, within budget constraints.

OIA ASSESSMENT

For the SFY 2022-2023 appropriation cycle, 12 pools were created with 12 ladder steps. From August 14, 2021, to June 3, 2023, 268 employees were promoted into 1 of the 12 ladder steps created. This was expanded for the SFY 2024-2025 appropriation cycle to 41 pools and adding 61 new titles to assist in creating career ladders. The pooled position approach provides flexibility to districts and divisions in regard to retaining and rewarding those employees that have displayed the knowledge, skills, and abilities required to be successful in positions with more advanced responsibilities. OIA’s review of the documentation confirms completion of this rule.

The 41 pools created by ARDOT are listed in the table below:

Name	Max # of Positions	Name	Max # of Positions
Administrative Office Pool	10	Maintenance Professionals Pool	8
Accounting and Finance Pool	42	Maintenance Supervisor Pool	320
Administrative Support Pool	235	Materials Testing Pool	29
Administrative Support Supervisory Pool	31	Photogrammetry Pool	9
Bridge Maintenance & Inspection Pool	70	Planning Analysts Pool	13
Civil Rights Pool	7	Planning Professionals Pool	21
Communications & ITS Pool	21	Police and Security Pool	153
Construction Office Pool	76	Police Supervisory Pool	56
Creative Professionals Pool	10	Program Management Pool	12
Designer Pool	17	Research Pool	6
District Maintenance Pool	1,687	Right of Way Pool	89
Emergency Management Pool	3	Sign Shop Pool	9
Engineering Pool	295	Skilled Trades Pool	183
Environmental Pool	41	Skilled Trades Supervisory Pool	32
Field Construction Pool	370	Statewide Maintenance Pool	64
Geologist Pool	2	Surveys Pool	41
Geospatial Pool	18	System Information Pool	37
Geotechnical Pool	9	Temporary Employee Pool	200
Human Resources Pool	36	Traffic Management Center Pool	29
Information Technology Pool	52	Traffic Safety Supervisory Pool	8
Legal and Legislative Pool	11		



**ARDOT
Rule**

4

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Identify and publicize the steps required for advancement within career paths with respect to competencies, experience, training, and certifications.

- ✓ This action is 65 percent complete.
- ✓ We placed HR Specialists in every District to improve communications with field employees and give employees direct access to someone who can help with career development and coaching.
- ✓ We implemented a Career Path Promotion Program that allows employees to promote along established career paths by meeting certain measurable objectives. Eligibility criteria has been published so that employees are aware of the objectives they must meet in order to be eligible for consideration.
- ✓ Efforts to complete this action will continue upon enactment of the SFY 2024-2025 appropriations act.

OIA ASSESSMENT

ARDOT established a Career Path Promotion Program and created a question-and-answer document for employees regarding the program. The Career Path Promotion Program was designed to provide a streamlined and efficient process for promoting employees within established career paths. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

5

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Consider the benefit of a compensation study.

- ✓ This action is complete.
- ✓ We have hired an experienced Classification and Compensation Specialist to analyze compensation trends, develop a compensation strategy, monitor market conditions, and conduct ongoing job analysis for key positions and also upon request to ensure pay and job duties are in line. We believe this continual process is preferable to a one-time compensation study.

OIA ASSESSMENT

ARDOT chose not to hire a consultant to conduct a comprehensive compensation study. Instead, a Classification and Compensation Specialist was hired. The following response was provided to OIA, “Due to the rapidly changing job market and the current effects of inflation, ARDOT believes that hiring a consultant to conduct a comprehensive compensation study is not a wise use of resources at this time. Currently, our Classification and Compensation Specialist on staff continually analyzes compensation trends, market conditions, job analysis for key positions, criteria for career path promotions, and requests for market and internal equity review. When the market stabilizes and things are not changing so rapidly, the benefits of a compensation study may be reconsidered.”

Since a Classification and Compensation Specialist was hired, the following analyses have been completed:



OIA judgmentally selected the seventeen reports notated above with an (*) for review as well as the Engineer Career Ladder Position Title Reports for 2020, 2021, and 2022. The selected reports were reviewed to ensure completion, no exceptions were noted. Based on this review, OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Evaluate the ACE employee performance evaluation process to ensure that the accomplishment of training, attendance, completion of projects and assignments, and increased competencies are taken into consideration.

- ✓ This action is complete.
- ✓ While this action is ongoing, we have taken actions to ensure that the performance evaluation process includes competencies related to self-development/training, dependability/attendance, completion of assignments and technical competence.
- ✓ Our Administration also emphasizes manager accountability for accurate ratings.

OIA ASSESSMENT

ARDOT uses two different performance evaluation templates, one for employees and one for supervisors. There are three core competencies on every evaluation: public service, teamwork, and self-development. Aside from the three core competencies, non-management employees are assigned five additional competencies that are specific to the type of work performed. All supervisors are assigned the following additional competencies: communication and interpersonal effectiveness, conflict management, decision making, leadership, performance management, responsibility and accountability, and technical competence and credibility.

The ACE system provides the tools supervisors need to assign performance tasks, goals, learning, and development plans. These can be created and assigned anytime throughout the year, or as part of the annual performance evaluation process.

OIA judgmentally selected twenty performance evaluations for review. OIA reviewed the performance evaluations to ensure the accomplishment of training, attendance, completion of projects and assignments, and increased competencies were taken into consideration. No exceptions were noted. Based on this review, OIA concurs this rule is complete.

**ARDOT
Rule**

7

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue to identify and fill training gaps and prioritize training where it will have the most impact.

- ✓ This action is complete.
- ✓ In 2019, we conducted a Training Needs Assessment which helped us identify gaps regarding how best to deliver training to different groups and barriers to participation. Many employees requested more hands-on equipment training, as well as more leadership development opportunities. This reinforced our belief that our top priorities should be the development of a MTA and a LDP.
- ✓ Since the implementation of our LMS, we have continually expanded online learning opportunities. This is important due to the number of employees and supervisors citing a lack of time to attend classroom training.
- ✓ We have increased our Workforce Development staff, to create a team of professionals who are dedicated to expanding and enhancing our training programs, publishing learning paths, developing curriculum for online and classroom training, and coordinating the LDP and MTA.
- ✓ We have Health & Safety Officers in every District, to achieve greater focus on work zone safety training and expansion of the MTA.
- ✓ The Health & Safety Officers also deliver the newly mandated ELDT program to all employees whose positions require a commercial driver's license (about 75 percent of our workforce). This program includes classroom and behind-the-wheel training.
- ✓ All employees have received a refresher course of Anti-Fraud and Ethics Code training. Additionally, all new employees complete this course as part of their orientation within the first 90 days of employment.
- ✓ Work Zone Safety training is offered to all maintenance employees, and all new maintenance employees receive it as part of their orientation.
- ✓ Training Needs Assessments will be conducted at least every three to five years, and the results will be used to make adjustments to our training program.

OIA ASSESSMENT

OIA reviewed the Supervisor Training Needs Assessment Summary and the Non-Supervisor Training Needs Assessment Summary. This review confirmed that the top category employees would like to see more training opportunities offered is leadership development. Also, employees believe on-the-job training is the most effective type of training between classroom, online, and on-the-job. ARDOT determined the top priorities should be the development of an MTA and an LDP.

A review of the original software licensing agreement as well as the renewal confirms that ARDOT purchased an LMS. The LMS is a digital record of an employee's internal and external training endeavors and includes the following capabilities:

- A transcript is available for the employee and management to view.
- Training offerings are housed in the LMS for employees to preview, attend, and add to their training record as their schedule allows.
- Employees can enter training completed on their own so that their professional development record is an accurate reflection of their efforts.
- Supervisors can assign courses in response to an employee's desire for growth or observed points of need in their performance.
- Supervisors can view the status of required or assigned training for their direct reports.
- Tracks professional certificates with renewal deadlines and reminders.
- Courses can be grouped into "learning paths" or "development plans" to assist in outlining goals and tracking progress.

As the online learning opportunities are expanded, OIA will review a demonstration of the software in a future review cycle.

OIA reviewed the HR position pool for inclusion of workforce development staff. The following positions are included: Senior Health & Safety Officer, Health & Safety Officer, Workforce Development Coordinator, Workforce Development Specialist, and Training Coordinator. The intent of this staff is to expand and enhance the training programs, publish learning paths, develop online and classroom curriculum, and coordinate the LDP and MTA.

OIA reviewed the Health & Safety Officer job description and list of job duties to ensure they meet the intentions of the position which include: work zone safety training, implementing the ELDT program, and expansion of the MTA. OIA also reviewed the list of Health & Safety Officers assigned to each district to ensure adequate coverage across the state.

The MTA is a safety-focused training series, specifically targeting learners in maintenance field positions or who work with roadside field personnel. The MTA is currently under development. Courses for Tractor Mowing Safety, Preventive Maintenance, Situational Awareness, and Work Zone Safety have been developed. The related training presentations were reviewed by OIA for reasonableness.

Based on OIA's review, ARDOT has the tools in place to continually identify and fill training gaps as well as prioritize training. OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Encourage supervisors to utilize employee development plans, including training and other activities, as part of the performance evaluation process.

- ✓ This action is complete.
- ✓ The ACE system provides the tools supervisors need to quickly and easily assign performance tasks, goals, learning, and development plans. These can be created and assigned anytime throughout the year, or as part of the annual performance evaluation process.
- ✓ Supervisors have been advised of the availability of these tools and encouraged to utilize them.

OIA ASSESSMENT

ARDOT's Personnel Manual outlines expectations for supervisors stating, "It is the policy of the Department to provide a performance management system which evaluates employees' accomplishments and behaviors and enables employees to develop and enhance individual performance while contributing to the achievement of the overall mission, goals, objectives and strategies outlined in the Department's Strategic Plan." Methods of communication used to advise supervisors of the tools available to meet this expectation and to encourage use include supervisor meetings and discussions with representatives from the HR Division.

The ACE system provides supervisors the tools needed to develop employee plans, provide feedback, conduct performance evaluations, track training transcripts and certifications, set goals, and offers supervisor self-development. OIA's review of Employee Performance Evaluations shows that employee development, including training, is addressed under the self-development competency.

Supervisors are rated on how well they develop their employees under the performance management competency which states, "Providing clear instructions, communicating expected results, and coaching employees to help them increase their level of performance." In addition, this is addressed under the leadership competency which states, "Leading by example, empowering and developing others to reach their fullest potential, and articulating a vision that others choose to follow." These competencies being a part of the supervisor's performance evaluation is a method of encouraging supervisors to use employee development plans as part of the performance evaluation process. Based on OIA's review of the documentation, OIA concurs this rule is complete.

**ARDOT
Rule**



**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue providing manager training both in-house and by utilizing our existing external partners.

- ✓ This action is complete.
- ✓ Most of our existing supervisors have completed a Dale Carnegie leadership training program and many have also completed UALR's Leadership Academy.
- ✓ All new supervisors attend Supervisor Onboarding training to help them make the transition to leadership, provide Day 1 need-to-know information, and give them team-building skills from the start. Follow-up training will also be provided on the hiring process and performance management within the first 90 days of placement for a new supervisor.
- ✓ Each year, all District and construction managers attend a two- or three-day conference with an agenda heavily focused on leadership and communication strategies.
- ✓ Each year, approximately 20 ARDOT leaders attend the AASHTO Management Institute. This is a four-day intensive course which is specifically designed to develop leadership skills of upper-level management staff in the transportation industry.

OIA ASSESSMENT

OIA obtained and reviewed the agendas for the Construction Division Leadership and Team Building Conference as well as the Maintenance Management Supervisor Conference which are both hosted by ARDOT.

OIA was provided a spreadsheet of manager training records. Seventy-two manager training courses were listed which are hosted both in-house and by utilizing external partners. The spreadsheet contained 633 managers, 213 which were categorized as having leadership responsibilities and 420 which were categorized as having primary supervisory responsibilities. OIA judgmentally selected a sample of 20 manager training transcripts for review. The selected transcripts were reviewed to ensure each training course was on the manager's training transcript with a completion date. No exceptions were noted. OIA concurs this rule is complete.

**ARDOT
Rule**

10

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Implement a LDP to further develop existing leaders at all levels, as well as to prepare future leaders.

- ✓ This action is 25 percent complete.
- ✓ Phase 1 of the LDP has begun, which prioritizes first time and first-line managers. Seventy-six managers have completed the program, and more are anticipated to complete the program.
- ✓ Future phases of the program will include basic leadership development opportunities for employees who consider themselves future leaders, as well as more advanced leadership training for middle managers and executive leaders.
- ✓ Twelve administrative officials participated in a 360-degree feedback program. Using this feedback pilot program, which included three professional coaching sessions, we have evaluated the benefit of this type of feedback program. It will be incorporated into future phases of the LDP.
- ✓ For SFY 2024-2025, we submitted a plan to add two Workforce Development Specialists to our staff. Our budget proposal was approved by the full legislature and enacted, so these additional staff members will be hired in the near future. One of them will help facilitate and coordinate the LDP.

OIA ASSESSMENT

ARDOT is still in the process of developing and implementing the LDP. New and front-line managers, who had not received the Dale Carnegie training or were recommended by their chain of command to receive additional leadership training, were prioritized to participate in a resource from the UALR. OIA concurs this rule is in progress of being completed.

**ARDOT
Rule**

11

**In response to
Recommendations
12 and 13**

ARDOT Primary Oversight: Assistant Chief – Administration

Continue cross training in high turnover areas and for high turnover positions.

- ✓ This action is 10 percent complete.
- ✓ This action is currently completed through an informal process across the Department.
- ✓ Efforts are now underway to formalize a process to track on-the-job training and provide employees the opportunity to request cross training.

OIA ASSESSMENT

While cross training is often completed through an informal process, efforts are underway to formalize the process and provide a mechanism to track on-the-job training. OIA concurs this rule is in progress of being completed.

ARDOT Rule

12

In response to
Recommendations
12 and 13

ARDOT Primary Oversight: Assistant Chief – Administration

Complete implementation of the MTA, which offers formalized practical training, including but not limited to equipment operation.

- ✓ This action is 25 percent complete.
- ✓ Health & Safety Officers in each District are implementing Phase 1 of the MTA during New Hire Orientation twice a month, covering the Safety Manual, drug and alcohol testing, and basic safety procedures.
- ✓ The MTA team has been reactivated and expanded to include members from the HR, Equipment and Procurement, and Maintenance Divisions. The team selected Phase 2 topics for all four quarters of the 2023 training year. Those topics with the highest priority for development and delivery are: Preventive Maintenance, Tractor/Mower Safety, Situational Awareness, Snow Plow & Defensive Driving, and Chainsaw Safety.
- ✓ Preventive Maintenance Tractor/Mower safety and Work Zone Safety courses are being delivered on a regular basis. The other three priority topics are in development.

OIA ASSESSMENT

The MTA is a safety-focused training series, specifically targeting learners in maintenance field positions or who work with roadside field personnel. The MTA is currently under development. Courses for Tractor Mowing Safety, Preventive Maintenance, Situational Awareness, and Work Zone Safety have been developed. The related training presentations were reviewed by OIA for reasonableness. OIA concurs this rule is in progress of being completed.

ASSURANCE CONCLUSION

OIA reviewed documentation and performed testing as appropriate to issue an opinion related to the adequacy of ARDOT's implementation of each of the 90 rules for the 13 Guidehouse recommendations. Implementing the Guidehouse recommendations is a long-term process, and ARDOT has made great progress as of April 30, 2023.

ARDOT's implementation status contained within this report is based upon the monthly update report to the ALC dated May 1, 2023. The status of each rule as of April 30, 2023, was confirmed by the ARDOT Assistant Chief - Administration. OIA concurs with ARDOT's reported implementation status for 85 of the 90 rules reviewed. While OIA concurs with the status of these rules, further testing may be conducted in future reporting cycles to ensure the anticipated result was achieved. OIA needs to perform additional testing on five rules, and therefore will not issue an opinion for this reporting cycle. Further testing is detailed as follows:

- Recommendation 3, rule 2 was reported as partially complete. The rule was reported complete for construction projects and in progress for maintenance projects. OIA concurs that rule 2 is in progress for maintenance projects. A document was provided for SiteManager, the software ARDOT uses for their construction projects. While OIA reviewed the document, further testing will be performed in the next review cycle prior to issuing an opinion.
- Recommendation 10, rule 2 was reported as complete. The rule includes known policies, procedures, training, and database schema categorized by business function. Testing on this portion of the rule has not yet been performed. Therefore, OIA will not issue an opinion for this review cycle.
- Recommendation 11, rule 2 was reported as complete. OIA tested the Smartsheet success metrics with no exceptions noted. However, OIA has not yet reviewed a demonstration of Smartsheet. Therefore, OIA will not issue an opinion of this rule for this review cycle.
- Recommendation 11, rule 4 was reported as partially complete. ARDOT reports 3 modules of the ITSM as complete and 2 modules underway. While OIA reviewed the documentation provided, OIA has not yet reviewed a demonstration of the ITSM. Therefore, OIA will not issue an opinion on this rule for this review cycle.
- Recommendation 12/13, rule 2 was reported as complete. OIA reviewed the most recent Workforce Strategic Plan for reasonableness but has not yet performed testing to confirm implementation. Therefore, OIA will not issue an opinion on this rule for this review cycle.

CONSULTING



*Goal:
To promote strengthening
the internal control design
of ARDOT.*

*CSA:
An exercise conducted by
management that utilizes
feedback from employees to
identify and assess risks
which may hinder the
Department from achieving
its objectives.*

OVERVIEW

Consulting services are defined by IIA Standards as advisory and related client service activities, the nature and scope of which are agreed with the client, are intended to add value and improve an organization's governance, risk management, and control processes without the internal auditor assuming management responsibility. Examples include counsel, advice, facilitation, and training. Consulting services are advisory in nature and are generally performed at the specific request of an engagement client. The nature and scope of the consulting engagement are subject to agreement with the engagement client.

The concepts, definitions, and principles for internal control used are in line with the COSO Internal Control - Integrated Framework. The goal of OIA performing these consultation services was to promote strengthening the internal control design of ARDOT. To accomplish this goal, OIA identified the areas of ARDOT with the highest risk based upon a risk assessment survey completed by ARDOT management.

The consulting component of this engagement was the review of ARDOT's internal control design using the most recently submitted version of ARDOT's CSA. ARDOT has participated in the past with state agencies to complete a formal CSA; thus, participation is not new to the agency. CSA is an exercise conducted by management that utilizes feedback from employees to identify and assess risks which may hinder the Department from achieving its objectives. This practice also includes management's evaluation of the current control activities in place to prevent, detect, and mitigate the impact of the identified risks. Based on this evaluation, management may determine it is necessary to implement changes or corrective action plans.

The Divisions reviewed for the current year engagement were:

- Governmental Relations Division
- SIR Division – Asset Management Section
- Retirement Division
- Maintenance Division – General Maintenance Services
- Maintenance Division – Facilities Management
- Maintenance Division – HBM
- Maintenance Division – ITS Management

The process followed for each ARDOT area reviewed included the following steps:

- Information request completed by the selected ARDOT Division/Section that gave a general description of the area.
- An initial meeting was held which included representatives from OIA, ARDOT Internal Audit Division, and members of management from the selected ARDOT area.
- Based on the information supplied by the area and the information gleaned from the meeting, an area process narrative and corresponding flowcharts were created by OIA and the ARDOT Internal Audit Division.
- The narrative and flowcharts were then processed through a sequence of back-and-forth questions and information exchange between OIA, ARDOT Internal Audit Division, and area management until area management gave approval that the narrative and flowcharts were representative of their major processes.
- At this point, OIA and the ARDOT Internal Audit Division met to review the narrative, flowcharts, and the CSA that was completed by area management in the prior year and collaboratively suggested risks and controls that should be added, deleted, or modified.
- The resulting recommendations were conveyed to management for consideration in preparation of the upcoming CSA to ensure control activities are designed to mitigate the associated risks.

GOVERNMENTAL RELATIONS DIVISION

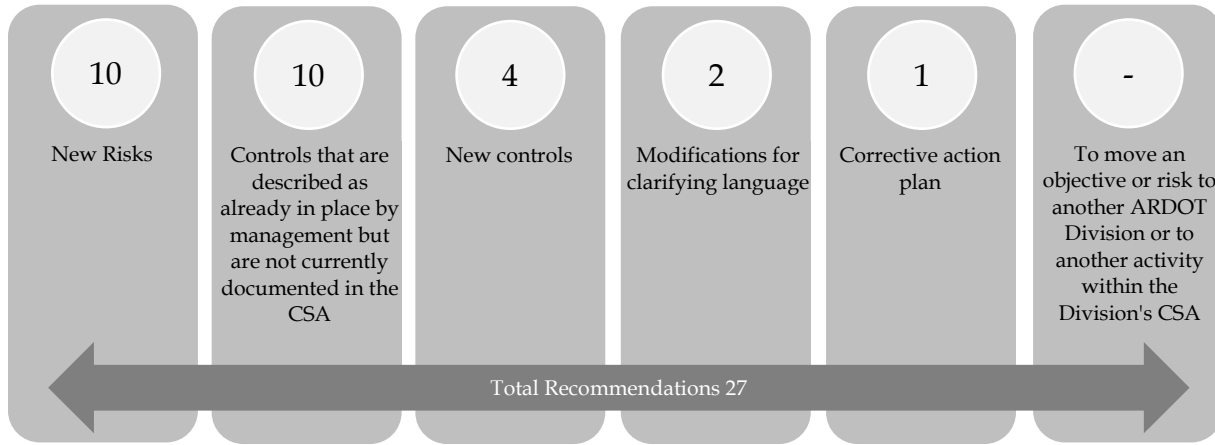
The Governmental Relations Division coordinates legislative activity for ARDOT and advises the administration on legislation strategy at the State and Federal level. The Governmental Relations Division advises both legislators and ARDOT leadership on policy and current bills being introduced, and advocates for ARDOT's mission and vision before the Legislature. The Division is responsible for fostering positive working relationships between ARDOT and the Legislature; monitoring of transportation-related bills throughout the legislative process; handling of casework originating within a legislative office; and the coordinating of efforts to ensure that legislative initiatives are consistent with the overall policies and goals of the Administration. They also organize and execute an ARDOT Legislative Orientation for new or existing legislators to provide them with insight into ARDOT operations.

The Governmental Relations Division seeks to:

- Articulate the Department's position on legislation proposed by members of the state legislature and Congress.
- Facilitate the appearance of Department witnesses at hearings.
- Manage the interagency clearance of legislative proposals, post-hearing questions for the record, statutory reports, and other correspondence.
- Coordinate the Department's responses to requests and other inquiries from individual members and congressional staff.

With ARDOT's reorganization, the Governmental Relations Division no longer exists as a separate Division and is part of the Communications Division. The CSA recommendations made should be considered by the appropriate Division based on the disbursement of the Governmental Relations Division's duties.

Seventeen existing risks documented in the CSA were reviewed. The following recommendations were made:



SIR DIVISION - ASSET MANAGEMENT SECTION

The SIR Division supports the Department by providing information generated through the collection, management, and analysis of data related to traffic, the roadway system, asset performance, and transportation-related research. The Asset Management Section collects, analyzes, manages, reports, and disseminates pavement performance data and information on all state highways. This section is divided into four teams.

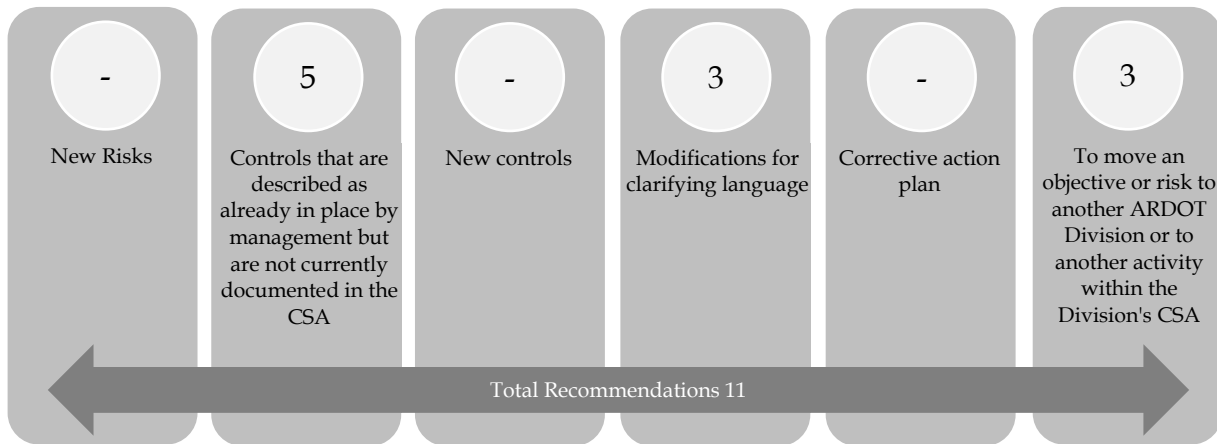
The **Pavement Data Collection Team** is responsible for collecting data to supply to the other teams within the Asset Management Section. The team uses a variety of data collection equipment such as an Automatic Road Analyzer, Falling Weight Deflectometer, Pavement Friction Tester, Ground Penetrating Radar, Highspeed Profiler, and Coring Rig.

The **Pavement Technician Team** uploads, processes, and performs all quality control and quality assurance checks on the data collected by the Automatic Road Analyzer.

The **Pavement Engineering Team** is responsible for analyzing and reporting on all data collected by the Pavement Data Collection Team and processed by the Pavement Technician Team. It is divided into two groups: the Pavement Management Group and the Structural Engineering Group. The Pavement Management Group is responsible for analyzing and reporting on the data collected from the Automatic Road Analyzer. They also organize and maintain all the section's databases and run all queries to extract the pavement condition data that is needed to make informed data-driven decisions. The Structural Engineering Group is responsible for analyzing all data collected with the Ground Penetrating Radar, Falling Weight Deflectometer, Pavement Friction Tester, Highspeed Profiler, and Coring Rig. They also support routine pavement design, aid forensic studies, analyze the effect of over-weight loads on weight-restricted routes, evaluate the removal and addition of weight-restricted routes, and support pavement management activities at both the project and network levels.

The **Leadership Team** supervises and oversees all activities in the Asset Management Section, works with other Divisions on project scoping issues, serves as the Department’s SME in paving geotextiles and pavement preservation treatments, is responsible for ARDOT’s Pavement Preservation Agreement with the FHWA, oversees pavement project identification and prioritization for the STIP, assists in providing pavement condition data to the Administration and other Divisions, and is responsible for the federally required TAMP.

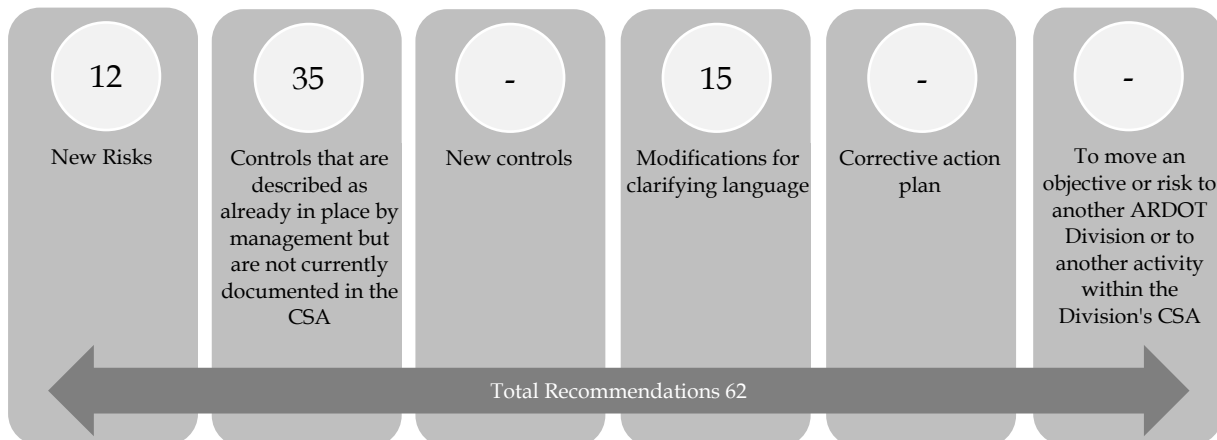
Twenty-four existing risks documented in the CSA were reviewed. The following recommendations were made:



RETIREMENT DIVISION

The Retirement Division is responsible for managing ASHERS under the direction of the ASHERS Board of Trustees. The Retirement Division maintains all individual employee retirement accounts, including both service retirement and the DROP. They onboard new members and communicate with and counsel retirees and current ARDOT employees. They also monitor the investment portfolio and prepare all reconciliations and financial statements for the retirement system.

Twenty-seven existing risks documented in the CSA were reviewed. The following recommendations were made:



MAINTENANCE DIVISION

The Maintenance Division assists in maintaining a safe, efficient, and aesthetically pleasing highway system by providing leadership, expertise, and support. Maintenance functions are conducted by Central Office and District Forces. Their efforts preserve the investment in Arkansas' highways. The Maintenance Division is divided into four sections.

The **General Maintenance Services Section** includes sign fabrication, pavement marking, traffic investigations, emergency management, and various other areas.

The sign shop manufactures nearly all the signs used on the highway system, manufacturing approximately 60,000 signs per year. All signs conform to the MUTCD published by FHWA and ARDOT's Signing Policies and Guidelines. Signs are installed by the Statewide Sign Crew and District Forces.

The Statewide Pavement Marking or Striping Crews are responsible for striping roadways upon completion of maintenance activities like minor overlays, large patches, and chip seals, as well as restriping for faded or missing pavement markings. The crews are also given directive with a goal of how many miles of roadway to restripe each year.

Traffic Investigations conduct site specific investigations. Requests come from such sources as concerned citizens, law enforcement, ARDOT employees, and politicians. Some examples of investigations are fatalities, reevaluating a school zone, or a deer crossing area. The investigation is done to determine what actions are needed to address the concern such as additional signage, striping, or other improvements.

Emergency Management provides expertise, programs, and services to assist the Department in preparing for, responding to, recovering from, and mitigating against natural disasters and other emergencies affecting the Department and Arkansas's transportation network.

The following areas are also the responsibility of the General Maintenance Services Section:

- Pavement profiling removes asphalt and occasionally concrete from the roadway surface to restore the riding surface or as preparation for an overlay job.
- Establishing guidelines for Vegetation Management by both mechanical and chemical means.
- Establishing mowing guidelines.

The **Facilities Management Section** includes a Ground Crew, a Janitor Crew, a Building Maintenance Crew, and the Facilities Management Team. The Ground Crew, Janitor Crew, and Building Maintenance Crew are responsible for the grounds keeping, cleaning, and maintenance of the Central Office Complex facilities. The Facilities Management Team supports these crews, provides support to the districts, conducts inspections of all Department facilities, and is responsible for the design and development of plans and specifications and project oversight for construction of new or remodeled buildings throughout the state to include the Central Office Complex, district headquarters, area headquarters, resident engineer offices, rest areas, tourist information centers, and weigh stations.

The **HBM Section** is tasked with inspecting and maintaining Arkansas bridges. CFR Chapter 23 Part 650 requires each state to prepare and maintain an inventory of all bridge structures subject to the NBIS. NBIS are the standards established over the safety inspections of highway bridges on public roads throughout the United States. The CFR also requires each state DOT to include a bridge inspection organization capable of performing inspections, preparing reports, and determining ratings in accordance with the provisions of the AASHTO Manual. HBM is the NBIS Program Manager for ARDOT. HBM writes and updates policies and procedures for ARDOT NBIS inspections. There are over 12,000 bridges in Arkansas. Each bridge is to be inspected at regular intervals not to exceed two years. Findings and data from bridge inspections are used to prioritize and schedule bridge maintenance to include repairs, preservation activities, rehabilitation activities, and replacement. HBM has a relatively new Bridge Building Crew that can replace bridges, that are identified as good candidates, quickly by installing box culverts.

The **ITS Management Section** is comprised of four major function areas.

The **TMC** is made up of two groups: Radio Dispatch and TMC Operations. Radio Dispatch provides police dispatching for AHP. They do not answer 911 calls, but 911 funnels incident information to them as necessary. Radio Dispatch also provides internal dispatching for ARDOT. Therefore, when a call is received, they do not know immediately if the call is an emergency or not. Radio Dispatch assists AHP Officers during a pursuit. They also provide driver information, criminal history, and vehicle registration information as well as Federal Motor Carrier Safety Administration information. TMC Operations primary mission is to identify, support and mitigate traffic incidents. One way that they do this is by controlling and watching cameras. Once an incident is known, TMC Operators reach out to first responders to make them aware of the incident and to help them know what resources are needed to respond to the incident. TMC Operators report real time incidents and closures to the traveling public through iDrive. TMC Operators also use dynamic message signs and highway advisory radio to communicate with drivers.

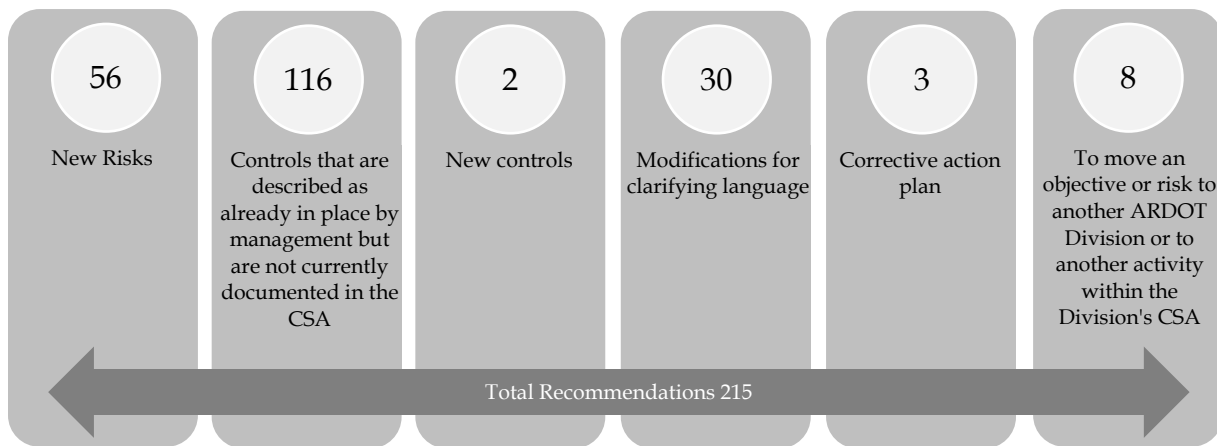
Traffic Operations primarily work with signalized intersections. They perform the inspections for every project that is done on ARDOT's highway system to ensure that the project is built according to plans and meets FHWA regulations. When traffic patterns change, Traffic Operations Technicians work on the timing to improve how the signal operates. The work of Traffic Operations is not only with traditional traffic signals but with any type of electronic beacon, such as a school zone or rectangular rapid flashing beacon. They inspect any signal that has electronics. Traffic Operations also maintains the weather sensors around the state.

ITS Operations is made up of two groups: Communications Maintenance Operations and ITS Maintenance Operations. Communications Maintenance Operations maintains ARDOT's Land Mobile Radio system including base stations, repeaters, towers, handheld radios, mobile radios, microwave radio, and the related software. Twice a year they conduct an exercise known as Radio Days. This exercise is a way to ensure that employees remember how to use their radio and know how to call back to the TMC as well as an opportunity to evaluate if equipment is functioning properly and helps identify maintenance needs. Communications Maintenance Operations also coordinates with the FCC to maintain their frequency licenses which must be renewed every ten years. ITS Maintenance Operations is responsible for the installation and maintenance of all the

physical ITS assets as well as the associated structures and software. This includes dynamic message signs, cameras, and highway advisory radios. They also ensure the ITS infrastructure complies with the MUTCD.

ITS Engineering Services conduct planning studies, warrant analysis, plan-set design, specification development, prepare Systems Engineering Analysis & Concept of Operations reports, and review MUTCD compliance. They conduct project reviews related to signalized intersections, roadway lighting, ITS, and flashing beacons. They also conduct operational reviews including signal timing and corridor signal coordination timing.

Thirty-five existing risks documented in the CSA were reviewed. The following recommendations were made:



CONSULTING CONCLUSION

While the CSA recommendations were made as part of the consulting engagement, it is imperative to understand that OIA is not responsible for designing and/or implementing control activities or corrective action plans. ARDOT's management is responsible for the internal control design and implementation for the Department including identifying objectives, risks, and control activities as well as assessing risks, evaluating the sufficiency of current control activities, and implementing (or planning to implement) necessary changes to control activities. Therefore, ARDOT's management should consider the recommendations while fulfilling their internal control responsibilities. In many cases, the controls suggested for the risks identified are already in place by the Department. For recommended controls that management does not deem as feasible, the risks should still be considered, and efficient controls developed.

The consulting portion of this engagement was carried out in collaboration with ARDOT's Internal Audit Division. ARDOT hired OIA's Deputy Director in July 2022 to fill the ARDOT Chief Auditor position. The former OIA Deputy Director was a long-term employee of OIA and possesses a wealth of knowledge on internal controls. The former OIA Deputy Director also has comprehensive knowledge of the CSA process and CSA tool, as they played a vital role in the development of the tool. Additionally, ARDOT's Internal Audit Division has dedicated three staff members to administer the ARDOT CSA process on a continuous basis, as well as teaming with OIA in the current engagement.

It is OIA's concern that future engagements relating to the review of ARDOT's CSA may be a duplication of effort because of ARDOT's Internal Audit Division's continuous implementation of the CSA. Therefore, it is recommended that the HCRAS consider eliminating the consulting portion of future OIA engagements.

ARKANSAS STATE HIGHWAY COMMISSION

DALTON A. "ALEC" FARMER, JR.
CHAIRMAN
JONESBORO



MARIE HOLDER
LITTLE ROCK

PHILIP TALDO
VICE CHAIRMAN
SPRINGDALE

DAVID M. HAAK
TEXARKANA

KEITH GIBSON
FORT SMITH

P.O. Box 2261 • Little Rock, Arkansas 72203-2261
Phone (501) 569-2000 • Voice/TTY 711 • Fax (501) 569-2400
www.ARDOT.gov • www.IDriveArkansas.com

LORIE H. TUDOR, P.E.
DIRECTOR

August 28, 2023

Mr. Ricky Quattlebaum
Director, Office of Internal Audit
900 West Capitol
Suite 310
Little Rock, AR 72201

Dear Mr. Quattlebaum:

Reference is made to the Arkansas Department of Transportation (ARDOT) Project Review and Efficiency Study as required by Act 298 of 2019. We agree that the information provided in this report accurately identifies the accomplishments made by ARDOT regarding the Arkansas Legislative Council Efficiency Study Recommendations - Rules for Implementation.

We would like to thank the Office of Internal Audit (OIA) for your thoroughness, professionalism, and on-going open communication with ARDOT during the information gathering phase and final compilation of this comprehensive report. Your hard work has resulted in an excellent evaluation of ARDOT's progress in implementing the recommendations and has helped to ensure that we are headed in the right direction. We look forward to continuing to work with OIA during future audit cycles.

The recommendations have been an important catalyst to enhance and further develop ARDOT's systems, processes, and other relevant activities. Implementation of these recommendations will provide significant benefit to the citizens of Arkansas by enhancing the efficiency of ARDOT.

Sincerely,

A handwritten signature in blue ink that reads "Lorie H. Tudor". The signature is fluid and cursive.

Lorie H. Tudor, P.E.
Director

c: Highway Commission
Chief Engineer – Operations
Chief Engineer – Preconstruction
Chief – Administration
Assistant Chiefs
Governmental Relations Office
Chief Auditor – Internal Audit